

# Empowering stakeholder involvement approach on implementation of water projects in Kisumu East sub-county, Kenya

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**Abstract:** Water projects face implementation challenges of cost and time overruns due to lack of stakeholders' involvement and this has led sustainability constraints. The purpose of the study was to assess the influence of empowering stakeholder involvement approach on implementation of water projects in Kisumu East sub-county. The study adopted descriptive survey research design and data collected through self-administered structured questionnaire. The research instrument was piloted for content validity and reliability tests. A sample size of 118 respondents was selected using stratified random sampling from a target population of 167 involved in implementation of water projects in Kisumu East sub-county. High Cronbach's coefficient Alpha of 0.8 was obtained. The data was analysed using descriptive statistic of mean, standard deviation, frequencies percentages and inferential statistics of correlation and regression at  $\alpha=0.05$  level of significance. The study found out statistically significant relationships between Empowering Stakeholder Involvement Approach and Implementation of Water Projects. The null hypothesis H01: Empowering stakeholder involvement approach does not significantly influence implementation of water projects in Kisumu East sub-county was rejected since  $p=0.000<0.05$ . It is recommended that a holistic bottom up approach in implementation of projects should be embraced so that all key stakeholders in projects become part and parcel of the projects and to bring ownership of projects by stakeholders. Further research should be carried out on project planning and design to establish whether stakeholders are involved at these initial stages before implementation of water projects.

**Keywords:** Empowering stakeholders' Involvement approach, Implementation of water projects

## I. INTRODUCTION

Access to clean drinking water remains a big problem globally with 783 million people unable to access clean drinking water, especially in rural areas due to mismanagement of available water resources and poor or weak government policies (Giupponi, Jakemann, Karssenber and Hare, 2006). Water governance challenges are attributed to conflicts and competing water needs (Akhmouch and Clavreul, 2016). Water is a scarce resource and needs an integrated management approach in making decisions that will capture stakeholder needs (Akhmouch & Clavreul, 2016).

According to UNEP (2019), Sustainable Development Goal 6 (SDG 6) focuses on availability and sustainable management of water and sanitation for all. This agenda builds on the relevant Millennium Development Goals. In Thailand, involvement of stakeholders in the water industry is not well developed and as such there is a shift from an initial government dominated and ineffective management process to a more stakeholder involvement process in water resources development projects (Uraiwong and Watanabe 2017). Involvement of stakeholders in water projects implementation is aimed at making the development demand driven and sustainable.

Kenya is classified as a water scarce country since it receives an annual renewable fresh water supply of only 647 cubic meters per capita (Birongo and Quyen, 2005). Government devolved the water function to improve service delivery and implementation of water projects, though this has proved to be a mirage. Almost 80% of diseases in "developing" countries are associated with water, causing early deaths. Previous water resource projects have failed due to poor involvement and identification of stakeholder needs and inadequate assessment of social impact of the project (Uraiwong and Watanabe 2017). To address this stakeholder involvement has become key in achieving water projects outcomes (Uraiwong and Watanabe 2017). In Kenya, a research by Nyabera (2015) established that a vast majority of beneficiaries are never involved in needs assessment and this negatively affected successful implementation of project and ultimately jeopardised water projects sustainability.

Lack of clean drinking water globally threatens the lives of humans, it is approximated that 1.4 million people die each year from contaminated drinking water; and 3.6 million people die each year from waterborne diseases (UNDP, 2006). If water project is to be successfully implemented, then all key stakeholders that represent the interests of the beneficiaries must be involved in the implementation process. This study seeks to examine the influence of consultative stakeholder's involvement approach on implementation of sustainable water projects. This study is expected to contribute to the body of knowledge of project management so as to improve

sustainability of water projects by capturing real beneficiary needs. This study may also provide insights in the role that different stakeholders play and how their roles improves chances of projects success and minimizes risks of project failure. It highlights the need for bottom-up approach in project planning, design and implementation. This study may also contribute to formulation of policies related to implementation of water projects by both public and private sector. Involvement of stakeholders in implementing water projects may bring a sense of legitimacy, power and urgency of stakeholders and ownership of projects. The county governments and different government entities dealing with water infrastructure development can use the results of this study to improve on effectiveness and efficiency of water projects implementation by aligning stakeholder needs and interests to organisational goals. Further research can be done on how to implement the different stakeholder involvement approaches by organizations.

