CO-OWNERSHIP INFLUENCE ON IMPLEMENTATION OF WATER PROJECTS IN MACHAKOS COUNTY OF KENYA

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ABSTRACT

This study focused on the extent to which Co-ownership influence Implementation of water projects in Machakos County of Kenya. Accessibility to safe water has been a great challenge not only in Machakos County but to the developing world. The purpose of this study was to establish Co-ownership influence Implementation of water projects in Machakos County of Kenya. 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. Research sample wa, Water Resources Users Association officials, Water Resource Management Authority employees, County Ministry of Water and Irrigation staff, Water Services Trust Fund staff and Tana Athi Water Services Agency Staff, 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. Data was analysed 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. This Study is significant to policy makers, students, water agency managers and primary stakeholders in the research region. It was concluded that Co-ownership significantly influences implementation of water projects in Machakos County in Kenya.

Key Words: Co-ownership, Water projects, Project implementation

INTRODUCTION

Co-ownership of a project is achieved by including those stakeholders who stand to gain from its completion in its planning and execution (Singh, Danell, Edenius and Ericson, 2014). Kanda, Muchelule, Mamadi and Musiega (2016) investigated the effect that consultant-related and external factors have on the successful completion of water projects in Kakamega County, Kenya. Questionnaires were used as the means to acquire the necessary information. The population of interest consisted of 104 workers who were employed by two water projects located in Mumias and Lugari. These workers were split between managerial and lower level positions. The sample size was determined by using a simple random selection method, which selected 90 individuals to make up the sample. Out of those 90, 74 individuals responded to the questionnaires, which is an 82% response rate. The data were analyzed using both descriptive and inferential statistics, including correlation and regression, in order to draw conclusions. According to the findings of

the research, it is not difficult for those who are going to benefit to guarantee that they own the projects or take personal responsibility for them, which ensures that the initiatives will be sustainable. This is due to the fact that they will provide the necessary assistance in the form of ideas and the cooperation that is required to guarantee that the initiatives are successful. The sharing of the rights to pleasure and management, as well as the distribution of those rights among co-owners, are central to the concept of co-ownership. At its core, participatory assessment is all about collaborating and exchanging information. The procedure makes an effort to respect the viewpoints, opinions, and choices of the stakeholders who have the least influence but are the most impacted by the outcome. It places a primary emphasis on enhancing the assessment abilities of program recipients as well as program implementers. Participants have the ability, via this process, to define the emphasis, design, and results of the assessment within the context of their own socioeconomic setting. When co-ownership of the project is accepted, the community members will have a complete comprehension of the tasks that need to be completed. In the event that local support is not obtained, it is possible that the project may not provide the required value to the community.

Jordan (2012) did research on a participatory integrated approach to manage built heritage. The study focused on how historic structures in the city of Al Salt which is located in Jordan, are managed because of a scenario involving co-ownership, it was unable to reach a consensus on the issues linked to the building's restoration which resulted in many of the buildings being empty. This highlights how important it is to have stakeholders who are also owners. To investigate the perspectives held by co-owners and authorities with regard to the challenge posed by co-ownership, techniques requiring a high level of participation were utilized. This was followed by the formation of a consensus on a solution and the creation of a management plan for a pilot building. Interviews, mini-focus groups, a consensus meeting, and a participatory planning workshop are some of the methods that are used throughout the research process. The management plan takes into consideration worldwide recommendations that have been released by respected organizations. Through the use of cooperative associations and the transfer of ownership shares into association capital, management of co-ownership has been introduced and shown to be relevant. This was accomplished by employing cooperative associations. Co-owners of the pilot building were given the option of participating in multi-purpose cooperatives, which were ultimately accepted after being evaluated for their usefulness in overcoming the challenge of co-ownership.

