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Effects of Stakeholders' Non-participation on Sustainability of Water Projects in Kenya

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Abstract:

Water projects in Africa face numerous challenges resulting in their inability to satisfy community basic water needs. This study investigated the effects of stakeholder non-participation on sustainability of water projects in Makueni County Kenya. Perennial water shortages in Makueni County despite a proliferation of community water projects is an issue of concern. The Arnstein's Ladder Theory of Citizen Participation was adopted to guide this study. Data was captured using a self-administered questionnaire and interview guide. A sample of 121 respondents was selected using a systematic sampling technique. Correlation and regression were the main analyses tools used in the study. Findings indicate that stakeholder Non-participation and water projects sustainability had a positive significant relationship ($p=0.005$). A regression F-test of the two variables was significant ($R^2=0.095$, $p=0.016$). This study recommends community participation in water projects implementation.

Keywords: Sustainability, water projects, scarcity, non-participation, manipulation and therapy

1. Introduction

The history of water scarcity world over is not a new phenomenon. Water scarcity has been on the rise owing to community boundary wars, regional peace issues and insecure food situation in Africa. In most of the developing countries, water policy regulation faces serious challenges especially where water is scarce for irrigation and development purposes, (Rosegrant & Gazmuri, 1995). The main contributor to severity of water scarcity has been environmental degradation, increasing population and deterioration of nature's replenishing ability. Unchecked human activities have resulted in the destruction of vulnerable water catchment towers and forest cover. Climatic changes and global warming are yet other key factors. Availability of water in the developing world has become an urgent developmental issue to grapple with. This has been brought about by political instability, perennial burden of the external debt, corruption, poor planning, environmental problems owing to unmet water needs and other prevailing economic factors.

A closer look at water projects failure in most parts of Africa, one draws a compelling picture of rising water needs. Skinner (2009) alludes that many water projects in Africa fail due to many reasons. Skinner's (2009) arguments lies in the need for consultations with local population in finding solutions to check water projects failure. According to Skinner (2009), "it's not enough to just drill and walk away". Equally, "There is no point an external agency coming in, putting in a drill-hole and then passing it over to the local community if they can't afford to maintain it over the next 10 or 20 years"

According to the World Bank (2000), the consequences of acute water scarcity was projected to be felt most in Arid and Semi-Arid Lands (ASALs). While Reed (2008) perceived the need for continued external support in mobilizing the communities at the village level in conjunction with trained hand-pump mechanics to monitor and control non-participation in projects. Community participation in water projects is thus an integral input in their successful implementation. Arnstein (1969) alludes that community participation being a community-based planning process facilitates transparency and accountability in having sustainable development.

Participation is thus thought of as an enhancer for accountability and transparency among project donors and sponsors when handling community development projects. In the perspective of Thomas & Thomas (2015), community participation means different things to different people in the sense that the community is passively viewed in geographical

situation of residence or people coming together for common good to address their needs. Whatever different meanings people attach to, community participation in sum it is a way of bringing people together in order to get involved in projects that will meet their expected needs (ibid). The ambiguity of community participation arises due to common vested interests of project sponsors and community affiliations of self-help groups who only hold a fuzzy perspective of community needs and avenue to solutions (ibid).

According to Thomas & Thomas (2015), due to today's changing economic environment and unpredictable economic and political scenarios, different levels of community participation has been documented for community projects;

- *Level 1:* In this level, the community contributes nothing but receives benefits from the development projects.
- *Level 2:* The community contributes some financial and material resources but are not involved in decision making.
- *Level 3:* The community participates in lower level management in decision making
- *Level 4:* The community participation goes beyond lower level management decision making to monitoring and policy making,
- *Level 5:* This is viewed as the final stage of community participation, development programmes are entirely run by the community who have received full empowerment; but external finances and technical assistance may be provided to support sustainability.

Participation is the best way of finding the true needs in a community and how best to alleviate issues of concern for long term benefits. It would be tedious for donors to be coming back to address simple things in water projects which the communities could handle for the long term sustainability of water projects. Community involvement and empowerment to own and control their water projects through participation is core to the successful implementation. This study investigated on the effects of stakeholders' Non-Participation on Sustainability of Water Projects in Makueni County Kenya.

