

LOCAL COMMUNITY PARTICIPATION IN PLANNING AND IMPLEMENTATION OF BOREHOLE WATER PROJECTS IN MIGORI COUNTY, KENYA

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Abstract: For the past 50 years, local community participation has been an important theme in development dialogues. In the 1960s and 1970s, it became pivotal to development projects as a means to seek sustainability and equity particularly for the poor. Studies have shown that sustainability of water supply projects improves when local communities are allowed to take a central role during all stages of the project, including planning and implementation. The purpose of this study was to examine determinants of local community participation in planning and implementation of borehole water projects in Migori County. This study was centered on four main objectives; to establish the extent to which County Integrated Development Plan influences local community participation in planning and implementation of borehole water projects, to determine the extent to which literacy levels influence local community participation in planning and implementation of borehole water projects, to establish the extent of influence of socio-cultural issues on local community participation in planning and implementation of borehole water projects, and lastly, to determine the level of influence of community awareness on local community participation in planning and implementation of borehole water projects. The study used descriptive survey research design to achieve its purpose. Data was collected using two instruments namely; questionnaire and Focus Group Guide. For quantitative data, questionnaires were used while for qualitative data, the Focus Group Guide was used. The study was conducted at Katieno II and Kajulu II sub locations in Uriri Sub county with a target population 19870. The study adopted Krejcie & Morgan (1970) table for determining sample size for a population to derive a sample of 377 respondents. The collected data was analyzed through descriptive statistics and inferential analysis using Statistical Package for Social Sciences (IBM-SPSS). Based on the findings, the study concludes that county integrated development plan, literacy levels, socio-cultural issues and community awareness have significant influence on local community participation in planning and implementation of borehole water projects in Migori County. The respondents cited socio cultural issues such as discrimination based on age, gender and physical disability to bear significant hindrance to local community participation in planning and implementation of borehole water projects in the study area. The study thus among other recommendations, calls for integrated local community mobilization to build local community interest in participating in development projects' activities. This should start at the initial stage of project conceptualization. In addition, regular capacity building and monitoring by relevant change agents at different levels of project management are important in enhancing local community participation and project sustainability.

Keywords: Determinants of Local Community Participation in Planning and Implementation of Borehole Water Projects.

ABBREVIATIONS:**CIDP**- County Integrated Development Plan**IDP**-Integrated Development Plan**CBOs**- Community Based Organizations**NGOs**- Non-Governmental Organizations**FBOs**- Faith Based Organizations**PRA**- Participatory Rural Appraisal**SDG**- Sustainable Development Goal**FGD**- Focus Group Discussion**1. INTRODUCTION**

The United Nations Intergovernmental Panel on Climate Change (IPCC) in its fifth assessment report in 2013 on the global effects of climate change stated that climate change is real and attributed its cause to human activities. There is proof that climate change directly affects the water cycle globally and consequently the quantity and quality of water resources. It can lower minimum flows in rivers, affecting water availability and quality for drinking water, flora and fauna, energy production (hydropower), thermal plant cooling and navigation. Many governments around the world have made it their priority to respond to climate change as they work to protect the quality of life of the country's most vulnerable residents by boosting water security within local communities. The Panel also called for strategies aimed at creating awareness on climate change and building capacities to mitigate it.

In Africa, effects of climate change are severe with evidence indicating temperature change and negative impacts on health, livelihoods, water availability, food productivity and overall security of the people. The Climate Change Vulnerability Index for 2015 states that seven out of ten are most at risk from climate change in Africa. The Index further adds that over the past 25 years, drought related mortality rates have greatly risen in the African region more than any other and the number of weather-related disasters such as floods and droughts has doubled.

Kenya has been adversely affected by effects of climate change as apparent in increased temperatures, erratic rainfall and prolonged drought seasons witnessed across the country. As one of the measures to mitigate these effects, world government including the Kenyan Government have rolled out programmes to drill and construct water boreholes for communities. Water boreholes are an important source of water for individual households, institutions, businesses or whole communities, in both rural and urban areas. They are less likely to become contaminated as compared to hand-dug wells.

It has been estimated that about 35,000 boreholes are drilled annually in sub-Saharan-Africa to achieve the SDG 6 which aims to ensure availability and sustainable management of water and sanitation for all by achieving universal and equitable access to safe and affordable drinking water for all and by improving water quality through reduction of pollution. To enhance domestic water supply among households and local communities, as well as achieve full access to water for irrigation and industrial supply by 2050, a minimum of 50,000 boreholes should be drilled annually, (Doyen, 2003).

Drilling and construction of borehole water projects is usually undertaken by external contractors with necessary skills, experience and equipment as compared to majority of local communities lack the knowledge, resources and machinery to drill and construct boreholes themselves. That notwithstanding, local communities' involvement throughout the design, citing and implementation process is critical. Local community participation seeks to encourage the local community to have meaningful input into the decision-making process. It provides the opportunity for communication between development agencies and the local community. Communication can be an early warning system for community concerns, a medium through which accurate and timely information can be shared and can contribute to sustainable decision-making (IAP2, 2006).

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These benefits are more applicable when community participation is a two-way process where both the agency and the community can learn from each other (PWCNT 2002; IAP2 2006). Allowing the community's values to be identified and incorporated into decisions that ultimately affect them is one way of showing effective community participation (Johnson 2001; PWCNT 2002; IAP2 2006). Evaluations of water supply development projects during the UN Water Decade pointed out that non-sustainability of water supply projects and facilities left much of the target population without access to adequate water supplies or sanitation facilities (Rotival 1991, Livingstone and McPherson 1993, Diamant, 1992). The UN Water Decade resolved as one global response to the non-sustainability, to promote the evolution of participatory approaches which would begin to consider the local populations as 'participants' rather than 'beneficiaries' as was previously the case (Carter et al.1993).