An experimental research of Wogu in the Upper West Region of Ghana was conducted by Fielmua (2018) on the nexus between water, sanitation, and rural livelihoods. The study was titled "An exploratory Study of Wogu." The authors investigated how rural livelihoods may be improved via the implementation of water and sanitation interventions by conducting a household survey, participating in focus group discussions, and conducting interviews with key informants. According to the findings of the research, having community ownership does not automatically

exclude the community from receiving help from other sources. It is possible for the community to obtain assistance from the government or other organizations in the form of subsidies and technical support; however, the community should be the one to own the system, decide when it is necessary to seek assistance, and maintain control over who has access to the system. Communities are given the ability to advocate for water services via authentic collaboration when they control and administer their own water systems. Communities have the opportunity to have an active role in all aspects of the process, from the initial search to the ongoing management of the facilities. This indicates that communities will need to elect water management committees that will be responsible for the administration of water facilities in order to comply with this requirement. The communities are accountable for covering the whole of the costs associated with the facilities' operation and upkeep. This suggests that the community is responsible for ensuring the facilities' continued viability. It is necessary to have a bank account for the water facility where cash may be saved after being raised for new investments, operations, and upkeep.

Poor co-ordination, a poor maintenance culture, a lack of community ownership, poor technical and institutional structure, and overbearing bureaucratic control by various supervising ministries have all contributed to the failure of rural water projects in Nigeria. In Nigeria, rural water projects have suffered as a result. Water projects have suffered from inadequate operation and upkeep as a direct result of a lack of engagement from the local population. This is due to the use of unsuitable technology, the improper placement of supply systems, the high cost of water, and a lack of social acceptance due to the presence of minerals that impact the taste of water in certain water sources. As a result of the fact that the need for community water supply projects is a localized demand, management choices on levels of service, placement of water facilities, and cost sharing should be decided locally.

Theoretical Review

This section provides a discussion on the relevant theories on the research subject area. Specifically embarked on Stakeholder Theory.

Stakeholder Theory

Stakeholder theory originated in the Year 1963 by Edward Freeman. His work in stakeholder theory is well known and was cited by Robson (2002) and Neuman (2006) nationally. The stakeholder concept was internationally defined as to include powerful stakeholders those without whose support the organization would cease to function (Donaldson, 1995). It is a theory of organizational management and business ethics that examines how one should behave morally and ethically while managing a company.

