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FACTORS INFLUENCING PERFORMANCE OF COMMUNITY WATER PROJECTS IN TIGANIA CENTRAL SUB-COUTY, MERU COUNTY, KENYA

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Abstract:
The success or failure of a community-based water management project can be influenced by level of community participation and ownership, training and education of the project leaders, governance structure of the project and basic management skills of leaders among other factors such as financial and technical support. The purpose of this study was to investigate factors influencing performance of community water projects in Tigania Central District, Meru County. The study adopted a descriptive survey design to collect primary data. The target population comprised 3880 people from which a sample of 388 respondents was purposively selected. The sample comprised management committee members and project members in 6 water projects. This study focused on six operational water projects from which 60 management committee members, 328 project members, which constitute the study sample size of 388 respondents. The research tools were questionnaires and interview schedules which were administered to randomly selected individuals in each sample category so as to collect both quantitative and qualitative data. The data was compiled, given codes and input into SPSS computer programme for statistical analysis and display. The results were displayed in tables and interpreted according to the objectives of the study. The study concluded that more rural people were involved in addressing their own development, confidence and the more the successful level associated with water projects for success. Recommendation is that Projects leaders and members should be

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trained on effective use of water taps to reduce the loss in quantity or quality of water as it flows from its source through water projects pipes for use to eventual disposal.

Keywords: influence, performance, community, water projects

1. Introduction

Water is a naturally occurring resource that is fundamental for the sustenance of life, biological systems and a vital requirement for social and financial advancement of our nation. Many organizations, both local and global in all parts of the world have actualized water activities to advance safe water supply and sanitation in the rural areas over the past years. For example, UNCIEF (2015) reveals that approximately 3 billion individuals or 40% and in America 8% of the total world populace reside in nations where it is hard to get enough water to both sustain and fulfil the fundamental human needs. The report further alludes that most communities have missed the mark in regard to the Millennium Development Goal (MDGs) focus of decreasing considerably the number of individuals lacking accessibility to safe water supply by 2015. The report demonstrated that in six developing regions of the world, to be specific; Sub-Saharan Africa, Oceania, Latin America, South East Asia, Southern Asia, and Northern Asia, a greater majority of rustic population are still in need of sufficient and safe water supplies. This scenario aggravates the already worse situation in regard to the living conditions of the general population in these regions hence constraining the social economic advancement of the rural economy. Nonetheless, such strides which are geared at expanding new services are threatened of destabilizing the practical sustainability by encouraging hurried building of infrastructure as opposed to the long term, much required interests in operation and support.

2. Statement of the problem

Beneficiaries of community water projects regularly complain of poor performance of the projects or projects taking long time to complete and others not complete at all. Water is an essential commodity for the sustenance of human life and economic progress. According to the UN water report (2008), many regions of the world the accessibility of water in both amount and quality are by and large seriously influenced by climatic fluctuations and environmental change. However, it is a scarce resource and its access and use often generates competition and conflict among the users. According to Mumma (2005), 2.5 million in Kenya get their water from community managed water

projects. These systems have always relied on a few enterprising individuals for their initiation and community organization. Water Resources Management Authority (WRMA) has provided guidelines on the administrative organization and standard operations of community-based water projects in Kenya. The success or failure (performance level) of a community water project management can be influenced by level of community participation, training and education of the project leaders, governance structure and basic management skills among other factors such as financial and technical support. Prudent use and management of the water resource is therefore fundamental.

Also, there is no proof for economic gain even to the complete projects after great effort of the members and use of their resources. Because of this, that's why the study is important to investigate factors influencing performance of community water projects. To advance achievement of a given errand determined against present set standards of precision, satisfaction, cost, and speed.

3. Research objectives

This research was based on these research objectives:

i. To establish how community participation influences performance of community water projects;
ii. To determine how training of leaders influences performance of community water projects;
iii. To examine how governance structure on projects influences performance of community water projects;
iv. To assess how basic management skills influences performance of community water projects.