2. Theoretical Framework

The Arnstein's (1969) ladder theory of citizen participation guided the design of this study. The Non-participation part which consists of manipulation and therapy as depicted in the Arnstein's Ladder were key to the study. Manipulation and therapy are the starting, entry points in climbing up the Ladder Theory. The two dimensions were selected because of their potential effect in understanding non-participation.

2.1. Manipulation

Manipulation is one of the non-participation steps on ladder of citizen participation for initial start-up to attain citizen participation as the hallmark of water projects sustainability in Makueni County, Kenya. According to Lithgow (2006) in citizen participation, manipulation in is non-participation which entails people in a community being placed in advisory committee boards as mere rubberstamps for the purpose educating them to cure the non-participation element. The bottom rung of the ladder signifies an illusory distortion, not true or real community participation as it is a form of initial contact for public relations to treat non-participation in clever way(ibid). Lithgow (2006) argues that this sort of mirage illusion is important in containing dissenting voices of advisory committees, minority groups who may injure the good intentions in '*manipulating*' the community to start participating in water projects. Lithgow (2006) further suggests that the style of non-participation can applied in programmes to positively manipulate communities to pull together at '*grassroots participation*' in order to end hostility of the '*powerful*' (project sponsors) and the '*powerless*' (residents). Lithgow (2006) asserts that people learn to play their part in the levels of community participation making public programmes relevant to meet the needs of the people and genuine response to priorities. Manipulation is considered as an educative move to cure Non-participation in order to gather public support from the *powerless* and the *powerful* before redistribution of resources. Manipulation is the starting point of the Ladder of the Citizen Participation that lays a strong foundation in the process of citizen participation, the hallmark of sustainability.

2.2. Therapy

The Arnstein's (1969) ladder theory of citizen participation, the therapy in Non-participation focuses on the therapeutic remedy of maladies in treatment of Non-participation in water projects as if it was a disease inherent in the community. It is considered as corrective and curative measure in the process of healing Non-participation in the community. This is whereby the *powerless* (citizen groups) are supposed to engage the engage and support the *powerful* (the Government) in fair allocation and redistribution of resources.

According to Lithgow (2006), therapy as a treatment procedure of pathological disease as in this analogical case, needs a cure by educating on the dangers of non-participation, since it is a start-up dose analogically, to inject community energies and knowledge towards citizen participation. Therapy in this respect is masked in the non-participation rungs of the Arnstein's Ladder theory as a remedy to non-participation in communities (ibid). This is to give power to the community to reenergize mental thinking capacities in order see real needs and approach them systematically when partnering with others (ibid). In the perception of Lithgow (2006) powerlessness is synonymous to mental illness that needs a therapeutic treatment to cure the condition of non-participation to be able to function as a normal. Therapy as an element of non-participation, it assumes a true need and purpose of masquerading with a view of involving the citizens in planning activities of citizens in '*clinical group therapy*' that cures the pathological conditions of non-participation in communities (ibid).

Adam (2005) asserts that participation can be used politically to either empower or over-power communities. This kind of participation can be a way of hunting for votes especially where the ruling party does not want to make clear a distinction between continuing government social policies and political promises (ibid). Mutekanga et al. (2013) alludes that participation by stakeholders is essential in identifying any community non-participation areas in order to formulate concrete work plans and chart strategies with policymakers. While according to Fraser (2005) community participation should move away from mere politics to embracing more on practical goals to accomplish project needs. Levina (2005) asserts that non-participation happens due to tight project schedules and disengaging the community from being part of project implementation. According to Earthea et al (2007), the application of participation concept has not been easy for sponsors, planners and implementers of community programmes. To Percy-Smith (2006) participation can be limited in itself if it fails to address deep-rooted problems through consultation. While Muthuri et al (2009) argues that participation criticisms are influenced by socio-political patronage and insensitive institutionalization of participatory process forced on local priorities.