According to Mansell (2013), a stakeholder analysis is a technique which is used to provide insights into knowledge of the interactions which take place between a project and its many stakeholders. It is a strong tool which helps project participants identify stakeholders which can have an effect on the success of the project and prioritize those stakeholders. The concept of taking stakeholders into account during project management suggests that Managers and Planners of the project need to devise and put into action procedures which in the end not only shareholders but also a variety of other groups connected to the business project will be pleased with the results. The management and integration of the connections and interests of all of the identified stakeholders into the process in such a manner that it assures the project's continued success over the long term is the primary objective of this step in the process. According to Scott (2011), a stakeholder strategy places an emphasis on active management of the project environment, interpersonal interactions and the promotion of common interests.
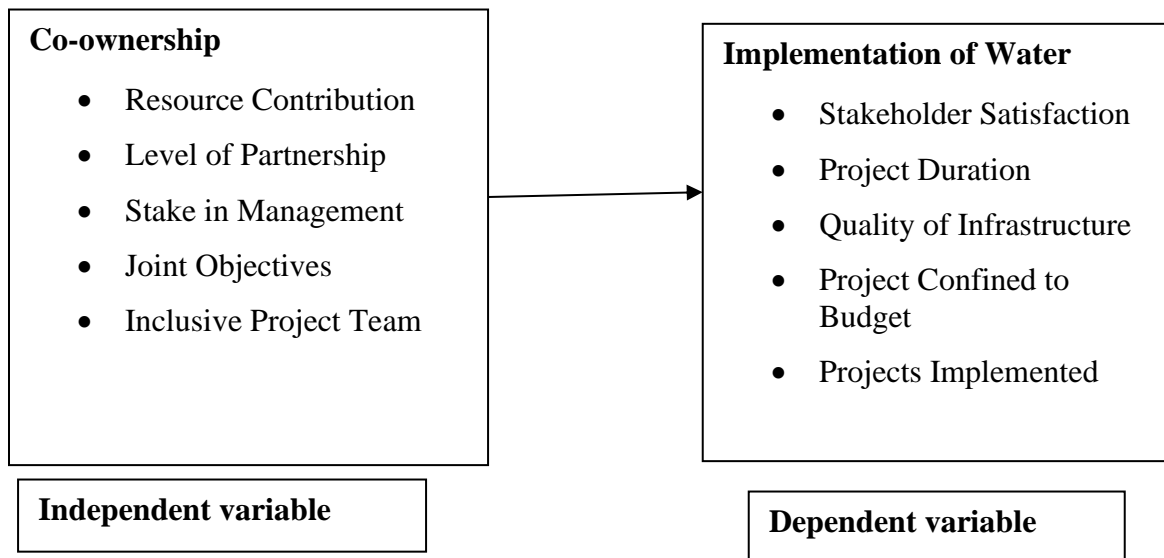
Stakeholder theory suggests that if we adopt as a unit of analysis the relationships between a business and the groups and individuals who can affect or are affected by it then we have a better chance to deal effectively with these three problems. To begin, a Company may be regarded as a collection of interactions among groups which have a stake in the activities which make up the firm (Freeman, 1984). This is one way of looking at business from the viewpoint of stakeholders. It is about how different stakeholders like consumers, suppliers, workers, financiers (stockholders, bondholders and banks), Communities and Management engage with one another in order to produce jointly and exchange value. To have a complete understanding of a Company, one should be familiar with the workings of these connections and how they evolve through time. According to Freeman (1984), it is the responsibility of the executive to manage and mold these connections in order to generate as much value as possible for the various stakeholders and to govern how that value is distributed. When there is a conflict between the interests of different stakeholders, the executive has to find a solution to rethink challenges so that the requirements of a large number of stakeholders may be met. If this is successful, even more value can be generated for each individual stakeholder (Phillips, 2003). If it is determined that compromises are necessary, as is sometimes the case, then executives are responsible for determining how to make the choices and then improve them in a way which is beneficial to all parties involved (Harrison, Bosse, and Phillips, 2010).

The stakeholder theory is used in this research in the context of co-ownership among stakeholders' engagement in influencing project implementation. Stakeholders need to be included in the decision-making process for initiatives to be successful. This idea is essential for figuring out who should exactly be regarded as stakeholders in the creation of the project as well as how planners should incorporate stakeholders in the process of developing projects. According to Hoffman (2009), project Managers put the stakeholder theory into practice in order to accomplish the intended goals, deal with ongoing ambiguity and reduce the likelihood of possible hazards arising from the external environment. In this particular investigation, the notion of stakeholders plays an

important part in monitoring and evaluation. Monitoring and evaluation may be seen as a participatory and democratic process which examines the values, progress, limits and successes of projects and programs from the perspective of the many stakeholders. It acknowledges and places importance on the intangible contributions made by local people and it gives those people the ability to participate in projects and programmes and make a difference in the process of a nation's development.

Conceptual Framework

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

Co-ownership

- Resource Contribution
- Level of Partnership
- Stake in Management
- Joint Objectives
- Inclusive Project Team

Independent variable

Implementation of Water

- Stakeholder Satisfaction
- Project Duration
- Quality of Infrastructure
- Project Confined to Budget
- Projects Implemented

Dependent variable

Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

Research Design

The design used in the investigation was a descriptive survey design. Because of this, the study was able to characterize occurrences on both a qualitative and quantitative levels and 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 something happens. 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 which were both made possible by this. 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. In 2009, the County had a population of 1,098,584 recorded. 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.

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. 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.

Descriptive Statistics

The quantitative data which was gathered by use 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 analyzing 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 will be given in the form of an essay which will include a mixture of replies from raw data and published sources. The data from the study will be interpreted in order to answer the research questions.

Inferential Statistics

In the inferential tests, the Pearson r correlation was used in order to evaluate hypotheses but also the links between the primary research variables and the nature of the correlations. The correlation was regarded to be high when it was more than 0.5, moderately high when it was between 0.3 and 0.49 and low when it was less than 0.29. A correlation of 0 showed that there was no link between the two variables. Following the completion of the analysis, the information was laid out in tabular.