3.1 Research questions

The following are research questions;

i. How does community participation influence performance of community water projects?
ii. In what ways does training of leaders influence performance of community water projects?
iii. How does governance structure on projects influence performance of community water projects?
iv. How do basic management skills influence performance of community water projects?

3.2 Delimitation of the study

The study on factors influencing performance of community water projects was restricted to Tigania Central District, Meru County. The respondents target in this study was 60 management committee members, 328 projects members as a key informant. Purposely on community participation, training of leaders, governance structure of water projects and basic management skills.

3.3 Limitations of the study

Some persons that form part of the project committee were fearful of revealing some projects information. This challenge was solved by clarifying the aim of the information to be reviewed before correcting data. Utilization of discourse communities to deliberate about the projects was likewise be utilized to diminish pressure in the respondents.

4. Literature Review

Community should take part in every phase of the project implementation, starting from the planning through the building and managing of the systems. Society and political class are two important forces that cannot be ignored so easily for any project to reach its complete maturity stage. According to Jameel (2009), asserts that while expanded community interest has been upheld as an approach to enhance the nature of open activities and administrations, confirm from randomized assessments gives extremely blended outcomes about its viability by doing this, good performance and long terms arrangements can be found that are suited to their own particular needs and locally accessible assets. As opposed to being forced by pariahs, like development agencies, donors and governments activities ought to tackle the communities own particular challenges which in most cases are different from other communities. According to Mushtaq (2004) In America Community participation is a process by which people from all sectors of the community (rich, poor, Men, women, uneducated and educated) can influence or control those decisions, which affect their lives.

The education and training of the leaders and their competence has an immediate and quantifiable effect on the execution of the organization or project. It is therefore necessary to determine whether the leaders' education what's more, fitness of the project pioneers is a win consider on undertakings and whether distinctive instruction levels are suitable on various sorts of activities. The state government in America makes sure nearly everybody knows about projects saw as effective by those

included in their usage, while the exceptionally same undertakings are regularly ineffectively gotten by individuals (Pinto & Slevin 1988).

There are projects that devour inordinate assets but are viewed as internal disappointments under class 7 and class 2 leaders, but when given to form 4 and Diploma leaders were later considered as fruitful to the members and turned into a wellspring of income for the individuals for a long time (De Wit, 1986). In South Carolina an equipped pioneers they are often viewed as significantly affecting general water project achievement (Ammeter & Dukerich, 2002; Smith, 1999; Sutcliffe, 1999) they tend to be basic to other project components, for example, the achievement of the project community, including colleagues' inspiration and innovativeness (Rickards, Chen and Moger. 2001). This solid connection with achievement suggests that project pioneer's capabilities enhance good performance in rural water projects.

Governance structure refers to the body with the power to make and/or enforce laws to control land area, people or project. Which include, planning personnel to execute administrative procedures, risk management, conflict management and reporting. Governance is a procedure of accomplishing a hierarchical objective through composed execution of five particular capacity adopted in American is arranging, organization, staffing, coordinating and controlling; this meets the governance threshold which influences the outcome of a project (Schwartz, 2002).

According to Kioko, (2010) these water projects in Britain provide feasible outcomes; Project engineers should ensure availability of finances to reinforce the recognized responses for the issues in long haul. The productive wander pioneers should have the going with capacities and abilities: flexibility and adaptability, slant for basic movement, forcefulness, sureness, impact, verbal commonality, yearning, imaginative vitality, sudden ness, prepared to alter particular courses of action with phase, budget, and human components, efficient and restraint, a generalist as opposed to an authority, competent and willing to submit to a vast part of his or her a chance to organizing and controlling, prepared to perceive issues, willing to choose, prepared to keep up a genuine change being utilized of time for best performance (Turner & Müller 2005).

In South America, the effective application of water management systems has proven to be of great value to the society with respect to guaranteeing effectiveness, expanding value and diminishing natural harm through the advancement of more prominent communal involvement (Brooks, 2006). Furthermore, an absence of clear significance in defining of the two terms is still encountered in current documented work. Water generation essentially alludes to activities and procedures associated with making water accessible and reasonable for human utilization. On a similar token, the

use management of water resources can be viewed as a segment of water generation; be that as it may, it is an idea which frequently winds up noticeably noteworthy after water is delivered. That is, after every one of the procedures expected to make water accessible or channeled through the taps have been accomplished.

