



IMPACT OF PARTICIPATORY RESOURCE MOBILIZATION IN THE IMPLEMENTATION OF COMMUNITY WATER PROJECTS ON THE WELL-BEING OF BENEFICIARIES' HOUSEHOLDS IN KISUMU COUNTY

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ABSTRACT

This study investigated the impact of participative resource mobilization in the implementation of community water projects on the wellbeing of beneficiaries in Kisumu County. It was acknowledged that water services still pose a major challenge in Kenya and particularly in Kisumu County. The study sought to understand the role Participative resource mobilization played in ensuring successful implementation of community water projects in the informal settlements of Kisumu and the influence it had on beneficiaries' wellbeing. The specific objectives includes: participative labor sourcing, finance mobilization and sourcing project materials. The study employed descriptive survey research design. The target population was 360 households drawn from four areas in Kisumu (Obunga, Panga, Wandiege and Asengo). Sampling techniques used was stratified, giving a sample size of 189 households. Data collection was done using questionnaires and thereafter was analyzed quantitatively using SPSS tool and presented in form of frequencies, and tables. The findings revealed that participative resource mobilization and efficient project implementation were statistically significant to the well-being of beneficiaries of community water projects in the informal settlement of Kisumu. The study recommended that the implementing agencies should consider training community members with relevant skills that will enable them implement, operate and maintain the projects.

Key words: *Project implementation, Community Participation, Resource Mobilization, Households' well-being*

INTRODUCTION

The original argument of increasing community participation in rural and urban informal settlements water supply projects stemmed in large part from the basic needs strategy. Participation was touted as a necessary strategy in implementing poverty alleviation programs, *ab initio*. Getting beneficiaries involved would lower costs, better target peoples' needs, incorporate local knowledge, ensure that benefits were equitably distributed and create grassroots capacity to undertake other development projects and to maintain benefits, particularly in the case of physical infrastructure (World Development, 2000).

Critical to the success of water supply and management is the early and continuous integration of the community in the planning, decision-making, and implementation process. CP can improve the scope of decision making and can help to create long-term and widely accepted solutions (European Commission, 2002). Stakeholder engagement can further break down barriers to information sharing and learning and speed up the identification, development, and uptake of solutions related to urban water management (Butterworth et al., 2011).

An analysis of water projects in Indonesia, India and Sri Lanka found greater community participation is associated with better water supply and that well-designed community-based water services lead to improvements in health outcomes (Isham and Kähkönen, 1999). A review of USAID projects also argued that projects with participatory elements increased the overall effectiveness of projects particularly in building capacity for collective action. Decentralization and strengthening local organizations were related aspects of bringing power and responsibility down to the community (World Development, 2000).

Implementation of community water projects, like most projects, involves a series of activities, which need to be planned, operated and controlled, and which will inevitably involve the utilization of

resources. These activities include coordinating people and resources, as well as integrating and performing the activities of the project in accordance with the project management plan (PMBOK, 2008). According to Mwangangi et al., (2016), water is significantly related to the well-being of an individual since it affects all the sectors of nature and livelihoods. Community participation (CP) is active engagement of individuals within a community to solve conditions, influence policies and programs that are geared towards improving the quality of their lives (Ertzen et al 2007).

According to Wright (1997), Narayan (1995b), Yacoob and Walker (1991), McCommon, Warner and Yohalem (1990), Harvey and Reed (2006), Butterfoss (2005) and Mwakila (2008), resource mobilization as a participatory indicator is a parameter used in ascertaining whether a project was implemented and/or is being operated through a participatory approach. According to Kaliba (2002), resource mobilization is the act of beneficiaries willingly accepting to contribute money, labor, or materials to the development and operation of projects, so as to feel ownership of the project. Development projects in the communities require resources for implementation and operation of water projects (Munger et al, 2008). Hence the basic principles of cost sharing should be specified and made clear from the outset for the community members to agree on a cost sharing arrangement with partners and, decide on the level of service for which the community is willing to pay (Sara and Katz, 2004).