These participatory programs typically focused creating village water committees, requiring the community to financially contribute to the project, involving women in management scheme, training local technicians and ensuring local availability of spare parts as ways of transferring ownership and responsibility of management to the local level. This step towards a more participatory approach has been effectively integrated into most current water supply development projects however sustainability rates of these projects still remain dismal. Evaluations of these projects have attributed non-sustainability phenomenon to continued external control of development projects resulting from rigidity and reluctance of development agencies to allow local community participation in planning and implementation phases (Mangin 1991, MacRae Jr. and Whittington 1988). Other elements such as local communities' low literacy levels, lack of awareness, misconception of the projects and socio-cultural factors such as gender discrimination especially against women have been identified as hindrance to local community participation in planning and implementation of borehole water projects.

Migori is one of the forty-seven counties of Kenya that has been riddled with perennial inadequate water supply, a factor which has not only predisposed residents to water scarcity related diseases but has also made it very difficult for them to smoothly undertake their socio-economic activities. This is despite the county government though its department of water in the year 2015, having started drilling five community boreholes across all its 40 wards. It is against this background that this study seeks to examine determinants of local community participation in planning and implementation of borehole water projects in Migori County.

Objectives of study

This study was guided by the following objectives

1. To establish the extent to which County Integrated Development Plan influences local community participation in planning and implementation of borehole water projects.
2. To determine the extent to which literacy levels influence local community participation in planning and implementation of borehole water projects.
3. To establish the extent to which socio-cultural issues influence local community participation in planning and implementation of borehole water projects.
4. To determine the extent to which community awareness influences local community participation in planning and implementation of borehole water projects.

Research questions

Below are research questions which the study answered:

1. To what extent does County Integrated Development Plan influence local community participation in planning and implementation of borehole water projects?
2. To does literacy levels influence local community participation in planning and implementation of borehole water projects?
3. To what extent does socio-cultural issues influence local community participation in planning and implementation of borehole water projects?

4. To what extent does local community awareness influence local community participation in planning and implementation of borehole water projects?

Research hypotheses

The following hypotheses guided the study:

1. H₁: There is a significant relationship between County Integrated Development Plan and local community participation in planning and implementation of borehole water projects.
2. H₁: There is a significant relationship between literacy levels and local community participation in planning and implementation of borehole water projects.
3. H₁: There is a significant relationship between socio cultural issues and local community participation in planning and implementation of borehole water projects.
4. H₁: There is a significant relationship between community awareness and local community participation in planning and implementation of borehole water projects.

2. LITERATURE REVIEW

Concept of Local Community Participation in planning and the implementation of borehole water projects

Local community participation is the direct involvement of the citizens in matters planning, governance and overall development projects at grass root level (Mafukidze, 2009). Local community participation has been recognized as an important element of Kenyan planning and is a recurring theme in several legislative and theoretical documents. The Kenyan Constitution 2010 provides the framework for community participation in development activities.

According to Imparato & Ruster (2003) local community participation critical for sustainable development. The development needs and problems of a community will be better understood whenever the community is involved in decision making at all stages of a project cycle. According to Skidmore et al. (2005), projects which enhance community participation have value for social capital. By getting involved during the planning and implementation of development projects, locals build relationships with government officials and change agents.

As such, efforts to ensuring local community participation during planning and implementation of borehole water projects should be geared toward increasing capacity of the users to take over the charge of the project upon its implementation. According to Mbevi (2016), full participation by the local community in all phases of a development project is critical for the development project performance upon implementation. Mbevi also recommends stakeholder mapping and civic education as some of the key interventions to be undertaken in the quest to attaining optimum local community participation. The researcher further recommends community mapping exercise stating that it enables profiling of the targeted local community while civic education creates awareness on the role of the community in planning and implementation as well as good governance to enable them to identify the resources they can avail toward the implementation of the project.

Other researchers such as Schouten and Moriarty (2003) defined community participation as management of operations & maintenance of development schemes while according to some, involvement of local community during planning ensures the sustainability of development projects, such as water supply schemes (Gebrehiwot, 2006; Davis and Liyer, 2002). However, Mbobobia (2013) in a study on the influence of local community involvement in project planning on the sustainability of projects in Embu County, revealed that local community members are never involved in the planning exercise and that the task of formulating objectives is undertaken by project managers, project sponsors and project workers. The researcher further stated that the specifications of the projects are not written in consultation with the community and as such, there is lack of a clear link between projects' standards or specifications and the needs or expectations of the local community members. This has consequently affected the sustainability of projects negatively. Other studies have cited factors such as the existence of legal frameworks for community participation, community education level as well as socio cultural issues as key determinants in local community participation.

County Integrated Development Plan and local community participation in planning and implementation of borehole water projects

Rural areas have been underdeveloped and underserved for a long time. Development approaches by county governments must aim to overcome poor planning of the past. An Integrated Development Planning is such an approach to planning where the entire local community and its members are involved in finding the best solutions to achieve long term development. The plan critically examines economic and social development of a given area and sets a framework of how community resources should be utilized, the infrastructure and services required and mechanisms to safeguard the environment. The Kenyan Council of Governors defines a CIDP as a super plan for the counties which outlines the overall framework for development. This super plan aims at improving the quality of life for all the people living in a geographical area and fostering devolution by coordinating the work of both national and county governments in a coherent manner.