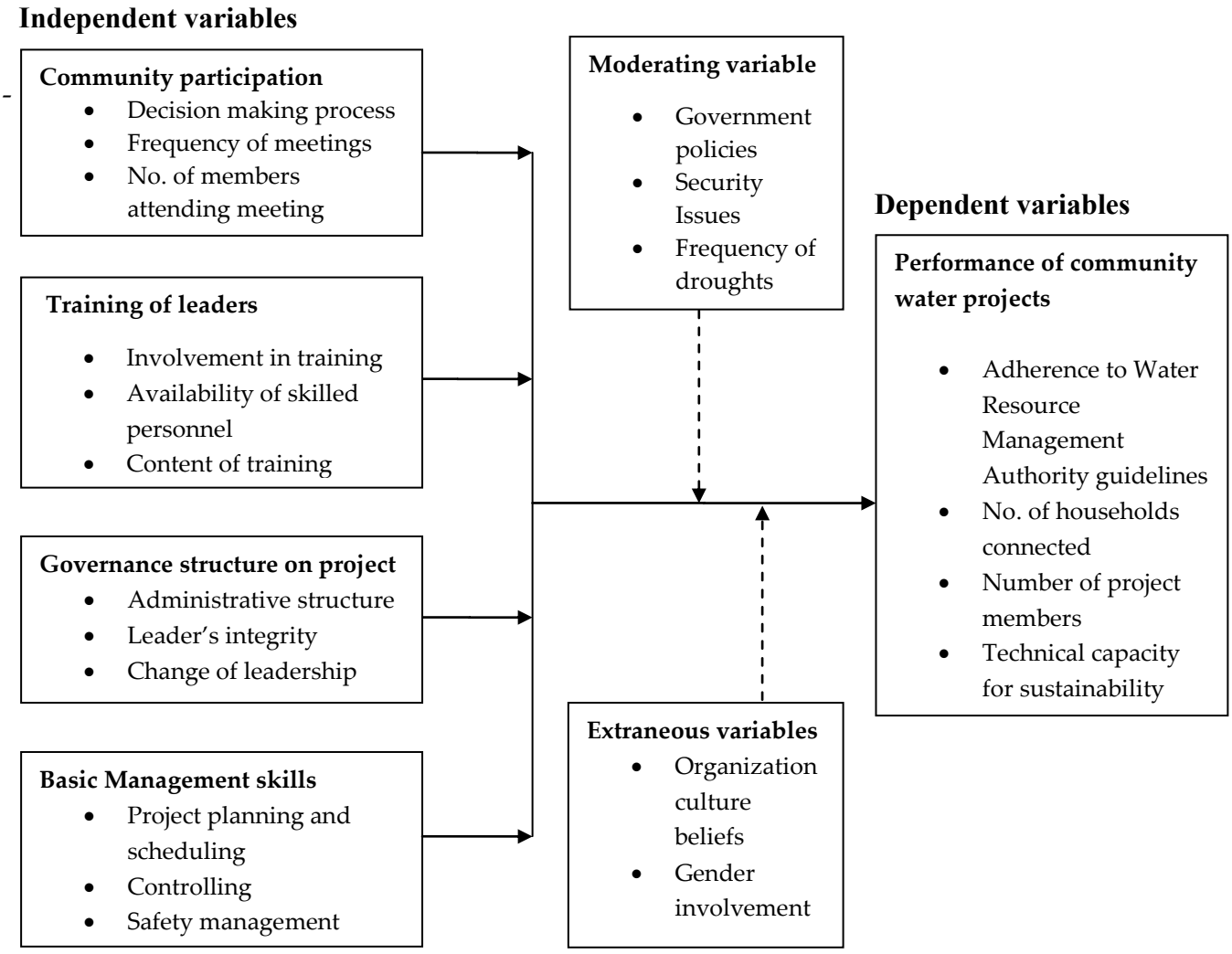
5. Theoretical framework

The community participation theory is appropriate for this study because it focuses on encouragement of the active participation of the local community. Without community participation, it is not possible to determine what are the problems, constraints, and local desires for a given community. According to Harvey and Reed (2007) participation of project beneficiaries' is of great essence in that it enhances the sense of ownership among members. This is important in ensuring that water projects are operated and maintained after the implementation phase.