The researcher went one step further and used a model which was used in the multivariate regression to investigate the connection between the independent and dependent variables. The regression approach was used because it valuable because of its capacity to assess nature of the effects the independent variables had on the variable which was being studied. The use of

regression, helps in the determination of the coefficients of the linear equation that best predicts the value of the dependent variable. This linear equation can include one or more independent variables.

According to Oso (2009), a hypothesis test is a kind of statistical test which is used for the purpose of determining whether or not there is sufficient evidence in a data sample to infer that a certain condition is true for the whole population. A hypothesis test compares two competing hypotheses, known as the null hypothesis and the alternative hypothesis about a population's characteristics. The assertion that is being tested is known as the null hypothesis. The null hypothesis is a declaration that there will be "no effect" or "no difference" in most cases. According to Mugenda and Mugenda (2003), the alternative hypothesis is the statement about which you want to draw the conclusion which it is true. In this study, the hypothesis was evaluated using a confidence interval of 95% ($\alpha = 0.05$). For hypothesis testing, P values were used that is if P value is less than or equal to α (level of significance) (P-Value$\leq \alpha$), the null hypothesis was rejected. This indicate that the claimed research hypothesis was correct at the specified level of significance.

The regression model was as follows:

$$\gamma = \beta_0 + \beta_1X_1 + \varepsilon$$

γ = Dependent variable

X_1 = Co-ownership

β_1 = the regression equation coefficients for the variables

ε = error.

If the t-statistic is high, then the independent variable has a relatively larger amount of effect on the variable being studied (the dependent variable). If the t-statistic is less than 1.96 and the significance is more than .05, this demonstrates that the independent variable does not serve as a significant predictor of the dependent variable beyond the sample. Coefficient of Determination (R^2): $R^2 = 1$ (perfect fit); $R^2 = 0$ (no variation).

RESULTS AND DISCUSSION

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

	Frequency	CF	Percentage
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

Co-ownership being the process in which groups in community share ownership of the project was the second objective that the study sought to achieve. Therefore, the participants were requested to give their opinions on their level of agreements or disagreements using 15 statements of decision making in PME on a Likert scale of 1-5, where: strongly Disagree (SD)=1, Disagree (D)=2, Neutral (N)=3, Agree (A)=4, Strongly Agree (SA)=5. The results were analyzed and presented using frequencies, percentage, means and standard deviation for each response are in each item and are presented in Table 2.

Table 2: Co-ownership and Implementation of Water Projects

	Statements	SD	D	N	A	SA	Mean	SD
1	Communities are involved in contribution of resources during implementation of the water projects	10 / 5.2%	18 / 9.4%	15 / 7.8%	125 / 65.1%	24 / 12.5%	3.70	0.98
2	It is important for the communities to be involved in resource contribution in the water projects	0	5 / 2.6%	6 / 3.1%	139 / 72.4%	42 / 21.9%	4.14	0.58
3	Community involvement in resource allocation enhances the efficiency in the projects budget	0	20 / 10.4%	19 / 9.9%	105 / 54.7%	48 / 25.0%	3.94	0.88
4	The communities have a large stake in the ownership of the water projects	0	6 / 3.1%	5 / 2.6%	113 / 58.9%	68 / 35.4%	4.27	0.66
5	It is important for the communities to have a large stake in ownership of the water projects	0	157.8%	0	10554.7%	7237.5%	4.22	0.80
6	The level of ownership by the community enhances meeting of the water objectives	0	21 / 10.9%	0	110 / 57.3%	61 / 31.8%	4.10	0.87