The study focused on four community water projects funded by Sustainable Aid in Africa International (SANA) in Kisumu. The water projects are community initiatives in Kisumu's informal settlements and have proved sustainable in the service of water provision to the local communities (SANA, 2014). The four water projects are: Wandiege Water and Sanitation project, Obunga Water and Sanitation project, Asengo Water and Sanitation project and, Paga Water and Sanitation project.

Statement of the Problem

The water problem in Kisumu County presents a unique challenge; Kisumu City Development Plan (2014) indicates that tap water service is irregular, especially in the informal settlements where most residents depend on water vendors, nearby rivers and water from private boreholes to meet their fresh water needs (Otieno, 2013; Owuor et al, 2012). These alternative freshwater sources are considerably time consuming, are costly and present significant health risks since they are poorly planned and are often located close to known agents of ground water pollution such as pit latrines (Maoulidi, 2011). Majority of the population in Kisumu lives in low income settlements that do not have access to the main water supply utility KIWASCO (Owuor & Foeken, 2012). Thus, prompting a number of interventions that include; employing community participation technique to develop water projects to meet their needs.

A number of community water projects have been implemented by residents especially in the low income settlements of Kisumu to enable them access clean water supply. For instance residents of Manyatta B started in 2002 Wandiege self-help community water supply project, currently operating as a water service provider like KIWASCO. Other such community based water projects implemented by participatory technique include Obunga water and sanitation project (OWSP) established in 2003, Asengo water and sanitation project (AWSP) established in 2005, and Paga water and sanitation project re-established as a community venture in 2007 (SANA, 2014). Based on their systematic growth, it is evident that these community water projects are sustainable and are able to run at their costs. The study therefore, sought to understand the extent to which these communities in Kisumu, through participative resource mobilization have been able to assist in ensuring efficient implementation of the water projects and the influence it has on their Well-being.

Objectives of Study

The objective of the study was to examine the impact participative resource mobilization in the implementation of community water projects on the well-being of beneficiaries' households in Kisumu County.

Null Hypotheses

H₀₁ Participative project resource mobilization in the implementation of water projects has no significant impact on the wellbeing of beneficiaries in Kisumu County.

Theoretical Framework

Capability Approach

The capability approach is a broad normative framework for the evaluation of individual wellbeing and social arrangements, the design of policies and proposals about social change in society (Robeyns, 2005). Amartya Sen in developing Capability approach argues that there is need to develop people's capabilities so that they can achieve their full potentials. Capabilities are the abilities of an individual i.e. what one can do or be in life. Robeyns (2003) notes that capability approach to well-being and development evaluates policies according to their impact on people's capabilities. It asks whether people are being healthy, and whether the resources necessary for this capability, such as clean water, access to medical doctors, protection from infections and diseases, and basic knowledge on health issues, are present.

According Sen (2009), capability approach focuses on what people are able to do and be, as opposed to what they have, or how they feel. Sen argues that, in analyzing well-being, we should shift our focus from 'the means of living', such as income, to the 'actual opportunities a person has', namely their functionings and capabilities. Well-being and development should be discussed in terms of people's capabilities to function, that is, on their effective opportunities to undertake the actions and activities that they want to engage in, and be whom they want to be. This study looks at the tapping of a communities' capabilities to raise

necessary resources for the implementation of water projects so as to enhance functioning or well-being.

Participatory Approach

Cohen and Uphoff dimensions of participation concerns the kind of participation which is taking place, the sets of individuals who are involved in the participatory process and the various features of how that process is occurring. Basically these dimensions provide answer to the questions: what kinds of participation take place; who participates in them; and how the process of participation takes place (Shah, 2012). According to Nici and Wright (1997), participation arose out of concern for cost effectiveness; recognition that the more the local people do, the less capital costs are likely to be; the belief that it is right that people should be empowered and should have more command over their lives.

According to Cohen and Uphoff (1980) Participation in project administration and co-ordination pertains participating as either locally hired employees or as members of various project advisory or decision-making boards. By having local people involved in administration and co-ordination, a project may not only increase the self-reliance of the local people, by training them in techniques of project implementation, but valuable inside information and advice may also be gained concerning local problems and constraints affecting the given project. The most common form of implementation participation is through enlistment in programs.