A CIDP gives an outline of county development goals spanning over a period of five years. Counties in Kenya have the first CIDPs in place which have covered the period of 2013- 2017. The following are six reasons why a county government should have this plan: It enhances effective use of scarce resources by enabling the county to focus on the priority needs of local communities taking into account the locally available resources. It also helps to fast track service delivery by identifying the least serviced and most impoverished localities as priority areas for development projects.

The Plan also strengthens active participation of all key stakeholders during decision making thus encouraging democracy and transparency. It helps to promote coordination between county and national government and attracts additional funds in that government departments and private investors are willing to invest where county governments have clear development plans and finally it empowers the local communities by ensuring that the most heartfelt socio-economic needs are adequately addressed.

There are five phases in the process undertaken to formulate the IDP:

Phase 1: Analysis- This phase entails collection of information on the existing conditions within a locality with a focus on the problems and needs faced by the locals as well as the causes. The needs are further assessed and prioritized.

Phase 2 Strategies- This phase entails the county government working on finding solutions to the problems assessed in phase one by developing a vision, defining development objectives, formulating development strategies and identifying specific projects to address the local needs.

Phase 3 Projects- The county government then designs the projects identified in phase 2. This is done by clearly giving detail of; the intended project beneficiaries, project cost, source of project funding, duration of project implementation, who is going to manage the project and targets and performance indicators.

Phase 4 Integration- Upon the identification of all projects, the county government has to ensure it contributes to objectives of phase 2. The projects are to provide an overall picture of the development plans and development plans are integrated by ensuring that each development plan has an overall strategy for dealing with community development issues like water and sanitation, HIV/AIDS, poverty alleviation and disaster management.

Phase 5: Approval -The IDP is presented to the council of government for consideration and adoption. The council may adopt a draft for public comment before approving a final IDP.

Community participation is critical in the formulation of IDP in that by involving members of the community they are able to voice their interests, negotiate and integrate their needs in decision making processes and monitor the planning and implementation process of the development projects.

Under the section of Environmental Protection, Water and Housing, the CIDP has outlined drilling and equipping boreholes as one of the high priority projects with the objective to reduce distance covered by locals in accessing water points. The plan has further integrated CBOs as one of the key stakeholders during all phases of water borehole projects including planning and implementation. However, the County Performance Management System and Stakeholder Engagement Handbook, Council of Government, Version 1, 2016 in a review of the CIDPs strategies for local community participation in planning and implementation of water borehole projects revealed inadequate local community participation and as such attributed the same to poor implementation performance of such projects.

Literacy levels and local community participation in planning and implementation of borehole water projects

According to (Kumar, 2002), local community participation occurs in a socio-political framework and as such it is important to realize that ensuring local community participation in rural development projects is not an easy task. This is because local community participation in planning and implementation is affected by circumstances and unique social contexts within which the development initiative is being undertaken (Nekwaya, 2005). To examine the determinants of local community participation in planning and implementation of water borehole projects, a clear understanding of the context in which it takes place is essential. Apart from population density, economic conditions, religious traditions, health status, nutritional benefits, political economy, land arrangements, government structures and levels of infrastructural development, (Osti, 2003) also cites literacy levels as a critical variable which affects local community participation in project planning and implementation.

In a study conducted on confronting the challenges and barriers to local community participation in rural development initiatives in Duhera district ward 12 Zimbabwe, (Chifamba, 2013) stated that local assessment of community participation suggested that most projects had not been successful in enhancing participation. This is because participatory rural development in Duhera lacked sustainability. According to (Harvey, 1989), rural development in the study area have no approach for sustaining the assets after external project support ends; the local community only derives monetary gain from participating in rural development initiatives short term paid work. In addition, low literacy levels inhibit meaningful local community participation in planning and implementation of development initiatives, a factor which makes it difficult to achieve sustained rural growth through good implementation performance of development projects such as water boreholes. With low literacy levels, local communities cannot substantively participate in joint analysis and formulation of project objectives during planning (Pretty, 1995). Theron, (2005) also states that low literacy levels is an inhibiting factor in local community participation because less literate community members are likely to be marginalized during use of formal and technical language while planning and implementing borehole water projects.

According to the (Literacy Foundation, 2016), literacy levels among members of a given locality can be attested by their ability to speak and write in the existing formal language, their ability to express their views meaningfully concerning development issues pertinent to them and lastly, their ability to sensibly explain what courses of action can be undertaken to address their heart felt needs.

Socio-cultural issues and local community participation in planning and implementation of borehole water projects

Socio-cultural issues are beliefs and norms which have considerable influence on development processes of communities. Difference along gender, age and physical disability which are some of the elements of socio-cultural characteristics of a community may result in varied participation in community development projects. In a study of socio-cultural factors influencing community participation in community projects among residents in Pokot South sub-county, (Karamunya, 2016) stated that community development projects do not consider the differing socio-cultural issues which determine opportunities for members within a given community and which affect their ability to obtain sustainable development.

Gender is based on socially constructed distinctions between men and women and can be in three categories: differing needs and priorities, power and vulnerability differences and lastly, equity and equality issues according to Smout et al. (2000). The researchers further noted that gender is a concept that is established on systems that determine what is allowed, valued and expected in men and women. This in turn affects and determines women and men's gender roles, access to and control over resources as well as decision making ability. A society that is patriarchal as pertain most African societies such as Kenya, poses a serious impediment for women participation in community borehole water project planning and implementation. This is because planning involves decision making which is a gender role socially ascribed to men only, (Kakumba and Nsingo, 2008).