Community participation theory assumes that the higher the community participation in decision making, the less the likelihood of interference by of external organizations on that decision. In this theory, focus is given on the investment of recipients and not that of staff from the implementing agencies in development projects. Community participation is attained through collaborative or joint involvement of project beneficiaries and the implementing agencies (Khwaja 2004).

6. Conceptual framework

This shows variables and indicators and a comparison made on how they influence dependent variable as shown in the figure 1. Conceptual framework



7. Research Methodology

The research utilized descriptive survey design to collect primary data. The research population considered was 3880 people who are resident in Tigania central and dependent on community water projects. Those were management committee members and projects members in 6 water projects in Tigania Central Sub-county in Meru County. The researcher specifically target management committee members and project members and interviewing officials such as water development officers and local administrators. Mugenda and Mugenda, (2003) recommended that when a descriptive study design is used a target sample population of 10% is adequate. The researcher used a sample size of 388 of the target population. The sample was randomly obtained from 6 water project in Tigania Central District. However, because of the large sampling area and long distances of the communities' water projects in Tigania central, a sample of 388 respondents was considered sufficiently representative of the target population

of 3880.The researcher selected 6 community water projects and purposively select 60 management committee members, 328 project members making a total of 388 respondents. This study used questionnaires with open and closed ended questions to collect primary data from management committees and project members. Data collected was subjected to both quantitative and qualitative analysis techniques. Data analysis produced percentages and frequencies and mean for numerical data. Open ended question responses were commune according to themes and analyzed as categorical data to produce frequencies and percentages.

8. Data Analysis, Presentation and Interpretation

A total of 388 questionnaires, 48 of which were administered to sisi kwa sisi members, 56 to Antuambugi members, 35 to Kione members, 72 to Mutethia members, 112 to kunati gaint members and 65 to miira members and were all completed.The researcher and research assistants administered the questionnaires themselves by visiting the household and thus achieved 100% response rate.

8.1 The existing of the projects office

Projects office is crucial because it enables leaders and their members to keep good records of the happening of projects activities. So, it is recommended for every community water projects to have an existing office.

Table 1: The existing of the projects offices

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yes	31	33	23	50	112	65	80.9%
No	7	23	12	22	0	0	19.1%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 4.5 shows 80.9 % of the members drawn from six community water projects said there is an existing office for the project. 19.1 % of the members drawn from six community water projects said there is no office in existence. Overall, all the community water projects have an existing office.

8.2 Regular meetings of members in six water projects

The study was to find out how project members make their meeting in the various community water projects as shown in the Table 2.

Table 2: Regular meetings of members in six water projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yes	40	30	27	47	96	57	78.1%
No	8	26	8	25	16	8	21.9%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 2 indicates 78.1 % of members from six projects said that project members meet regularly. 21.9 % of members agreed that project members do not meet regularly. Overall, project members from all the community water projects meet regularly.

8.3 Project cooperation with (WRMA)

The respondents were asked if Community water projects cooperate with (WRMA) because is the body responsible for planning, management, protection and conservation of water resources.

Table 3: Project cooperation with (WRMA)

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yes	35	45	35	71	96	57	87.4%
No	13	11	0	1	16	8	12.4%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

The Table 3 shows 87.4 % of members drawn from six water community water projects said that the projects cooperate with (WRMA). 12.4 % of members drawn from all community water projects said that the projects did not cooperate with (WRMA).This implies that all the community water projects in this research cooperate with (WRMA).

8.4 Members contribution of resources towards the water projects

The respondents were asked if they contribute for their projects as tabulated below in the various community water projects.