Conceptual Framework

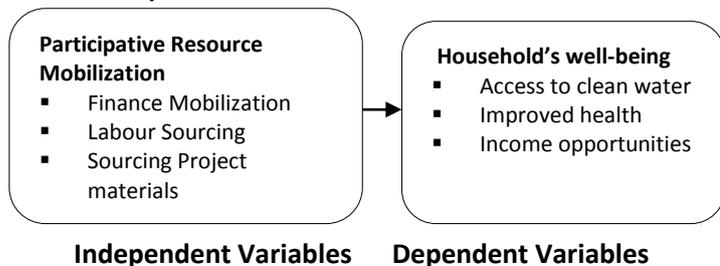


Figure 1: Conceptual Framework

Source: Author (2018)

Empirical Review

Participation by resource distribution usually requires communities to contribute money, time and/or labour, according to Dube (2008) literature suggests that while the resources contributed by the community may be money, materials or labour, the contribution of money underpins the sustainability of most maintenance system after project support funds have run out. According to Boru (2012), community involvement in provision of labor, locally available materials, and cash contribution influences community ownership of water projects. This can largely be attributed to the fact that having contributed money, the community sees itself as having a stake in the development. Simply put, development projects in the communities require resources for implementation and operation of water projects (Munger et al, 2008).

DeGabriele (2002) observes that though most communities are poor and may not be able to make large financial contributions, their little contribution demonstrate their commitment towards the maintenance of the taps. He asserts that there should be involvement of users at every stage and that the users should assume as much responsibility as possible during the implementation and for the subsequent management of the water point. (Kanyanya, 2007) points out that a community member can choose to donate manual/physical labour, be a committee member or even offer skills to give services to the community members. This means that participation is not limited to money contributions but one can opt to provide labour or skills required to implement the water project.

The water supply sector is mentioned as one sector with varying degrees of success in participation by resource contribution. Articles on water projects (Everatt & Gwagwa, 2005; Simanowitz, 1997) provide good examples of communities who participate by contributing money towards the implementation and maintenance of water schemes. However to use an illustration from the area of study, the Wandiege community water

project received financial support from SANA international and CORDAID but community members were of necessity required to contribute in the form of shares and/or work. Examples of this work are digging trenches and laying pipes.

According to Owuor & Foeken (2009) many of the water utility systems in Kenya are characterized by high water losses, insufficient revenues to cover operating costs, dilapidated and poor functioning infrastructure, and lack of investments, low billing and collecting efficiency, chronic water shortages and failure to meet the existing demand, low coverage and corruption. Corruption in Kenya is a big issue and it is also a reason for a community such as Wandiege to be independent and responsible for their own water supply. The new Water Act of 2002 and the Ministry of water and irrigation created guidelines for setting up Community Initiatives (Chung, 2011), hence the need for active participation in terms of taking responsibility of finances for efficient operations and maintenance.

METHODOLOGY

This study adopted descriptive survey research design that focuses attention on the formulation of objectives, design of data collection instruments, collection of data, processing and analyzing data and reporting findings (Mugenda & Mugenda, 2003). The target population for the study was 360 households of direct beneficiaries of four community water projects (Wandiege, Paga, Asengo and Obunga) in Kisumu. The researcher adopted Cochran (1963) formula to calculate the sample size with a margin error of 0.05, which amounted to 189 respondents. To distribute the 189 sample size, a proportionate stratified sampling was used to determine the number of household respondents for each strata as shown in the table1 below. The Likert Scale Questionnaire employed in the study was examined, cleaned and sorted to ensure that all the relevant data was coded, categorized and stored for analysis using the SPSS and factor analysis computed further analysis from the data

Table 1: Showing the Strata and the distributions of Sample size

Strata	Beneficiaries' Households	Sample Size For Each Strata
Wandiege	148	78
Obunga	106	56
Asengo	63	33
Panga	43	22
Total	360	189

RESULTS

The study sought to determine the impact of participative resource mobilization in the

implementation of community water projects on the well-being of beneficiaries' households as presented in table 2 below.