## II. LITERATURE REVIEW

### *2.1 Empowering Stakeholder Involvement Approach and Implementation of Water Projects*

Empowering stakeholder Involvement approach according to this study implied permission, delegation, recognition entitlement and authorization. Rowlinson and Yan (2008) asserts that there are various definitions for empowerment and states that it's a process in which influence is gained over activities and outcomes which are important to an individual or group. Thus, according to empowerment is one of the outcomes of successful stakeholder and project management relationship. Rowlinson and Yan (2008) notes that stakeholders are empowered when they are allowed to identify, negotiate and achieve their desired objectives like environmental, social and economic through active participation in the project process. They also found out that stakeholder's interests affected project performance and that those projects that performed well had successful stakeholder involvement strategies. Rowlinson and Yan (2008) notes that an evaluation of stakeholder demand ought to be considered as a necessary and important step in planning, designing and implementing projects. In their findings, Rowlinson and Yan (2008) found out that involvement and empowerment were important issues, without involvement, these long-term goals and objectives could be untenable and that involvement alone cannot guarantee success unless stakeholders were empowered to participate effectively to guarantee sustainability of projects and programs. In most projects, long term objectives were not realised because of lack of involvement and empowerment of stakeholders and that was due to not implementing government sustainability policy. They found out that the positive role of stakeholders was not recognized and that stakeholder involvement and empowerment are perquisites to guarantee project success. Rowlinson and Yan (2008) emphasizes that to curb ensuing conflicts that arise due to stakeholder interests in projects, the approach of stakeholder empowerment should be a norm in all projects and should not be reserved to exceptional projects. If

multiple stakeholder interests are not addressed there is potential of projects being implemented resulting in antagonism. To achieve success in empowerment, good relationship is important between stakeholders and management. Empowerment should be considered both individuals and groups.

Felker, Bong, DePuy and Jihadah (2017) in their study on "Participatory measurement, reporting, and verification", states that recentralization of power disempowerment of local communities contributes to unsustainability. In their research, Felker, Bong, DePuy and Jihadah (2017) established that community involvement is both cost effective and accurate and is also linked to activity sustainability and positive empowerment outcomes. Felker, Bong, DePuy and Jihadah (2017) argues that indigenous beneficiaries empowerment gives them a sense of ownership and a sense of entitlement to community programs, the researchers also argue that recognition of local communities serves to legitimize their greater tenure rights and claims.

Carr, Lhussier, Wilkinson and Gleadhill (2008) conducted a study on "Empowerment evaluation applied to public health practice", notes that the reason for public health practice is to redress inequality and they suggest that there is a notable level of inequalities exacerbated by lack of evidence to debate concerning competition of resources. They note that empowerment has not been accompanied by strategies to achieve it and has been used to capacity build community on variety of local concerns. The aim was to accommodate stakeholders varying needs and to legitimize them. According to Carr, Lhussier, Wilkinson and Gleadhill (2008), if people develop skills that aid them solve problems independently and become decision makers then it's an empowering process. Empowerment gives stakeholders the confidence to plan and implement development projects and also being able to participate in debates. Empowerment became a reason for a stronger stakeholder collaboration. In their findings, Carr, Lhussier, Wilkinson and Gleadhill (2008) asserts that empowerment enables stakeholders to evaluate their own initiatives and gives them the audacity to participate in local strategic debates so that all beneficiaries benefit.

Spath and Scolobig (2016) conducted a research on Stakeholder empowerment through participatory planning practices in electrical projects to assess levels of stakeholder empowerment. They noted that while no universal standard to measure stakeholder participation, empowerment can be used to measure qualitatively the involvement levels of stakeholders in decision making process. When stakeholders are empowered and involved in decision making processes it reduces opposition, conflicts since their concerns and needs are taken care of in the process. Increased stakeholder involvement increases project acceptance. Spath and Scolobig (2016) notes that scholars developed scales of stakeholder empowerment i.e information where stakeholders only receive information provided by the process owner, stakeholders perspectives are elicited through consultation, cooperation where stakeholders perspectives are taken in to account and

decisions made in collaboration with stakeholders and finally delegation where stakeholders take over a task and makes decisions which are accepted by the organization (power delegation). The researchers found out that stakeholders' perspectives are taken in to account at the early stages of the projects and there is higher levels of empowerment and stakeholders are willing to participate in projects. The main way of empowering stakeholders is through workshops and hearings.