When mobilizing community participation, there will be challenges on the levels of performance in meeting adequately the needs of people through a local agency (Almansi & Tammarazio, 2008). According to Mjoli (1998) there is an urgent need for implementation of gender balanced policies to empower women and bridge the gap on gender equity. On the other hand Reed (2008) argues that as governments and NGOs continue to partner in water projects, communities should change the culture of river-free water and pay for the water to cater for maintenance and operational costs. In the opinion of Rousseau et al. (2011) there are several factors that make water projects to fail in meeting communities' water needs, such as non-inclusion of project stakeholders in the implementation and management of water projects. Equally, the choice of technology to be operated easily by local manpower is important for sustainability of water projects (ibid). In another view Reed (2008) argues that lack of ownership and poor management of water projects by stakeholders is a drawback their sustainability. The success of community participation according to Mulwa (2013) is anchored on empowerment of people in an enabling environment and support to gain a clear vision, strength, and confidence in running development projects.

3. Conceptual Framework

The conceptual framework for this study is presented in Figure 1. The independent variable in the study is non-participation with two dimensions; therapy and manipulation. While sustainability is measured using dimensions; continuous water supply and water systems management. This study aimed at examining the relationship between stake holders' Non-participation and sustainability of water projects.

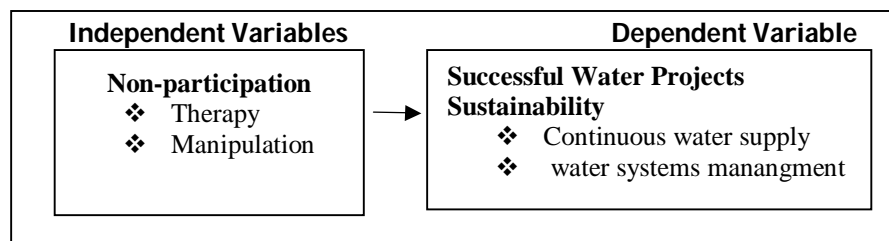


Figure 1: Conceptual Framework

4. Methodology

4.1. Study Design

A descriptive research design was adopted for this study. In addition, the study used mixed method approach. The study area was Makueni County. The descriptive design was adopted owing to its ability to facilitate collection of a large amount of data, covering a large area. The design was considered suitable in terms of collecting adequate data on the elements in the study.

4.2. Participants

Participants in this study were households which benefit from community water projects in Makueni County. They were drawn from nine (9) sub-counties in Makueni County namely; Kilungu, Makueni, Kathonzweni, Mbooni west, Mbooni East, Kibwezi, Makindu and Nzau. The study population was 40,423 households served by the water projects. A sample size of 121 respondents was selected using systematic sampling technique.

4.3. Data Collection

Self-administered questionnaires and an interview schedule were used to collect data in this study. A pilot study was conducted to determine the reliability and validity of instruments. The non-participation section had two components; manipulation and therapy. Manipulation section had eight questions comprising of four elements measured on a categorical scale, three on a dichotomous scale and one on a metric scale. The therapy section had nine items, five measured on a dichotomous scale, three on a categorical scale and one on a metric scale. The dependent variable had 16 items, comprising of

five on a dichotomous scale, seven on a categorical scale, three on a metric scale and one for enumeration of items. The interview schedule had 11 items.

4.4. Data Analysis

Descriptive and inferential (Correlation and Regression) statistical analyses were used in analysing data. Qualitative provided support and clarity to the study. Data was analysed using Statistical package for Social Sciences (SPSS) version 20. The study applied the model presented below to determine the relationships in the study.

$$Y = \alpha + \beta_1 X_1 + \mu.$$

Where:

Y = Sustainability of Water Projects

α = is the constant.

X_1 = Non-participation (Manipulation and Therapy).

μ = is the unpredictable random element or error term and β_1 , is the coefficients of X_1 .

4.5. Ethical Considerations

Consent was obtained from participants in the study. The researcher assured respondents of confidentiality at all times and no information will be divulged to third parties.

5. Results

The results in this study are presented on the basis of the objectives. Manipulation being part of non-participation, is the starting point in examining this phenomenon of non-participation. The results on Manipulation shows that the majority (78.5 %, 95) of the respondents didn't consider to have an effect while 14 (11.6%) indicated that they were manipulated. The results imply that the respondents were of the opinion that they were in control of water projects. Unfortunately water scarcity was widespread in the communities served by the water projects.