Table 4: Member's contribution of resources towards the water projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yes	47	56	34	71	112	57	97.2%
No	1	0	1	1	0	8	2.8%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 4 indicates 97.2 **%** of respondents from six community water projects contribute resources towards the water projects. 2.8 % members drawn from six water projects did not contribute resources towards the water projects. All members from Kunati giant

and Antuambugi contribute resources to their water projects. This implies that majority of the members do contribute resources to their respective community water projects.

8.5 Members look for donors support for the water projects

The study was to find out if members were concerned with their water projects through relying on donors' support.

Table 5: Members look for donors support for the water projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yes	32	38	26	35	32	12	45.1%
No	16	18	9	37	80	53	54.9%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 5 shows 45.1 % of members from six community water projects look for donors for their water projects. 54.9 % of members from six community water projects did not look for donors for their water projects. On average, members have less input on looking for donors for their community water projects.

8.6 Repairing of broken pipes by members in the six water projects

The study was to investigate the sustainability of the project by knowing if broken pipes were being repaired by projects members.

Table 6: Repairing of broken pipes by members in the six water projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yes	45	53	34	62	112	57	93.6%
No	3	3	1	10	0	8	6.4%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 6 state, 93.6 % of members from six water projects; do repair broken pipes for their water projects. 6.4 % of members from six water projects did not repair broken pipes for their water projects. This implies that members do repair broken pipes for their community water projects for sustainability.

8.7 Description of the member's participation in meetings

The study was to find out the participation of members in the meetings held in their various water projects as in Table 7:

Table 7: Description of the member's participation in meetings

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Very good	3	13	14	9	8	23	18%
Good	45	41	21	63	64	42	71.2%
Poor	0	0	0	0	32	0	8.2%
Very poor	0	2	0	0	8	0	2.6%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 7 shows 71.2 % of the members' participation in meetings was good. 18.0 % members' participation was very good. 8.2 % members' participation was poor. 2.6 % members' participation was very poor. This implies that members participated actively in their respective meetings.

8.8 Whether Qualifications were required for one to be a leader of the project

The respondents were asked to state if there were qualifications required for one to be a leader in a project and the answers were as shown in the table 4.20

Table 8: Whether Qualifications were required for one to be a leader of the project

Response	Frequency	Percentage
Yes	339	87.4 %
No	49	12.6 %
Total	**388**	**100.0 %**

Table 8 shows 87.4% of the respondents said that there were qualifications required to be a leader in the water projects. 12.6% of the respondents said that there were no qualifications required to be a leader in the water projects. This implies that to be a leader for the water projects one has to have acquired certain qualifications like reading and writing.

8.9 Description of the level of education of leaders

The respondents were asked to state the level of education of the leaders. Table 4.20 shows the level of their education according to the respondents.

Table 9: Description of the level of education of leaders

Response	Frequency	Percentage
They are all highly educated	23	5.9 %
They are all not highly educated	365	94.1 %
Total	**388**	**100.0 %**

Table 9 shows 5.9% of the respondents described their leaders as highly educated. 94.1% of respondents described their leaders not highly educated. This implies that the current crops of the leaders were not highly educated.

8.10 Need to train leaders

The study finds out the need to train leaders as tabulated below according to answers from respondents.

Table 10: Need to train leaders

Response	Frequency	Percentage
Yes	372	95.9 %
No	16	4.1 %
Total	**388**	**100.0 %**

Table 10 state that, 95.9% of the respondents said there is need to train leaders. 4.1% of the respondents said there is no need for training of leaders. This indicates that the members require their leaders to get proper training.

8.11 Training of leaders is of importance for the projects to succeed

The respondents were asked to state whether training of leaders was of importance for the projects to succeed as shown in Table 11

Table 11: Training of leaders is of importance for the projects to succeed

Response	Frequency	Percentage
Financial management	139	35.8 %
Project management	159	41.0 %
Financial and Project Management	74	19.1 %
None	16	4.1 %
Total	**388**	**100.0 %**

Table 11 shows 35.8% of the respondents wanted their leaders to be trained on financial management. 41% of the respondents said their leaders needed to be trained on project management. In addition, 19.1% of the respondents said that their leaders needed training on financial and project management. This shows that members drawn from all the six community water projects agreed their leaders could deliver well if trained on the above courses.