There have been calls for more emphasis on gender perspectives as well as the goal for gender equality to improve implementation performance of community borehole water projects for ultimate project sustainability, (Kristen Lewis, 2004). This does not entail coming up with separate community water borehole projects for women or even women's components within existing project planning activities, instead, gender should form an integral part across the entire community project. (Kakumba and Nsingo, (2008) observed that gender mainstreaming is important in planning and

implementation of rural borehole water projects to ensure sustainability. It is important for development agencies and governments to identify and understand linkages between the concept of gender as a socio-cultural variable and local community participation in borehole water planning and implementation. This is because the culture and values of development agency greatly determine creation of an enabling environment for full integration of gender perspective during all project phases.

Lastly, age is another critical element of the socio-cultural issues which affect local community participation in borehole water project planning and implementation. The youth and elderly people are barely involved during planning and implementation by most development agencies, yet they have needs and interests which need to be integrated during such processes. This is usually attributed to the myth that they are incapable of meaningfully participating in community development project planning and decision making yet in reality, they are a critical resource for proper community borehole water project planning and implementation (Goyet, 1999).

Local community awareness and local community participation in planning and implementation of borehole water projects.

Low literacy levels and lack of awareness are rife among many rural communities therefore, information is very important. Awareness creation is the tool that tends to abate among others social and cultural barriers. Once these barriers have been removed, members of the community feel at liberty to express themselves and internalize the underlying need for development projects and the anticipated returns (Dayal, 2000). According to Dukeshire and Thurlow (2002), rural communities perceive lack of access to information on government projects and as such express a desire to access to such information in a manner that is timely and easy to understand.

World Bank, (2004) adds that local community participation in project planning and implementation cannot be established unless the local community has a high level of education and is information concerning the anticipated or proposed project.

Community awareness not only ensures acquisition of knowledge and skills by the local community but also boosts their commitment to the borehole water projects right from the planning phase. Awareness creation can be undertaken through information sharing, having dialogue and training during community education process to allow communities enhance their analytical skills and planning capacity (Cleaver, 2001).

Another researcher Mosse, (2001), attributes enhanced level of local community participation in project planning to sensitization and awareness creation. The researcher further states that raising levels of awareness can contribute to local community in that it helps them to formulate their interests, knowledge and understanding as a precondition for meaningful participation. Zanetell and Knuth (1994) state that a variety of methods and techniques are available for creating community awareness to promote project performance through local community participation during project planning. One such method is engaging key local community leaders to influence the community positively toward the project. In order to enable leaders of the initiative, adequate orientation on the project objectives, efforts needed from the community as well as the anticipated project benefits must be laid bare and clearly.

3. RESEARCH METHODOLOGY

Research Design

Kothari (2004) defines research design as the conceptual structure that forms the basis on which a research is carried out. It outlines the collection, measurement and analysis of data. In addition, it also entails what the researcher will do from writing the hypothesis and its operational implications to the final data analysis. This study adopted descriptive survey research design because it aimed at examining determinants of local community participation in planning and implementation of borehole water projects and used questionnaires and Focus Group Discussion guide to collect data.

This type of design enables testing of hypothesis as the information generated is precise (Mugenda and Mugenda 2003).

Data analysis technique

Data analysis according to Kothari (2004) is the process of organizing, manipulating and considering the meaning of collected data. It entails systematic organization of data by coding it into categories and constructing matrixes to bring out

order, structure and interpretation of the collected data. For this study, the researcher analyzed, presented and discussed the findings in line with the study objectives. Quantitative and qualitative approaches were adopted. According to Suresh (2015), SPSS is simple to use as it gives simple summaries about the sample data and presents quantitative descriptions in a manageable form. The researcher coded quantitative data from the questionnaire and fed the same into the computer for generation of descriptive statistics. Data was then analyzed by use of descriptive statistics and inferential analysis made using SPSS.

The study adopted Pearson Correlation Coefficient to test the H1 there is significant relationship between County Integrated Development Plan and local community participation in planning and implementation of borehole water projects. H1 there is significant relationship between literacy levels and local community participation in planning and implementation of borehole water projects. H1 there is significant relationship between socio-cultural issues and local community participation in planning and implementation of borehole water projects. H1 there is significant relationship between local community awareness of borehole water projects and local community participation in planning and implementation of borehole water projects. Qualitative data generated during focus group discussions with respondents, the same was presented under themes in line with study objectives.

4. DATA ANALYSIS AND INTERPRETATION

County Integrated Development Plan

This section sought to determine the extent to which County Integrated Development Plan influences local community participation in planning and implementation of borehole water projects in Migori County which was the first objective of the study. To obtain the findings, the researcher administered the questionnaire consisting of the items under the first objective.

1. Awareness of existence of County Integrated Development Plan

The researcher wanted to determine if the respondents were aware of the existence of the County Integrated Development Plan. Table 4.1 indicates the findings.

Table 4.1: Awareness of existence of County Integrated Development Plan

Opinion	Frequency	Percentage
Yes	204	68
No	96	32
Total	300	100

From the findings, majority of the respondents at 68% stated that they were aware of the existence of County Integrated Development Plan for Migori while 32% responded that they were not aware. The implication of these findings is that most members of the local community are aware of the agenda for community development projects as mapped out in the Plan. This is in line with Foster and Clark, B. (2011) who state that County Integrated Development Plan aims to coordinate the work of governments in a coherent plan to improve the quality of life for the community.

2. Involvement in formulation of County Integrated Development Plan

The researcher wanted to determine if the local community was involved in formulation of the County Integrated Development Plan. Table 4.2 indicates the findings.