In this study *Non-participation challenges* were corroborated and reported by many respondents. The reasons for Non-participation results were give as, information not provided (42.1%, 51) No water skills (33.9%, 41) No response (12.4%, 15) for free water (7.4%, 9) lack of adequate information was given as one of the major challenges of non-participation in water projects. Some the respondents said political-will was lacking because of political vested interests and different interpretations of constitution 2010 whereby residents had become mere rubberstamps for launching of new development projects.

The results on understanding the importance of community participation were, 57 (47.1%) did not understand the importance of community participation while 48 (39.7%) understood and 16 (13.2%) did not response. Majority of residents did not understand the importance of community participation giving the idea of Non-participation in the Sustainability of water Projects.

The results on challenges experienced in community water projects were reported as being, long distances according to the majority (50.4%, 61), shortage of water (21.4%, 15), unclean water (6.6%, 8) and no response (9.1%, 11). The response to support mechanisms to enhance quality of community water projects by respondents were, according to the majority (52.1%, 63) help in Kind, donate financial resources (12.4%, 15) and no response (35.5%, 43). Nevertheless, the respondents said they were able and willing to offer any non- technical support within their means to have sustainable water projects. The results on frequency of water shortages were reported 0-7 days 49 (40.5%) of residents, 8-14 days 25 (20.7%) respondents, 15-21 days 11 (9.1%), more than 21 days 19 (15.7%).

Therapy is the Non-participation part of the ladder of citizen participation is considered a therapeutic remedial action measure in treating inherent non-participation conditions in any community. Therapy is the 2nd step on the ladder of citizen participation in community participation. Therapy is a treatment just like any pathological disease that needs a sure for wholesome body. Therapy is the Non-participation 2nd start-up dose to inject energies and knowledge towards full attainment of participation. This study uncovered the available water in the area did not satisfy the water requirements of the residents. The majority (78.5%, 95) of the respondents indicated that area experienced water scarcity while 14.0%, 17 of the respondents indicated that there was no water scarcity, while 7.4%, 9 had no response. Water scarcity deprives and strips a community its good economic status, vulnerability to food security and dwindles households' income from farming.

When the residents were asked whether there was enough water for households, the majority (83.5%, 101) indicated that the water was inadequate. While 7.4%, 9 indicated that there was enough water. No response category had (8.3%, 10). The manner in which the households were treated was of interest in this study. The respondents' treatment in water projects was reported as, Good and welcoming for the majority (70.2%, 85), Bad (14.9%, 18), don't know (6.6%, 8) and No response (8.3%, 10). Respondents indicated that the majority (61.2%, 74) queued for water, while 20.7%, 25 indicated they didn't queue. Time taken queuing for water took, 1-2 hours 33 (27.3%), No response 26 (21.5%), 3-5 hours 23 (19.0%), 0-10 minutes 14 (11.6%), 11-30 minutes 13 (10.7%), 6-12 hours 6 (5.0%).

The Households involvement and participation indicated that they were involved. The majority (57%, 67) indicated they were not involved in water projects while 33.9%, 41 indicated they were involved. The no response category had 9.1%, 11. The results on how respondents came to learn on starting of water projects were as follows through: Chiefs Barazas (47.1%, 57), Government water officials (23.1%, 28), Neighbour/s (16.5%, 20), NGOs representative/s (4.1%, 5) and No

response (9.1%, 11). In many water projects, there were no officials to run the water projects and ran the water projects as they wished. When asked whether there was someone in charge of the water projects it was reported: (54.5%, 66) said no while (32.2%, 39) said yes and no response (13.2%, 16).

Hypothesis Testing

The hypothesis was tested using Pearson correlation and regression analyses on Non-Participation (manipulation and Therapy) in Sustainability Water Projects in Makueni County Kenya. The hypothesis of the study was:

H_{01} : There is no significant relationship between Non-Participation (Manipulation, Therapy) and sustainability water projects in Makueni County, Kenya. The assumptions of the study were guided by the hypothesis. The Linear Regression model for estimation was used to determine the relationship between the one (1) dependent variable (Water Projects Sustainability) and Non-Participation (Manipulation, Therapy). The model below was used to determine the relationship between the dependent variable and independent variables as:

$$Y = \alpha + \beta_1 X_1 + \mu$$

Where: Y = Water Projects Sustainability

α = is the constant.