	Statements	SD	D	N	A	SA	Mean	SD
7	There is community involvement in management of the water projects	0	22 11.5%	6 3.1%	119 62.0%	45 23.4%	3.97	0.85
8	It is essential for the communities to be involved in management of the water projects	0	22 11.5%	0	81 42.2%	89 46.4%	4.23	0.93
9	Involvement in management of the water projects contributes quality water projects	0	6 3.1%	5 2.6%	116 60.4%	65 33.9%	4.25	0.66
10	There are joint objectives in the water projects	0	5 2.6%	18 9.4%	132 68.8%	37 19.3%	4.05	0.62
11	Having joint objectives is crucial to the water projects	0	6 3.1%	17 8.9%	135 70.3%	34 17.7%	4.03	0.63
12	Joint objectives in the water projects improves the time taken to complete the projects	0	0	12 6.3%	117 60.9%	63 32.8%	4.27	0.57
13	The community members are appointed as part of the water projects teams	0	6 3.1%	6 3.1%	135 70.3%	45 23.4%	4.14	0.61
14	Inclusive project team is important in the water projects	0	0	11 5.7%	134 69.8%	47 24.5%	4.19	0.52
15	Inclusive project team contribute towards stakeholder satisfaction in project development	0	0	5 2.6%	135 70.3%	52 27.1%	4.24	0.49
	Composite Mean and Standard Deviation						**4.12**	**0.71**

Findings on the statement that *"Communities are involved in contribution of resources during implementation of the water projects"* indicate that 10(5.2%) of respondents strongly disagreed, 18(9.4%) disagreed, 15(7.8%) were neutral 125(65.1%) agreed while 24(12.5%) strongly agreed. The (Mean=3.70, SD=0.98) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that communities are not involved in contribution of resources during implementation of the water projects. This is likely to affect project implementation negatively. The line item standard deviation is greater than the composite value of 0.57 implying that the opinions of the respondents were divergent. Contrary to the findings Kanda et al. (2016) who established that there is need to engage communities in implementation of the water projects.

The findings on the statement that *"It is important for the communities to be involved in resource contribution in the water projects"* show that 5(2.6%) of participants disagreed, 6(3.1%) were neutral, 139(72.4%) agreed while 42(21.9%) strongly agreed. The (Mean = 4.14, SD=0.58) was significantly higher than the composite value (Mean= 4.12, SD=0.71) meaning that it is important for the communities to be involved in resource contribution in the water projects. The line item for ownership standard deviation is lower than the composite value which imply that the opinions of the respondents were in convergence. Similar to the study findings, Jordan (2012) indicate that for successful implementation of projects, there is need for communities to be involved in resource contribution.

Findings on the statement that *"Community involvement in resource allocation enhances the efficiency in the projects budget"* show that 20(10.4%) of participants disagreed, 19(9.9%) were neutral, 105(54.7%) agreed while 48(25.0%) strongly agreed. The (Mean =3.94, SD=0.88) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that community's involvement in resource allocation does not enhance the efficiency in the projects budget. This influence implementation of water negatively. The line item standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent. In contrast to the study findings, Jordan (2012) indicate that for community's involvement in resource allocation enhance successful implementation of projects.

Findings on the statement that *"The communities have a large stake in the ownership of the water projects"* show that 6(3.1%) of participants disagreed, 5(2.6%) were neutral, 113(58.9%) agreed while 68(35.4%) strongly agreed. The (Mean =4.27, SD=0.66) was significantly higher than the composite value (Mean= 4.12, SD=0.71) meaning that communities have a large stake in the ownership of the water projects to a great extent. The standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. In tandem with the study findings, Kananura (2017) found out that that communities have a large stake in the ownership of the water projects.

Finding on the statement that *"It is important for the communities to have a large stake in ownership of the water projects"* show that 15(7.8%) of participants disagreed, 105(54.7%) agreed while 72(37.5%) strongly agreed. The (Mean =4.22, SD=0.80) was significantly higher than the composite value (Mean= 4.12, SD=0.71) meaning that it is important for the communities to have a large stake in ownership of the water projects. This has a positive impact in implementation of water projects. The line item standard deviation is however greater than the composite value which imply that the opinions of the respondents were divergent. Kananura (2017) study also found similar results where it indicates that communities there is need communities to have a large stake in ownership of the projects.