8.12 How long decision-making process skills led to incompletion of community initiated projects.

The respondents were asked to range how long decision-making process skills have led to incompletion of community initiated projects as indicated in the table below.

Table 12: How long decision-making process skills led to incompletion of community initiated projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Strongly Agreed	36	38	21	22	112	42	69.8%
Agreed	9	13	11	15	0	23	18.3%
Disagreed	1	3	3	17	0	0	6.2%
Strongly Disagreed	2	2	0	18	0	0	5.7%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 12 shows over 69.8 % of respondents strongly agreed to the fact that long decision-making process skills led to incompletion of community initiated projects. This implies that long decision-making process skills had a serious negative impact in the incompletion of community-initiated projects.

8.13 How poor leadership skills led to incompletion of community initiated projects

The respondents were asked to range how long decision-making process skills led to incompletion of community initiated projects as shown in Table 4.31.

Table 13: How poor leadership skills led to incompletion of community initiated projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Strongly Agreed	27	26	23	26	80	54	18%
Agreed	16	21	8	36	16	11	71.2%
Disagreed	4	7	4	6	16	0	8.2%
Strongly Disagreed	1	2	0	5	0	0	2.6%
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 13 over 60.8 % of respondents strongly agreed to the fact that poor leadership skills have led to incompletion of community-initiated projects. This implies that poor leadership skills experienced in the water projects led to incompletion of the projects.

8.14 Projects rules and regulations formulating bodies

The respondents were asked to identify who most come up with the rules and regulations in the water projects as shown in Table 14:

Table 14: Projects rules and regulations formulating bodies

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Management Committee members	8	17	1	3	10	0	10.1%
Projects members	40	36	34	52	72	53	74.0%
Experts	0	0	0	12	2	0	4.9%
Donors	0	1	0	0	12	12	6.4%
I don`t know	0	2	0	0	16		4.6
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

Table 14 shows 74.0 % Most of the community water projects' project members came up with the rules and regulations. This makes members to have ownership of projects.

8.15 Period after which election is carried out in community water projects

The respondents were asked to state after how long elections were being conducted in community water projects as tabulated in Table 15.

Table 15: Period after which election is carried out in community water projects

	Sisi kwa Sisi	Antuambugi	Nkione	Mutethia	Kunati Giant	Miira	Percentage
Yearly	2	3	2	4	10	0	5.4%
After 2 years	4	1	0	4	2	12	5.9%
After 3 years	22	22	33	58	54	53	62.4%
None of above	20	30	0	6	46	0	26.3
Total	**48**	**56**	**35**	**72**	**112**	**65**	**100.0**

The Table 15 shows that 62.4 % of members from the water projects said that elections were carried out after every three years. 26.3 % of members indicated that elections are never carried out. Therefore, Most of the water projects organize elections after three years.

9. Conclusion and Recommendations

The provision of safe and adequate drinking water to rural communities is a basic necessity. It is obvious from the results of this study that water projects are facing a number of challenges. However, projects members and the government should show serious attention and commitment for the success of water projects. Therefore, governments should address the major issues constraining the proper implementation of the water projects in the area in order to improve performance in the community water projects. Specifically, the government must create the desired awareness on how the water projects can be successful by use of personnel who have done research on

water projects. The more rural people are involved in addressing their own development, the more confidence and successful level associated with their water projects.

9.1 Recommendations

i. Emphasis on community effective participation in the development and management of a community water projects is a sure sign that the project has a bright chance of functioning
ii. Project leaders and members should be trained on effective use of water taps to reduce the loss in quantity or quality of water as it flows from its source through water projects pipes for use to eventual disposal.
iii. Leaders to increasing the ability of the water system to continue to serve society during times when water is limited like use bole hole and solar system to pump water to the main tank connected with projects pipes.
iv. Managing of water projects through monitoring and controlling the quantity or improving the quality of water needed in accomplishing a particular task. Shifting the time of use from peak hours to off peak periods to make water more equitable: Because of less water in river during dry seasons.

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