X_1 = Non-Participation (Manipulation, Therapy)

μ = is the unpredictable random element or error term.

β_1 , is the coefficient of X_1 . Hypothesis testing was done using linear regression analysis which entailed obtaining the p values, r coefficients, F test and finally fixing a model for the study. The Pearson Correlation and Regression Analysis were used to analyse the relationship between two variables. Regression Analysis was used for estimating relationships between variables. The Non-participation (Manipulation, Therapy), was subjected to correlation and regression analysis against the one dependent variable, Sustainability Water Projects in Makueni County Kenya.

5.1. Link between Non-Participation and Sustainability of Water Projects

The Non-participation had two variables, Manipulation and Therapy for the study and correlation test was run and results were obtained as indicated in Table 1. The Nonparticipation (Manipulation, Therapy) and sustainability of water projects in Table 1 shows Correlation is significant at the 0.01 level (2-tailed) in the study. From the Table 1 it is evident that both manipulation and therapy (both representing non-participation, the independent variable) are weakly related at 0.005 and 0.291 correlation coefficients. However, with therapy having a higher coefficient of 0.29 it is chosen to be the independent variable to stand for the larger independent variable, Non-participation and Sustainability of Water Projects in Makueni County Kenya.

5.1.1. Relationship between No-participation and Sustainability Water projects

	Non - Participation	1	2	3
1	Manipulation	1		
2	Therapy	.164	1	
3	Water projects Sustainability	.057	.291**	1

Table 1

** Correlation is significant at the 0.01 level (2-tailed)
Source: Researcher (2016)

This is because, the two variables Non-participation and Water Projects Sustainability are significantly correlated at 0.005 meaning that the community in order to participate fully needed Therapeutic treatment and Manipulation to function properly in water projects in sustainability of water projects. This could be seen on the ground the water projects did not yield enough water to satisfy domestic needs of households.

5.1.2. Regression Analysis Model Summary

Model Nonparticipation	R	R Square	Adjusted R Square	SE of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.309 ^a	.095	.073	.819	.095	4.322	2	82	.016

Table 2

a. Predictors: (Constant), Therapy, Manipulation.
Source: Researcher (2016)

The results in Table 2 shows the linear regression F-test that there is a linear relationship between the two variables (in other words $R^2=0.095$). With $F = 0.016$ and 82 degrees of freedom the test is significant, thus we can assume that there is a linear relationship between the variables Non-Participation and sustainability in our model.

5.1.3. Regression Coefficients on No-participation and Sustainability at 95% Level

Model	Non-participation	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.683	.254		14.514	.000	3.178	4.188
	Manipulation	.029	.080	.039	.367	.714	-.129	.188
	Therapy	.186	.066	.300	2.813	.006	.054	.317

Table 3

a. Dependent Variable: Sustainability of Water Projects.

Source: Researcher (2016)

Fitting the line of best fit as illustrated on Table 1.3, we obtain the following model:

The model is $Y = a + bx$,

Where $a = 3.683$ $b = 0.029$ and $X = \text{No-participation}$.

$Y = 3.683 + 0.186 X_1$

The regression coefficients constant and No-participation as predictor variables and water projects sustainability as the dependent variable are shown on Table 4 at 95% confidence level.

6. Discussion and Conclusions

The findings indicate non-participation to be among the majority of the respondents. This scenario can be attributed to lack of a Public Participation Model in the county, until 2016 when the county Government developed and launched it (Standard media, 2016). On the other hand as observed by Lithgow (2006) Manipulation in the ladder of Citizen Participation, is an illusionary distortion, not true or real community participation but initial contact for public relations with community. So in essence the respondents can consider Non-participation as an ideal situation. Given the historical perspective of the Government doing most of the things for communities in the past, the mentality of the respondents could be anchored on the past. This perspective is different in Nigeria, according to Wilcox (2006) given that the government support should be for policy guidance on water use and legislation in order to minimize the problems experienced in water projects.