Table 4.2: Involvement in formulation of County Integrated Development Plan

Opinion	Frequency	Percentage
Yes	180	60
No	120	40
Total	300	100

From table 4.2, 60% of the respondents stated that they were involved in formulation County Integrated Development Plan while 40% indicated that they were not involved.

From the findings, conclusion can be drawn that community participation agenda is relatively taken into consideration during formulation of plans and strategies that affect the quality of life of a community.

3. Extent of agreement with statements regarding County Integrated Development Plan

Table 4.3 illustrates responses related to extent of agreement with statements relating to CIDP.

Table 4.3: Extent of agreement with statements regarding County Integrated Development Plan

Statements	Mean	Std Dev.
Migori County Integrated Development Plan has led to implementation of borehole water projects for the community	2.6	1.387
Migori County Integrated Development Plan provides for local community participation in planning and implementation of borehole water projects	2.5	1.350

From Table 4.3, majority of respondents indicated that Migori County Integrated Development Plan has led to implementation of borehole water projects for the community as shown by a mean score of 2.6 and that Migori County Integrated Development Plan provides for local community participation in planning and implementation of borehole water projects as reflected by a mean score of 2.5.

A mean of the above 2.5 indicate a very strong significance of the statements. It means most respondents agreed with the statements. The insignificant deviation from the mean confirms the validity of the statements.

The results first imply that community borehole water projects are part of the development projects enlisted in the County Integrated Development for Migori as one of means through which the county government aims to improve the quality of life of its locals. The results also imply that the County Integrated Development Plan has provided for local community participation as a prerequisite during planning and implementation of borehole water projects.

Literacy levels

This section sought to establish the extent to which literacy levels influence local community participation in planning and implementation of borehole water projects in Migori County. To obtain the findings, the researcher administered the questionnaire consisting of the items under the second objective

1. Ability to read and write

The study sought to establish the ability of locals to read and write. Table 4.4 shows the results.

Table 4.4: Ability to read and write

Opinion	Frequency	Percent
Yes	216	72
No	84	28
Total	300	100

The findings reveal that majority of respondents 72% were in agreement that they are able to read and write while 28% respondent that they were not able to read and write.

This implies that the respondents' literacy levels are relatively high and that they are able to meaningfully read and write during planning and implementation of borehole water projects.

2. Ability to speak in any of the official languages in Kenya which are English and Swahili.

The researcher sought to establish the ability of locals to speak in any of the two Kenyan official languages. Table 4.9 indicates results from responses by respondents.

Table 4.5: Ability to speak in any of the official languages in Kenya

Opinion	Frequency	Percent
Yes	222	74
No	78	26
Total	300	100

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The results indicate that 74% of the respondents can speak in either of the two Kenyan official languages while 26% indicated that they cannot speak in any of them.

The implications of these findings are that most of the respondents can articulate issues surrounding local community participation in planning and implementation of borehole water projects, thus meaningful participation.

3. Understanding of what planning and implementation of borehole water projects is.

Further, the study sought to establish the extent to which the local community understands what planning and implementation of borehole water projects is. The results are as per Table 4.6.

Table 4.6: Extent of understanding planning and implementation

Statement	Frequency	Percentage
Strongly Agree	126	42
Agree	102	34
Not Sure	21	7
Disagree	27	9
Strongly Disagree	24	8
Total	300	100

From the table, 42% of the respondents strongly agreed that they understand what planning and implementation of borehole water projects is, 34% agreed, 7% were not sure, 9% disagreed and 8% strongly disagreed. The implication of these findings are that a fair majority of the locals have an understanding of what planning and implementation of borehole water projects is and as such, can readily and meaningfully participate.

4. Ability to explain what planning and implementation of borehole water projects is.

The study also sought to establish the extent to which the local community can explain what planning and implementation of borehole water projects is. Table 4.7 shows the results.

Table 4.7: Extent of being able to explain what planning and implementation is

Statement	Frequency	Percentage
Strongly Agree	105	35
Agree	126	42
Not Sure	21	7
Disagree	24	8
Strongly Disagree	24	8
Total	300	100

Results indicate that 35% of the respondents strongly agrees that they were able to explain what planning and implementation of borehole water projects is, 42% agreed, 8% disagreed, 8% strongly disagreed and lastly 7% were not sure. These findings imply that majority of the locals have the ability to conceptualize, articulate and meaningfully participate in matters pertaining planning and implementation of borehole water projects.

Socio Cultural Issues

This section sought to establish the extent to which socio-cultural issues influence local community participation in planning and implementation of borehole water projects in Migori County. To obtain the findings, the researcher administered the questionnaire consisting of the items under the third objective.

1. Women's participation

The study also sought to establish if women are allowed to participate in planning and implementation of borehole water projects. The results are as shown in Table 4.8.

Table 4.8: Women’s participation

Response	Frequency	Percent
Yes	195	65
No	105	35
Total	300	100

From table 4.8, 65% responded that women are allowed to participate while 35% responded that women are not allowed to participate in planning and implementation of borehole water projects. This implies that even though most women are able to participate in planning and implementation of borehole water projects, a significant number are still restrained from participating because of the still existing gender discrimination emanating socio cultural issues. These findings concur with (Karamuya, 2016) who stated that socio cultural issues are beliefs and norms which have considerable influence on development processes of communities.

2. Women’s domestic chores

The researcher aimed at establishing if women have a lot of work to do at home and cannot participate in planning and implementation of borehole water projects.

The findings were presented in table 4.9.