Table 2: Descriptive Statistics analysis of Participative Project Resource Mobilization

Participative Project Resource Mobilization	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Dev
Community participated by contributing cash for purchase of project materials like pipes	0.8%		6.6%	41.0%	51.6%	4.43	0.691

Community participated by contributing cash for acquiring skilled labor	3.3%	10.7%	54.9%	31.1%	4.14	0.731	
Community participated in contributing cash for maintenance	4.1%	16.4%	30.3%	48.4%	0.1%	3.25	0.887
Community participated in sourcing for project plumber	86%	10%	4%			1.26	0.775
Community contributed in the provision of project masons	94%	2%	1%	1%		1.27	0.907
Community participated in non-skilled labor provision like digging tunnels		2.5%	1.6%	50.8%	45.1%	4.39	0.649
Community contributed bag(s) of cement and/or aggregate and sand for the project	0.8%	4.1%	2.5%	65.6%	27.0%	4.14	0.719
Community contributed water pipes for the project	0.8%	3.3%	17.2%	47.5%	31.1%	4.05	0.832
Community contributed timber and/or other construction materials for the project	2.5%	18.9%	14.8%	46.7%	17.2%	3.57	1.060

Mean strongly agree=1-1.9, Disagree=2-2.9, Neutral=3, Agree=3.1-4, Strongly Agree=4.1-5

The study findings indicated that on average the majority of the respondents were in agreement that the community participated in contributing cash to buy project materials and pay for skilled labour. On whether the community participated in labor sourcing for the water project, the findings reveals that on average most respondents strongly disagreed that Community participated in sourcing for project plumber and sourcing for project masons, however majority agreed to have participated in the provision of non-skilled labour. Majority of the respondents on average agreed that community participated in sourcing for project materials. According to White (2011) when

communities participate in water projects, resource mobilization need not always be financial in nature, but could either be in-kind, labour and local materials. The findings concurred with Kanyanya (2007) who noted that CP is not limited to money contributions but one can opt to provide labour or skills required to implement the water project.

Inferential Analysis on Participative Project Resource Mobilization

The study used principle component analysis to reduce the large variables into less number of factors by extracting maximum variance from all the factors as shown in below.

Table 3: Total Variance Explained Indicators on Project Resource Mobilization

Component	Initial Eigenvalues			Extraction Sums of Squared Loading			Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.446	26.063	16.063	2.446	26.063	26.063	1.311	24.564	14.564

2	1.661	14.011	40.074	1.661	14.011	40.074	1.223	13.593	38.156
3	0.957	9.854	49.928						
4	0.876	8.745	58.373						
5	0.802	8.634	66.607						
6	0.776	8.307	74.314						
7	0.767	7.439	83.953						
8	0.704	7.294	92.447						
9	0.680	5.553	100.000						

Extraction Method: Principal Component Analysis

The results of the principal component analysis extracted two variables out of a total of nine variables. The two extracted variables formed the basis of further descriptive statistics analysis, correlation and regression.

Table 4: Descriptive Statistics for Sourcing Project materials and finance mobilization

	Variables	N	Number of Items	Mean	Std Deviation	Skewness	Kurtosis
1	Labor Sourcing	122	3	2.256	1.88687	.330	.189
2	Finance mobilization	122	6	4.164	1.19453	.567	.263

Mean strongly agree=1-1.9, Disagree=2-2.9, Neutral=3, Agree=3.1-4, Strongly Agree=4.1-5

Table 4 revealed that majority of the respondents were in agreement that the community participated in finance mobilization, while opinion was divided on the role played by the community in labor sourcing for the water the water projects. Ostrom (2000) observed that as a condition of breaking the patterns of dependency and passivity it was necessary for project beneficiaries to provide labor, time, money and materials.

Correlation

Table 5: Correlation of Resource mobilization and Household well-being

		Finance mobilization	Labor Sourcing	Household well-being
Finance Mobilization	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	122		
Labour Sourcing	Pearson Correlation	.351	1	
	Sig. (2-tailed)	.039		
	N	122	122	
Household Well-Being	Pearson Correlation	.476	.281	1
	Sig. (2-tailed)	.015	.008	
	N	122	122	122

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

Table 5 indicated that there exist a positive and significant relationship between Household well-being and Finance mobilization ($r = 0.476$, $P=0.015$). Similarly there exist a positive and significant correlation between Household well-being and labour sourcing ($r = 0.281$, $P=0.008$). The findings

agreed with Reed Erichem, (2003) who emphasized that since water is a shared common property resource and water services have some basic investment costs it is imperative that local communities work together to manage the resources and the services accruing.