Moreover, Kenya Monitor Platform (2016) reported "*Prof. Kivutha Kibwana the Governor of Makueni County, saying that Public Participation will be the next people's Revolution after Constitution and Devolution*". Other potential hindrances to participation can be challenges facing Makueni County due to allocation of resources for civic education, political vested interests and conflicting and diverse interpretation of Kenya Constitution 2010 besides (Monitor Platform, 2016)) This paradoxical dilemma was captured by Adam (2005). An interesting political angle by Adam (2005) showed that there can be another kind of 'participation' which can be packaged in such a way which masquerades in for hunting votes, "*especially where the ruling party does not want to make clear a distinction between continuing government social policies and current political promises*".

Non-participation could be due to the perception that communities 'being treated as mere passive objects in decision making, planning and implementation' of rural project interventions (Khwaja, 2004) while Levina (2015) collaborates the same idea of non-participation by communities due to project sponsors 'tight timeframe, technical expertise and tight budget constraints'. In the study area majority of respondents said there was no information provided to create awareness on how to participate in water projects.

In some of the instances there could have been scarcity of information, this concurs with the assertion by Bolitho (2005) that information creates awareness and empowers communities and project organizations in solving needs. In spite of this perspective in another view by scholars (Earthea et al, 2007; Sultana, 2009) arguments that community participation being a big picture concept is essential for success of rural community projects could hold in this case. Almansi & Tammarazio, (2008) assertion supports the need for community participation in water projects, in order for these projects not to collapse at the exit of the donor or implementer on successful completion.

Lithgow (2006) said Sherry Arnstein saw powerlessness synonymous with mental illness that needed a preventive and curative therapeutic treatment to the prevailing poor human life conditions in order for people to function like normal human beings. The main purpose of Therapy, Lithgow (2006), says was for "masquerading", hiding behind the scenes in order to positively involve citizens in a 'clinical group therapy' to cure Non-participation without pushing them by force.

A study done in Nigeria, ADRWOP (2013) depicted there was scarcity of due to failure rate of 40% of community water projects. Wutich (2009) showed that the problem of scarcity water in households rests with water institutions who are supposed to implement the water policy. The water Institutions in water Act 2002 in Kenya are very important for water sufficiency in the whole country to bring on course the long gone year 2000 master plan water Policy to all households. Wutich (2009) said it was a must for water institutions come up with well-designed water projects and well planned mitigation measures for better management of available water resources. Studies have shown that communities can be treated unjustly

by politician and water management team the issue of the residents' treatment in water projects, Mulwa (2010) showed that project experts treated communities as mere passive objects in quick fixing of pressing needs without making them participate.

Time taken in queuing could be learnt from (brown 2002) Yemen's observed water projects dipping by 2 metres every year, slowing the flow of water in projects. The flow of water was said to be slow and hence long queues experienced in water projects. Brown (2002) also shows Iran's underground water dipping more downwards by 2.8 metres every year. This does not seem to be conclusive in this study and more studies should be done to find out why the diminishing water flow from boreholes slowed after some time. Moreover, ADROW (2013) had shown that Technical breakdowns slowed the flow of water in water projects and procurement of spare parts took long time. Adam (2005) said there was need of currency of participation to reduce social policy levels and render a structure of service distinctive as found in flagship projects in order to reduce community suffering. This means that the households needed to be engaged in Therapeutic treatment to cure non-participation as stipulated in the Non-participation variable in Therapy of Citizen Participation Ladder. Lithgow (2006) showed that Therapy was important in injecting group energies and knowledge skills in citizen participation.

The study explains the minimal non-participation in sustainability of water projects. Furthermore official Public Participation in Makueni County was launched in 2016 and it may take time to be replicated in all existing water projects. Since there is a significant relationship between Non-participation and Sustainability Water Projects in the study area, it follows that the households are fully aware of their water biting needs and need to be guided and to be involved in sustainability of water projects. For instance, there were water projects yielding water though not sufficient for households and queuing for water for a long time could be cured if the households participated in implementation of water projects.