Result on the statement that *"The level of ownership by the community enhances meeting of the water objectives"* show that 21(10.9%) of participants disagreed, 110(57.3%) agreed while 61(31.8%) strongly agreed. The (Mean =4.10, SD=0.87) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that the level of ownership by the community moderately enhance meeting of the water objectives. The line item standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent. This contradicts Fielmua (2018) findings who indicate that level of ownership by the community improves the implementation of the project.

Result on the statement that *"There is community involvement in management of the water projects"* show that 22(11.5%) of participants disagreed, 6(3.1%) were neutral, 119(62.0%) agreed while 45(23.4%) strongly agreed. The (Mean =3.97, SD=0.85) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that there is no community involvement in management of the water projects. The line-item standard deviation is however greater than the composite value which imply that the opinions of the respondents were divergent. This contradicts Fielmua (2018) findings who indicate that level of ownership by the community improves the implementation of the project.

Findings on the statement that *"It is essential for the communities to be involved in management of the water projects"* indicate that 22(11.5%) of respondents disagreed, 81(42.2%) agreed while 89(46.4%) strongly agreed. The (Mean =4.23, SD=0.93) was significantly higher than the composite value (Mean= 4.12, SD=0.71) meaning that it is essential for the communities to be involved in management of the water projects. The standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent. These findings are similar to the Fielmua (2018) findings who indicate that level of ownership by the community improves the implementation of the project.

Result on the statement that "*Involvement in management of the water projects contributes quality water projects*" indicate that 6(3.1%) of participants disagreed, 5(2.6%) were neutral, 116(60.4%) agreed while 65(33.9%) strongly agreed. The (Mean =4.25, SD=0.66) was significantly higher than the composite value (Mean= 4.12, SD=0.71) meaning that involvement in management of the water projects contributes to the quality water projects. This influence implementation of water positively. The standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. These findings are similar to Fielmua (2018) findings who indicate that level of involvement improves the implementation of the project.

Findings on the statement that *"There are joint objectives in the water projects"* show that 5(2.6%) of participants disagreed, 18(9.4%) were neutral, 132(68.8%) agreed while 37(19.3%) strongly agreed. The (Mean =4.05, SD=0.62) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that there are moderate joint objectives in the water projects. The line item standard deviation of 0.57 is lower than the composite SD value of 0.71 which imply that

there is convergence opinion of the participants in the project. This contradicts Boru (2018) findings which indicate that clear joint objectives improve the implementation of projects.

The result on the statement that *"Having joint objectives is crucial to the water projects"* show that 6(3.1%) of participants disagreed, 17(8.9%) were neutral, 135(70.3%) agreed while 34(17.7%) strongly agreed. The (Mean =4.03, SD=0.63) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that having joint objectives is not crucial to the water projects. The standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. This contradicts Boru (2018) findings which indicate that clear joint objectives improve the implementation of projects.

The result on the statement that "*Joint objectives in the water projects improves the time taken to complete the projects*" show that 12(6.3%) of respondents were neutral, 117(60.9%) agreed while 63(32.8%) strongly agreed. The (Mean =4.27, SD=0.57) was significantly greater than the composite value (Mean= 4.12, SD=0.71) meaning that joint objectives in the water projects improves the time taken to complete the projects. The standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. This is similar to Boru (2018) findings which indicate that clear joint objectives improve the implementation of projects.

The findings from the statement that "*The community members are appointed as part of the water projects teams*" indicate that 6(3.1%) of participants disagreed, 6(3.1%) were neutral, 135(70.3%) agreed while 45(23.4%) strongly agreed. The (Mean=4.14, SD=0.61) was significantly greater than the composite value (Mean= 4.12, SD=0.71) meaning that the community members are appointed as part of the water projects teams. The standard deviation is lower than the composite value implying that there is convergence opinion among respondents. Similarly, Kananura (2017) established a positive relationship between community members engagement and implementation of projects.