ANOVA

Table 6: Regression Model Significance (ANOVA)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	41.545	2	20.772	2.876	.000
1 Residual	859.447	119	7.222		
Total	900.992	121			

a. **Dependent Variable:** Household well-being

b. **Predictors: (Constant),** Sourcing project Materials and Finance Mobilization

Table 6 showed the results of ANOVA test. It revealed that the significance level of the model was $P= 0.012$ which was less than 0.05, meaning

that resource mobilization factors used in the study were sufficient in explaining changes in Households' well-being in Kisumu City.

Regression Analysis

Table 7: Coefficients

Predictor Variable	B	Std. Error	T	Sig.
(Constant)	19.771	6.530	6.090	.000
Labour Sourcing	.290	.228	1.506	.036
Finance mobilization	.639	.230	4.263	.004

Dependent Variable: Household wellbeing

Table 7 showed the regression analysis between project resource mobilization and household wellbeing. The results indicated that Finance mobilization had a significant and a positive contribution towards Households' well-being ($r=0.639$, $P=0.004$). Results also indicated that labour sourcing had a positive connection on Households' well-being in Kisumu informal settlements as follows ($r=0.290$, $P=0.036$). This means that participatory resource mobilization was

vital for the achievement of the wellbeing of the households within the water schemes found in Kisumu. Both Isham, and Kahkonen (2009) and Khwaja (2004) studies confirmed that when community mobilized resources, projects performed well hence enhance Household wellbeing. However Khwaja (2004) also found that community mobilization is only valuable for nontechnical aspects of the projects.

Hypotheses Testing

Table 8: Hypothesis Results

Hypotheses	Test	Results
H₀₁ . There is no significant relationship between CP in finance mobilization in the implementation of water projects and beneficiaries' households well-being in Kisumu County	The P-value of the T statistic for this variable is 0.003. Since the p-value 0.003 is below 0.05 we accept H ₁ .	H₀₁ =Rejected H₁ = Accepted

H₀2. There is no significant relationship between CP in labour Sourcing in the implementation of water projects and beneficiaries' households well-being in Kisumu County

The P-value of the T statistic for this variable is 0.000. Since the p-value 0.000 is below 0.05 we accept H₂

H₀2=Rejected
H₂ = Accepted

FINDINGS AND CONCLUSION

The study findings on participatory resource mobilization provided evidence that Cash contributions had a positive impact on the implementation of water projects and on households' well-being. Labor sourcing especially on non-skilled labor like tunnel digging, lowered project's costs hence enhanced benefits that accrued to households. However descriptive statistics suggested that there was low participation in skilled labor for the project. This was due to lack of necessary skills from the community due to low level of education characterizing informal settlements. Among the independent variables, participatory resource mobilization had the greatest impact on the well-being of beneficiaries of the water projects under study. The study findings confirms past studies Agarwal (2001), Cooke et al (2001) and Schouten et al (2003) on crucial role of cash contribution as a form of participation.

The study concluded that among the sub variables, CP in finance mobilization had the greatest impact on beneficiaries Households' wellbeing. The

findings showed that both finance mobilization and labor sourcing impacts positively on households' wellbeing. Even though community participation was evident in project labor sourcing, especially in the provision of non-skilled labor, the study findings reported low level participation in the labor sourcing for skilled work.

RECOMMENDATIONS

To ensure there was enough skilled labor to implement CWP, the study recommended that the implementing agencies and the county governments should consider training community members with relevant skills that will enable them implement, operate and maintain the projects. This will further enhance communities' active participation and well-being

Recommendations for Further Studies

Comparative studies on the effects of Community Participation in the implementation of urban informal settlement water projects on Households' well-being between cities and towns in Kenya.

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