### III. METHODOLOGY

This study employed descriptive survey research design and data collected using structured questionnaire from a sample size of 118 out of a target population of 167 of PMCs, Contractors, Water Department staff and ward Administrators. A pilot testing was done on 10% of the sample size and a reliability coefficient of 0.77 and validity coefficient of 0.8 obtained. Analysis involved descriptive statistic of percentages, frequencies, mean and standard deviation while inferential statistics involved correlation and regression analysis.

### IV. FINDINGS AND DISCUSSION

The response rate was 89.83% of the total respondents. The study sought to establish how participative stakeholders' involvement approach influence implementation of water projects in Kisumu East-sub county, Kenya.

#### 4.1 Empowering Involvement Approach and Implementation of Water Projects

The third objective the study wanted to achieve was to establish the influence of empowering stakeholder involvement approach on implementation of water projects in Kisumu East sub-county.

##### 4.1.1 Descriptive analysis of Empowering Involvement Approach and Implementation of Water Projects

To achieve this, the respondents were asked to give their opinions on the level of agreement or disagreement with statements using Likert scale of 1-5 where 1- Strongly disagree, 2- Disagree, 3- Neutral, 4-Agree and 5-Strongly agree. The results are presented in Table 4.1 below.

Table 4.1: Empowering Involvement Approach and Implementation of Water Projects

Statements	(5)	(4)	(3)	(2)	(1)	Mean	SD
Empowered stakeholders are permitted to question when project timeline increases.	39(37%)	44(42%)	13(12%)	10(9%)	0(0%)	4.06	0.93
Delegation improves stakeholder's confidence and makes them to be self-reliant which leads to sustainability of project	36(34%)	45(42%)	19(18%)	6(6%)	0(0%)	4.05	0.87
Recognition of stakeholder's roles contributes to satisfaction	20(19%)	56(53%)	18(17%)	11(11%)	0(0%)	3.81	0.87
Stakeholders entitlement to a water project implementation increases project success	21(20%)	54(51%)	17(16%)	12(11%)	2(2%)	3.75	0.96
Empowered stakeholders have authority to participate in decision making process	35(33%)	50(47%)	13(12%)	8(8%)	0(0%)	4.06	0.87
<b>Composite mean and composite standard deviation</b>						<b>3.95</b>	<b>0.90</b>

The study sought to assess the extent to which respondents agreed that permission enhances cost sustainability in water projects implementation. Out of 106 respondents 39(37%) strongly agreed, 44(42%) agreed, 13(12%) were neutral, 10(9%) disagreed, and 0(0%) strongly disagreed with a mean and standard deviation of 4.06 and 0.93 respectively. The findings suggest that majority of respondents 79% agreed that permission had an influence on implementation of water projects.

The study sought to determine the extent to which respondents agreed that delegation enhances cost sustainability in water projects implementation. The results show that 36(34%) strongly agreed, 45(42%) agreed, 19(18%) were neutral, 6(6%) disagreed, and 0(0%) strongly disagreed with a mean and standard deviation of 4.05 and 0.87 respectively. The findings suggest that majority of respondents 76% agreed that

delegation had an influence on implementation of water projects. Delegation improves stakeholders' confidence and make them self-reliant.

The study sought to assess the extent to which respondents agreed that recognition enhances timeliness in water projects implementation. Out of 106 respondents 20(19%) strongly agreed, 56(53%) agreed, 18(17%) were neutral, 11(11%) disagreed, and 0(0%) strongly disagreed with a mean and standard deviation of 3.81 and 0.87 respectively. The findings suggest that majority of respondents 72% agreed that recognition had an influence on implementation of water projects. Recognized stakeholders become satisfied with project implementation.