There was no positive significant relationship between Non-participation and Sustainability of water projects hence the alternate hypothesis was accepted. Therefore, we accept the null hypothesis and conclude that there is significant relationship between Non-participation and water project sustainability. Furthermore official Public Participation in Makueni County was launched in 2016 and it may take time to be replicated in all existing water projects. It is evident that Non-participation (manipulation and therapy) independent variable and Water Projects Sustainability are weakly related at 0.005 and 0.291 correlation coefficients. The correlation coefficient 0.291 shown in Table 1.2 is a positive weak relationship. Correlation is significant at the 0.01 level (2-tailed). Table 1.3 confirms this which shows the F-test, the linear regression's F-test that there is a linear relationship between the two variables (in other words $R^2=0.095$). With $F = 0.016$ and 82 degrees of freedom the test is significant, thus we can assume that there is a linear relationship between the variables Non-Participation and sustainability in our model. Since there is a significant relationship between Non-participation and Sustainability Water Projects in the study area, it follows that the households are fully aware of their water biting needs and need to be guided to participate in sustainability of water projects.

The stakeholders engaged in the initiation and implementation of water projects hence they should integrate community participation as important contributing factor in the sustainability of water projects. Lithgow (2006) showed that Therapy was important in injecting group energies and knowledge skills in community participation. Lithgow (2006) showed the kind of '*Clinical Group Therapy*' as a mental illness cure to inject group synergies in community participation masked in Citizen Participation ladder. From the study, it is evident once the community starts to participate, Non-participation (Manipulation and Therapy), shows a small change is felt moving upwards, towards sustainability of water projects.

The study in the hypothesis testing had shown that there was relationship between Non-participation and Water projects sustainability. According Westland (2007) in Project life cycle phases, community participation should be introduced beginning at project initiation, planning, implementation stage all the way through project closure in commissioning the water project to community.

Communities should also participate in conceiving the water project idea, preparation and definition of water project on meeting water for all in the community. It is important to do a thorough mapping and a feasibility study before establishing the water project. Monitoring and evaluation of existing water projects should done from time to time to ascertain the flow of water and amount available to satisfy water needs. Government and NGOs should involve communities in water projects they sponsored. As a rule community participation should always be incorporated in the implementation of all water projects and should not be used as mere rubberstamps in water projects that will serve their present and future needs. Non-participation in the study area was found to be very high. In order to check non-participation in the study area, civic education by the county government would be very important to sensitize and create more awareness.

7. References

- i. Adam D. (2005). *Community Development Journal (July 2005)* 40 (3): 301-312. Doi: 10.1093/cdj/bsi019 Empowered or over-powered? The real experiences of local participation in the UK's New Deal for Communities, Institute of Health and Social Care, APU, Cambridge, UK, Oxford University Press (OUP).
- ii. Almansi & Tammarazio (2008). *Journal of Environment & Urbanization*, Florencia Almansi and Andrea Tammarazio, International Institute for Environment and Development (IIED). Vol 20(1): 121-147. DOI: 10.1177/0956247808089289 and www.sagepublications.com, SAGE Publications.
- iii. Arnstein S.R. (1969). A Ladder of Citizen Participation in Sherry R. "A Ladder of Citizen Participation," *Journal of the American Institute of Planners (JAIP)*, Vol. 35, No. 4, July 1969, pp. 216-22.