The findings on the statement that "*Inclusive project team is important in the water projects*" show that 11(5.7%) of participants were neutral, 134(69.8%) agreed while 47(24.5%) strongly agreed. The (Mean =4.19, SD=0.52) was significantly lower than the composite value (Mean= 4.12, SD=0.71) meaning that inclusive project team is important in the water projects. The standard deviation is lower than the composite which imply that there is convergence opinion among respondents. Similarly, Kananura (2017) established a positive relationship between project team and implementation of projects.

The results on the statement that *"Inclusive project team contribute towards stakeholder satisfaction in project development"* show that 5(2.6%) of respondents were neutral, 135(70.3%) agreed while 52(27.1%) strongly agreed. The (Mean=4.24, SD=0.49) was significantly greater

than the composite value (Mean= 4.12, SD=0.71) meaning that inclusive project team contribute towards stakeholder satisfaction in project development. The line item standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. In line with the study findings, Jordan (2012) studied on an Integrated Participatory Approach in Managing Built Heritage. The research focused on management of heritage buildings in the city of Al Salt, Jordan. Many buildings were unoccupied due to a situation that involved co-ownership which prevented achieving an agreement on decisions related to the rehabilitation. This demonstrates the importance of an owner stakeholder.

Inferential Statistics

The study sought to establish the relationship between Co-ownership and implementation of water projects, Pearson coefficient correlation was used and correlations result obtained are presented in Table 3.

Table 3: Correlation between Co-ownership and Implementation of Water Projects

Variables		Co-ownership related risks	Implementation of water projects
Co-ownership	Pearson Correlation	1	
	Sig. (2-tailed)		
	n	192	
Implementation of water projects	Pearson Correlation	0.796	1
	Sig. (2-tailed)	0.000	
	n	192	192

In order to determine the correlation between co-ownership and implementation of water projects Pearson correlation coefficient was run on the score each scale. The total scores of the scales were computed as summation of the individual scores on each item by the respondents at 95% level of confidence. The study found a strong positive correlation (r = 0.796) which was statistically significant as p $\leq$0.05 (p=0.000) between co-ownership and implementation of water projects. This implies that there is a significant relationship between co-ownership and implementation of water projects. This leads to the rejection of the null hypothesis (Ho: There is no significant relationship between co-ownership and implementation of water projects) and acceptance of the alternative hypothesis, and hence the research findings concluded that there is a significant relationship between co-ownership and implementation of water projects.

Regression Analysis for Co-ownership and Implementation of Water Projects

Simple linear regression analysis was adopted in order to investigate how co-ownership influence implementation of water projects. It was important to get the views of the participants. The rationale of using simple linear regression model was to establish how co-ownership as a predictor significantly or insignificantly predicted implementation of water projects. The results are presented in Table 4 by using model summary, ANOVA and coefficient for regression.

Table 4: Regression Analysis for Co-ownership on Implementation of Water
Projects

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.796[a]	0.634	0.629	0.18952

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	39.485	1	39.485	178.665	0.000[b]
	Residual	41.99	190	0.221		
	Total	81.475	191			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.770	0.451		8.359	0.000
Co-ownership	0.782	0.121	0.146	6.462	0.000

a. Dependent Variable: Implementation of water projects

b. Predictors: (Constant), Co-ownership

The model summary in Table 4 shows that there is a strong positive correlation (R=0.796) between co-ownership and implementation of water projects and those predicted by the regression model. In addition, 63.4% of the variation in the implementation of water projects is explained by co-ownership.

The study also sought to establish if the regression model is best fit for predicting implementation of water projects. The ANOVA results shown in Table 4 indicate that F statistics $(1,191) =178.665$,

is significant since the p value 0.000<0.05 implying that the predictor coefficient is at least not equal to zero and hence the regression model results in significantly better prediction of implementation of water projects.