The study sought to assess the extent to which respondents agreed that permission enhances cost sustainability in water projects implementation. Out of 106 respondents 21(20%)

strongly agreed, 54(51%) agreed, 17(16%) were neutral, 12(11%) disagreed, and 2(2%) strongly disagreed with a mean and standard deviation of 3.75 and 0.96 respectively. The findings suggest that majority of respondents 71% agreed that entitlement had an influence on implementation of water projects. Stakeholder entitlement is a success factor in projects.

The study sought to establish the extent to which respondents agreed that permission enhances cost sustainability in water projects implementation. Out of 106 respondents 35(33%) strongly agreed, 50(47%) agreed, 13(12%) were neutral, 8(8%) disagreed, and 0(0%) strongly disagreed with a mean and standard deviation of 4.06 and 0.87 respectively. The findings suggest that majority of respondents 80% agreed that authorized stakeholders influenced implementation of water projects. Stakeholder authorization is a success factor in projects.

The composite mean was 3.95 and composite standard deviation was 0.90, this showed that Permission, Delegation

and Authority influenced Implementation of Water Projects since there means were higher than the composite mean while Recognition and Entitlement did not influenced Implementation of Water Projects since there means were smaller in values than the composite mean.

4.1.2 Inferential Analysis of Empowering Involvement Approach and Implementation of Water Projects

Inferential analysis of participative involvement approach and implementation of water projects was conducted in terms of correlation, ANOVA, regression and coefficients. The results were as outlined below.

4.1.2.1 Correlation of Empowering Involvement Approach and Implementation of Water Projects

Pearson correlation coefficient was used to establish the existence or non-existence of significance relationship as well as degree of association between Empowering Involvement Approach and Implementation of Water Projects.

Table 4.2: Correlation of Empowering Involvement Approach (EIA) and Implementation of Water Projects (IWP)

		Empowering Involvement Approach	Implementation of Water Projects
Empowering Involvement Approach	Pearson Correlation	1	.362**
	Sig. (2-tailed)		.000
	n	106	106
Implementation of Water Projects	Pearson Correlation	.362**	1
	Sig. (2-tailed)	.000	
	n	106	106

\*\* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.2 presents the correlation statistics of Empowering Involvement Approach and Implementation of Water Projects. The correlation table shows that Empowering Involvement Approach was significantly related (p value<0.05) against Implementation of Water Projects. The p value (p<0.05) implies that there is a significant relationship between Empowering Involvement Approach and Implementation of Water Projects leading to rejection of the null hypothesis H<sub>03</sub>. Empowering stakeholder involvement approach does not significantly influence implementation of water projects in Kisumu East sub-county. The results are consistent with the findings of studies that have found significant relationships between Empowering Involvement Approach and Implementation of Water Projects (Felker, Bong, DePuy and Jihadah (2017), and Spath and Scolobig (2016)).

4.1.2.2 Regression Analysis of Empowering Involvement Approach and Implementation of Water Projects

In this study, simple linear regression was adopted to establish how Empowering Involvement Approach Influences Implementation of Water Projects from opinions of the respondents. The reason for using the model was to establish how each predictor significantly or insignificantly predicted

Implementation of Water Projects, secondly to find out how Empowering Involvement Approach best predicted Implementation of Water Projects and finally to confirm whether the model was a best fit for predicting Implementation of Water Projects. The regression model summary results are presented in table 4.3 below.

Table 4.3: Regression Analysis between Empowering e Involvement Approach and Implementation of Water Projects in Kisumu East Sub-County

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.362 <sup>a</sup>	.131	.123	.65165
a. Predictors:(constant), Permission, Delegation, Recognition, Entitlement and Authorization				

The table 4.3 presents a model summary of relationship between Empowering Involvement Approach and Implementation of Water Projects. To find out the amount of variation in Implementation of Water Projects which explains its relationship with Empowering Involvement Approach. R-Square (coefficient of determination) is commonly used statistic to evaluate model fit. It explains the amount of variation in Implementation of Water Projects and relationship

with Empowering Involvement Approach. The above model summary table indicates that there is a positive multiple correlation ( $R=0.362$ ) between Implementation of Water Projects and Empowering Involvement Approach and those predicted by the regression model. In addition, the coefficient of determination  $R^2 = 13.1\%$  indicates that the amount of variance in Implementation of Water Projects is explained by Empowering Involvement Approach. The results of the model are consistent with findings of studies that have found significant relationship between Empowering Involvement Approach and Implementation of Water Projects (Felker et al., 2017).