Table 4.9: Women’s domestic chores

Response	Frequency	Percent
Yes	102	34
No	198	66
Total	300	100

The findings indicate that a majority standing at 66% did not agree while 34 % agreed. This means that domestic chores undertaken by women, has relative significant influence on their ability to find time to participate in planning and implementation of borehole water projects. This is relevant to (Kristen Lewis,2004) who opined that there should be more emphasis on gender perspectives as well as the goal for gender equality in order to improve the participation of women and the entire local community in planning and implementation of borehole water projects for ultimate project sustainability.

3. Extent of agreement with statements regarding Socio Cultural Issues

The study sought to establish the extent to which the local community agrees with statements on the extent to which socio-cultural issues influence local community participation in planning and implementation of borehole water projects. The results are displayed on Table 4.10

Table 4.10: Extent of agreement with statements on socio cultural issues

Statements	Mean	Std Dev.
It is easier for men to participate in planning and implementation of borehole water projects	3.6	1.387
Youth are rarely involved in planning and implementation of borehole water projects.	3.5	1.350
Those living with physical disability are part of the process of planning and implementation of community borehole water projects	3.5	1.252

On the extent of agreement with statements relating to socio cultural issues on local community participation in planning and implementation of borehole water projects, majority of the respondents indicated that it is easier for men to participate in planning and implementation of borehole water projects as shown by a mean score of 3.6, that youth are rarely involved in planning and implementation of borehole water projects as shown by a mean score of 3.5 and finally the respondents indicated that those living with physical disability are part of the process of planning and implementation of community borehole water projects as shown by mean score of 3.5.

A mean of the above 2.5 indicate a very strong significance of the statements. It means most respondents agreed with the statements. The insignificant deviation from the mean confirms the validity of the statements.

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The findings mean that discrimination on the basis of gender and age is still significant within the local community whereas those living with physical disability are relatively accepted into the participation and planning of borehole water projects.

Community Awareness

This section sought to establish the extent to which community awareness influences local community participation in planning and implementation of borehole water projects in Migori County. The researcher administered the questionnaire consisting of the items under the fourth objective to obtain data.

1. Timely communication

The researcher sought to establish the extent to which timely communication is important in ensuring local community participation in planning and implementation of borehole water projects. Table 4.11 illustrates the results.

Table 4.11: Timely communication

Statement	Frequency	Percentage
Strongly Agree	120	40
Agree	90	30
Not Sure	45	15
Disagree	30	10
Strongly Disagree	15	5
Total	300	100

Based on the findings, majority of the respondents 40% strongly agreed, 30% agreed, 15 % of respondents were not sure, 10% of respondent disagreed while 5% strongly disagreed with the statement. The findings concur with World Bank, (2004), that local community participation in project planning and implementation cannot be established unless the local community has a high level of education and is informed concerning the anticipated or proposed project, consequently affecting its overall implementation performance.

2. Agreement with statements on community awareness

The study sought to establish the extent to which the local community agrees with statements on the extent to which socio-cultural issues influence local community participation in planning and implementation of borehole water projects. The results are displayed on Table 4.12.

Table 4.12 Extent of agreement with statements on community awareness

Statements	Mean	Std Dev.
The mode of communication is important in creating awareness among local community on borehole water projects	3.3	1.487
The content of the information being communicated should be relevant and clear about the intended borehole water projects	2.8	1.450
I am aware of local the role of local community in planning and implementation of borehole water projects	2.8	1.352

On the extent of agreement with statements relating to community awareness on local community participation in planning and implementation of borehole water projects, majority of the respondents indicated that it is the mode of communication is important in creating awareness among local community as illustrated in the mean score of 3.3, that the content of information being communicated should be relevant and clear about the intended borehole water projects having a mean score of 2.8 and lastly, awareness of each individual respondent of the role of local community in planning and implementation of borehole water projects also at a mean score of 2.8.

A mean of the above 2.5 indicate a strong significance of the statements. It means most respondents agreed with the statements. The insignificant deviation from the mean confirms the validity of the statements. These are in line with (Dayal, 2000) who stated that awareness creation is the tool that tends to community participation in development projects.

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3. Local community participation

This segment sought to establish the extent of local community participation in planning and implementation of borehole water projects in Migori County. Table 4.13 shows the results.

Table 4.13: Local Community Participation

Statement	Frequency	Percentage
Strongly Agree	102	34
Agree	135	45
Not Sure	21	7
Disagree	24	8
Strongly Disagree	18	6
Total	300	100

From the findings, majority of the respondents 34% strongly agreed, 45% agreed, 7 % of respondents were not sure, 8 % of respondent disagreed while 6% strongly disagreed with the statement. The findings indicate that local community participation is taking place according to a majority of the respondents however, the other percentages that stem from those are not sure, to those who disagree and those who totally disagree with the statement should not be neglected. This is because policy actions can be executed to enhance local community participation in planning and implementation of borehole water projects.

Correlation Analysis

Correlation analysis was employed to test the hypotheses. Correlation is a term that refers to the strength of a relationship between two variables. A strong or high correlation means that two or more variables have a strong relationship with each other while a weak or low, correlation means that the variables are hardly related. Correlation coefficient ranges from -1.00 to +1.00. The value of -1.00 represents a perfect negative correlation while a value of +1.00 represents a perfect positive correlation. A value of 0.00 means that there is no relationship between variables being tested (Orodho, 2009). The widely used types of correlation coefficient are the Pearson Correlation Coefficient. This analysis assumes that the two variables being analyzed are measured on at least interval scales. The coefficient is calculated by taking the covariance of the two variables and dividing it by the product of their standard deviations. A value of +1.00 implies that the relationship between two variables X and Y is perfectly linear, with all data points lying on a line for which Y increases and X increases. Conversely a negative value implies that all data points lie on a line for which Y decreases as X increases (Orodho, 2009). In this study Pearson correlation was carried out to determine how the research variables related to each other.