- iv. AWDROP (2013). Association of Water Well Drilling Rig Owners and Practitioners has advocated the probe of failure of water projects in Nigeria June 2013. Retrieved URL, www.awdrop.org <http://www.awdrop.org>.
- v. Bolitho A. (2005). Dr A Bolitho, *Citizen's juries for natural resource management, Social Capacity Building Project Catchment Strategies*, Victorian Department of Sustainability and Environment, Melbourne: <http://www.dse.vic.gov.au/effective-engagement/developing-an-engagement-plan/types-of-engagement>.
- vi. Earthea & Ortolano (2007). Earthea Nance & Leonard Ortolano, *Community Participation in Urban Sanitation Experiences in Northeastern Brazil*, Journal of Planning Education and Research 26:284-300 DOI: 10.1177/0739456X06295028, 2007 Association of Collegiate Schools of Planning.
- vii. Fraser H. (2005). Heather Fraser, *Oxford Journals Social Sciences, Community Development Journal*, Volume 40, Issue 3 Pp. 286-300. Community Development Journal cdj.oxfordjournals.org, Community Dev J (July 2005) 40 (3): 286-300. Doi: 10.1093/cdj/bsi037 first published online: February 25, 2005.
- viii. Kenya Monitor Platform (2016) <http://www.monitor.co.ke/2015/03/13/public-participation-a-challenge-in-makueni-county/>
- ix. Khwaja A.I. (2004). *Is Increasing Community Participation Always a Good Thing?* Asim Ijaz Khwaja, Journal of the European Economic Association, Vol. 2, No. 2/3, Papers and Proceedings of the Eighteenth Annual Congress of the European Economic Association (Apr. - May, 2004), pp. 427-436.
- x. Levina N. (2005). *Collaborating on Multiparty Information Systems Development Projects: A Collective Reflection-in-Action View*, Natalia Levina, Information Systems Research, Vol. 16, No. 2 (June 2005), pp. 109-130.
- xi. Lithgow D. (2006). URL <http://lithgow-schmidt.dk/sherry-arnstein/ladder-of-citizen-participation.html>
- xii. Lithgow D. (2008). Duncan Lithgow <http://lithgow-schmidt.dk/sherry-arnstein/ladder-of-citizen-participation.html> and <http://lithgow-schmidt.dk/contact-duncan-lithgow>.
- xiii. Mjoli N. (1998). *Gender-Balanced Policy in Water Delivery*, Nozibele Mjoli, and Agenda: Empowering Women for Gender Equity, No. 38, Techno-Innovation (1998), pp. 38-42.
- xiv. Mulwa F.W. (2010). *Demystifying participatory Community Development* 2nd Ed. Paulines Publications Africa, Nairobi, Kenya.
- xv. Mutekanga F. P.(2013). *The Use of Stakeholder Analysis in Integrated Watershed Management: Experiences From the Ngenge Watershed, Uganda*, Fiona Proscovia Mutekanga, Aad Kessler, Katia Leber, Saskia Visser, Mountain Research and Development, Vol. 33, No. 2 (May 2013), pp. 122-131.
- xvi. Muthuri & Moon (2009). *An Integrated Approach to Implementing 'Community Participation' in Corporate Community Involvement: Lessons from Magadi Soda Company in Kenya*, Judy N. Muthuri, Wendy Chapple, Jeremy Moon, Journal of Business Ethics, Vol. 85, Supplement 2: Corporate Social Responsibility Implementation (2009), pp. 431-444.
- xvii. Reed & Harvey (2004). *Rural Water Supply in Africa*
- xviii. Rousseau & Hooijmans (2011). Rousseau, Sah, L., D. P. L., Hooijmans, C. M, and Lens, P. N. L. (2011) <http://www.unesco-ihe.org/online-course-modelling-sanitation-systems/wetlands-and-ponds>.
- xix. Standard media (2016). http://www.standardmedia.co.ke/article/2000199438/makueni-s-public-participation-model-gets-world-bank-praise?articleID=2000199438&story_title=makueni-s-public-participation-model-gets-world-bank-praise&pageNo=1
- xx. Thomas (2015). <http://www.dinf.ne.jp/doc/English/asia/resources/apdrj/z13fm0100/z13fm0108.html>, by Dr. Maya Thomas & Dr. M.J. Thomas.
- xxi. Westland J. (2006). Jason Westland, *The Project Management Life cycle, A complete step-by-step methodology for initiating, planning, executing and closing projects successfully/* Jason Westland, London UK, ISBN-13 978 0 7494 4937 7.
- xxii. Wilcox D. (1994). *The Guide to Effective Partition for community activists and professional*, David Wilcox, Joseph Rowntree Foundation.
- xxiii. World Bank (2000). *Entering 21st World Development Report (1999/2000)*, James D. Wolfensohn, president, the World Bank, ISBN 0-19-521124-1, pp.13-30.
- xxiv. Wutich A. (2009). *Water Scarcity and the Sustainability of a Common Pool Resource Institution in the Urban Andes*, Amber Wutich, Human Ecology, Vol. 37, No. 2 (APRIL 2009), pp. 179-192.