4.1.2.3 ANOVA<sup>a</sup> Results of the Regression between Empowering Involvement Approach and Implementation of Water Projects in Kisumu East Sub-County

Analysis of variance (ANOVA) is a collection of statistical models and their associated procedures used to analyse the differences among means in a sample. It is a statistical tool used to develop and confirm and explanation of an observed data.

Table 4.4: ANOVA<sup>a</sup> Results of the Regression between Empowering Involvement Approach and Implementation of Water Projects in Kisumu East Sub-County

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.676	1	6.676	15.721	.000 <sup>b</sup>
	Residual	44.164	104	.425		
	Total	50.840	105			
a. Predictors: Permission, Delegation, Recognition, Entitlement and Authorization						
b. Dependent Variable: Implementation of Water Projects in Kisumu-East Sub-county						

ANOVA results on Table 4.4 on regression of Empowering Stakeholder Involvement Approach on Implementation of Water Projects. The study sought to find out whether the regression model was best fit for predicting Implementation of Water Projects through use of F-statistics from the ANOVA output. As per results in table 4.4  $F=15.721$  is significant at  $p\text{-value} < 0.05$  implying the regression model result is significantly better prediction of Implementation of Water Projects. From the perspective of overall research participants, Empowering Involvement Approach had positive influence on Implementation of Water Projects. The results are consistent with the findings of studies that have found significant relationships between Empowering Involvement Approach and Implementation of Water Projects (Spath and Scolobig, 2016).

4.1.2.4 Regression Coefficients of the relationship between Predictive Variables and Implementation of Water Projects

The study attempted to establish the extent to which Empowering Stakeholder Involvement Approach Influence Implementation of Water Projects in Kisumu East Sub-county. Simple linear regression model was used to test

whether Empowering Involvement Approach affected Implementation of Water Projects.

Table 4.5: Regression Coefficients of the relationship between Predictive Variables and Implementation of Water Projects

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.609	.455		3.536	.001
	Empowering Involvement Approach	.453	.114	.362	3.965	.000
a. Implementation of Water Projects						

$$y = \alpha + \beta_1 X_3$$

Where

$y$  = the average score of Implementation of Water Projects, and  $X_1$  = the average score for research participants' Empowering Involvement Approach

The reason for using the model was to establish how each predictor significantly or insignificantly predicted Implementation of Water Projects, to find out which of the approaches best predicted Implementation of Water Projects.

4.1.2.5 Testing for Hypothesis 3

The third null hypothesis was  $H_{03}$ : Empowering stakeholder involvement approach does not significantly influence implementation of water projects in Kisumu East sub-county. The null hypothesis was tested at  $\alpha=0.05$  level of significance. From the correlation results shown in table 4.14, the null hypothesis was rejected since  $p\text{-value} (0.000) < 0.05$  and it was concluded that at least one of the explanatory variables is significantly related to the Implementation of Water Projects. The results are consistent with the findings of studies that have found significant relationship between Empowering Involvement Approach and Implementation of Water Projects (Spath and Scolobig, 2016).

V. CONCLUSION

The study finding indicate that there is a positive multiple correlation coefficient ( $R=0.362$ ) between Implementation of Water Projects and Empowering Involvement Approach and those predicted by the regression model. In addition, the coefficient of determination ( $R^2=13.1\%$ ) suggests that the amount of variation in Implementation of Water Projects is explained by Empowering Involvement Approach based on the perspective of all the 106 research participants. From the correlation results, the null hypothesis  $H_{03}$ : Empowering stakeholder involvement approach does not significantly influence implementation of water projects in Kisumu East sub-county was rejected since  $p\text{ value} = 0.000 < 0.05$  and so it was concluded that at least one of the explanatory variables is significantly related to the Implementation of Water projects. The study revealed that permission, delegation, recognition, entitlement and authorization had great effect on

implementation of water projects. Overall, authority had the greatest effect while entitlement had the least effect. The study recommends that Community should be encouraged to take part in implementation of water projects to bring a sense of ownership to projects by the community members since after implementation is complete the project is given to communities to operate and maintain. This requires an understanding of the water project from the onset so as to be assured of sustainability of the project.

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