1. Correlation analysis for County Integrated Development Plan

A correlation analysis was conducted to find out how County Integrated Development Plan correlated with planning and implementation. Table 4.18 shows that the Pearson correlation coefficient was .676. (These findings indicate that there is a positive linear relationship between County Integrated Development Plan and local community participation in planning and implementation of borehole water projects in Migori County. (p-values >0.05).

Table 4.14: Correlation analysis for County Integrated Development Plan

		planning and implementation	County Integrated Development Plan
Planning and implementation	Pearson Correlation	1	.676
	Sig. (2-tailed)	0.000	
	N	300	300
County Integrated Development Plan	Pearson Correlation	.676	1
	Sig. (2-tailed)	0.000	
	N	300	300
Correlation is significant at the 0.01 level (2-tailed)			

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2. Correlation analysis for literacy levels

A correlation analysis for literacy levels was conducted to find out how literacy levels correlate with local community participation in planning and implementation of borehole water projects. Table 4.15a shows that the Pearson correlation coefficient was .382a clear indication that literacy levels has a moderate positive correlation with planning and implementation (p-values >0.05).

Table 4.15 a: Correlation analysis for literacy levels

		planning and implementation	literacy level
planning and implementation	Pearson Correlation	1	.382
	Sig. (2-tailed)	0.0001	
	N	300	300
literacy level	Pearson Correlation	.382	
	Sig. (2-tailed)	0.0001	
	N	300	300

Correlation is significant at the 0.01 level (2-tailed)

3. Correlation analysis for socio-cultural issues

A correlation analysis for the socio-cultural issues was conducted to find out how socio-cultural issues correlated with planning and implementation. Table 4.15b shows that the Pearson correlation coefficient was .319. This is a clear in indication that socio-cultural issues have a moderate positive correlation with planning and implementation (p-values >0.05).

Table 4.15 b: Correlation analysis for socio-cultural issues

		planning and implementation	socio-cultural issues
planning and implementation	Pearson Correlation	1	.319
	Sig. (2-tailed)	0.0002	
	N	300	300
socio-cultural issues	Pearson Correlation	.319	
	Sig. (2-tailed)	0.0002	
	N	300	300

Correlation is significant at the 0.01 level (2-tailed)

4. Correlation analysis for community awareness

The researcher conducted correlation analysis for the local community awareness to find out how local community awareness correlated with planning and implementation. Table 4.16 shows that the Pearson correlation coefficient was .289. These findings indicate that there is a weak positive correlation between community awareness and local community participation in planning and implementation of borehole water projects in Migori County.

Table 4.16: Correlation analysis for community awareness

		planning and implementation	community awareness
planning and implementation	Pearson Correlation	1	.289
	Sig. (2-tailed)	0.0002	
	N	300	300
community awareness	Pearson Correlation	.289	
	Sig. (2-tailed)	0.0002	
	N	300	300

Correlation is significant at the 0.01 level (2-tailed)

Results from FGD

1. How does County Integrated Development Plan influence local community participation in planning and implementation of borehole water projects?

The study further sought to establish from the local leaders understanding of County Integrated Development Plan influence on local community participation in planning and implementation of borehole water projects from focused group discussion. The local community leaders indicated that it enables involvement of the local community in the project planning and its implementation. They further said that it was a process of involving the local community in contributing to the project either in cash or in kind through consultation involvement in management and decision-making. Lastly, the respondents stated that the CIDP is an important tool in identifying projects that can address community related needs.

2. Understanding of how literacy levels influence local community participation in planning and implementation of borehole water projects?

The study sought to understand from local community leaders how literacy levels influence local community participation in planning and implementation of borehole water projects in the county. The respondents indicated that level of education has the highest influence on community participation in borehole water projects in Migori county in that the more literate the local community is, the more confident and readier they are to participate in development projects. The respondents also stated that, most change agents prefer involving locals with relatively high literacy levels, in planning and implementation of change projects.

3. Briefly, how socio- cultural issues influence local community participation in planning and implementation of borehole water projects?

The study sought to know from local community leaders how socio- cultural issues influence local community participation in planning and implementation of borehole water projects. The respondents stated that socio-cultural issues such as gender discrimination, age discrimination and physical disability, posed a great challenge towards local community participation. Concerning gender discrimination, the respondents explained that their local community is patriarchal hence any development projects aimed at benefiting the entire community are generally considered to be the sole responsibility of men. They further stated that, women are largely still being barred from participating in decision making processes and that, they have a lot of domestic chores to undertake, thus very little time to meaningfully participate in such change projects. Regarding age, the respondents stated that averagely, the youth are barely considered as an important folk when it comes to planning and implementation of development projects such as borehole water projects. This is because of the African socio-cultural belief that the young must always be led by the elders who are more experienced and are perceived to have more wisdom. On physical disability, the respondents stated that those with physical disability are part of planning and implementation, still there is reluctance among the local community members in allowing them to participate in the planning and implementation of borehole water projects. This is because most of the locals still associate physical disability with 'bad luck' hence involving such persons in any development projects would only cause 'bad omen'. But on the other hand, the respondents concluded by citing significant improvement in the participation of women, youth and the physically disabled, in planning and implementation of borehole water projects because of the numerous public campaigns pushing for socio-cultural equality and equity in community development projects.