The study also sought to establish whether there was influence of co-ownership and implementation of water projects. The simple linear regression coefficients result from Table 4 indicate that there was significant influence of co-ownership and implementation of water projects. The coefficient of the constant term (β_0=3.77; P-value=0.000<0.05) and co-ownership (β_1=0.782; P-value=0.000<0.05) were statistically significant. The regression model for co-ownership was $Y=3.77+0.782X_1$ implying that for each unit of co-ownership, implementation of water projects is inversely changed by 0.782 units, other predictors held constant. It was therefore concluded that co-ownership and implementation of water projects are positively and linearly related.

Conclusion

It was concluded that it is important to have stakeholders who are also owners by involving communities in resource contribution in the water projects. Communities have a large stake in the ownership of the water projects and take more responsibilities as owners. It is essential for the Communities to be involved in management of the water projects since involvement in management of the water projects contributes to the quality of project implementation. It is important to include project team in the water projects since project team contributes towards stakeholder satisfaction in project development. In addition, it was concluded that Co-ownership significantly influence implementation of water projects in Machakos County in Kenya.

Recommendations

In order to improve people's abilities, the National Government should to devise a plan for capacity development which can be implemented for the benefit of stakeholders, project management committees and beneficiaries. This would make it possible for stakeholders to build appropriate climate for involvement, not only in the water projects being carried out in Machakos County but also in the development efforts being carried out throughout the Nation. In addition, the Machakos County Government should modify some tools so that they can be used by local people and by M&E-trained officers at the Subcounty level.

REFERENCES

Boru, N. (2018). The factors affecting teacher-motivation.

Brymann and Bell, (2015). Business Research Methods. Fourth Edition

Donaldson, T. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65-91.

Freeman, R. E. (1984). Strategic management: A stakeholder approach. Boston: Pitman

Fielmua, N. (2018). Water, sanitation and rural livelihoods nexus: an exploratory study of Wogu in the Upper West Region of Ghana. *Ghana Journal of Development Studies*, *16*(2), 199-219.

Harrison, J. S., Bosse, D. A., and Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. *Strategic Management Journal*, *31*(1), 58-74.

Hoffman, D. M. (2009). Reflecting on social emotional learning: A critical perspective on trends in the United States. *Review of Educational Research*, *79*(2), 533-556.

Jordan, I. (2012). An Integrated Participatory Approach in Managing Built Heritage.

Kanda, E. K., Muchelule, Y., Mamadi, S. and Musiega, D. (2016). The Effect of Consultant Related and External Factors on Completion of Water Projects in Kakamega County, Kenya. *International Journal of Civil and Structural Engineering Research*, *4*, 19-25.

Kananura, R. M. (2017), Participatory monitoring and evaluation approaches that influence decision-making: Lessons from a maternal and newborn study in Eastern Uganda.

Krippendorff, K. (2004). Reliability in content analysis: Some common misconceptions and recommendations. *Human Communication Research*, *30*(3), 411-433.

Mansell, S. F. (2013). *Capitalism, corporations and the social contract: A critique of stakeholder theory*. Cambridge University Press.

Mugenda, O. M. and Mugenda, A. G. (2003). *Research Methods*: Quantitative and Qualitative Approaches. African centre for technology studies.

Neuendorf, K. A. (2013). The content analysis guidebook. Thousand Oaks, CA: Sage.

Neuman, Y. (2006). Cryptobiosis: a new theoretical perspective. *Progress in Biophysics and Molecular Biology*, *92*(2), 258-267.

Oso, B. A. (2009). Biodegradation of synthetic detergents in wastewater. *African Journal of Biotechnology*, *8*(6).

Phillips, R. A. (2003). Stakeholder theory and organizational ethics. San Francisco, CA: Berrett-Koehler Publishers.

Robson, C. (2002).Real world research. 2nd ed. Malden: Blackwell Publishing Ltd.

Scott, J. (2011). Social network analysis: developments, advances, and prospects. *Social Network Analysis and Mining*, 1, 21-26.

Singh, N., Danell, K., Edenius, L. and Ericsson, G. (2014). Tackling the motivation to monitor: success and sustainability of a participatory monitoring Programme. *Ecology and Society*, *19*(4).

Zikmund, W.G. (2003). Business Research Methods. 7th Edition, Thomson/ South-Western.