4. View on local community awareness of borehole water projects and local community participation during planning and implementation of borehole water projects?

The study also sought to know from local leaders whether local community awareness of borehole water projects influences local community participation during planning and implementation of borehole water projects was involved. The respondents stated that they were aware of the programme to drill and construct borehole water projects by the county government of Migori however; they had no clear understanding of their role during planning and implementation of such projects. They attributed this to failure by the county government to maximize use of the local media to create awareness on what they are expected to do during planning and implementation. They concluded by suggesting that more campaign on local community role and responsibility by the county government would enhance local community participation. They cited the local media as the best channel for awareness.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

County Integrated Development Plan and its influence on local community participation in planning and implementation of borehole water projects.

The study sought to find out the influence of County Integrated Development Plan on local community participation in planning and implementation of borehole water projects. 65% of the respondents indicated that they were aware of the existence of the CIDP, 60% stated that they were involved in the formulation of the CIDP while majority of the respondents standing at mean of 2.5 indicated that Migori County Integrated Development Plan provides for local community participation in planning and implementation of borehole water projects.

The results imply that community borehole water projects are part of the development projects enlisted in the County Integrated Development for Migori as one of means through which the county government aims to improve the quality of life of its locals. In addition, they imply that the County Integrated Development Plan has provided for local community participation as a prerequisite during planning and implementation of borehole water projects thus increasing chances of local community participation.

The study sought to find out the extent to which literacy levels influence local community participation in planning and implementation of borehole water projects. 70% of the respondents stated that they can speak in of the two Kenyan official languages. In addition, 42% strongly agreed that they understand what planning and implementation of borehole water projects is while 35% strongly agreed that they can explain what planning and implementation of boreholes is. These results mean that majority of the locals have the ability to conceptualize, articulate and meaningfully participate in matters pertaining planning and implementation of borehole water projects. In addition, they are in agreement with Theron, (2005) who noted that low literacy levels is an inhibiting factor in local community participation because less literate community members are likely to be marginalized by use of formal and technical language during borehole water project planning and implementation.

The study sought to examine the influence of socio-cultural issues on local community participation in planning and implementation of borehole water projects. The findings state that majority of the respondents, 65% stated that women are allowed to participate in planning and implementation of borehole water projects. Concerning women's domestic chores, 34% indicted that women have a lot of domestic chores and thus cannot participate while 66% which was the majority, disagreed with the statement.

In addition, majority of the respondents standing at a mean score of 3.5 and above indicated that it is easier for men to participate in planning and implementation of borehole water projects, that the youth are rarely involved in planning and implementation of borehole water projects and that those with physical disability are part of the process of planning and implementation of borehole water projects. The findings mean that discrimination on the basis of gender and age is still significant within the local community whereas those living with physical disability are relatively accepted into the participation and planning of borehole water projects.

This agrees with (Kumar, 2002) who argued that local community participation is not an easy task it is affected by circumstances and unique social contexts within which the development initiative is being undertake.

The study also sought to determine the influence of Local community awareness on local community participation in planning and implementation of borehole water projects. From the findings, 40% of the respondents agreed that timely communication is important in enhancing local community participation. On the other hand, majority of respondents stated that the mode of communication is important in creating awareness among local community, that the content of information being communicated should be relevant and that they are aware of the role of the community in planning and implementation of borehole, each at a mean score of 3.3, 2.8 and 2.8 respectively.

The findings resonate with Mosse, (2001) who states that raising levels of awareness can contribute to local community in that it helps them to formulate their interests, knowledge and understanding as a precondition for meaningful participation of the local community during planning and consequently enhanced performance of borehole water projects upon implementation.

Conclusion

From the study, the following conclusions can be drawn; that local community participation is a subject of interest both to the government and the local and that is it provided for in the government's overall framework for community development. However, its full realization has not yet been achieved due to the existing implementation gaps. In addition, literacy levels significantly impact local community's participation and despite majority of the respondents having exuded high literacy levels, the other faction that indicating lower literacy levels mean that prompt mitigation measures are essential in boosting literacy levels for consequently optimum local community participation.

On the other hand, socio cultural issues have a significant bearing in local community participation because there still exists discrimination based on age, gender and physical disability. The youth, women and those with physical disability still find it difficult to participate during planning and implementation of borehole water projects.

Lastly, community awareness has a relative significant influence on local community participation. Elements such as timely communication, mode of communication and relevance of information being communicated, are key in raising community awareness.

Recommendations

The following recommendations are informed by the findings:

- i. There is need for the county government to formulate a public participation bill to provide a framework for effective local community participation in all processes starting from policy making, legislative processes to development projects.
- ii. Strategies to fast track implementation and monitoring of local community participation agenda should be formulated by the county government and community change agents to ensure that the agenda is not only on blue print but instead, there is optimum local community participation. The strategies should focus on addressing socio cultural issues, raising community literacy levels and awareness.
- iii. Integrated local community mobilization should be conducted by the government and community change agents to build local community interest in participating in development projects' activities. This should start at the initial stage of project conceptualization. In addition, regular capacity building and monitoring by relevant change agents at different levels of project management are important in enhancing local community participation and project sustainability.
- iv. Considering the conceptual perspective, this study is not complete because it has focused only on county integrated development plan, literacy levels, socio cultural issues (specifically discrimination based on age, gender and physical disability) and community awareness and their influence on local community participation in planning and implementation of borehole water projects. Further studies are required to examine other important local community participation determinants such as organizational culture, political factors and policy elements during planning and implementation of borehole water projects.

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