

DETERMINANTS OF COMMUNITY PARTICIPATION IN WATER PROJECTS: A SURVEY OF WATER FUNDED PROJECTS IN TURKANA COUNTY-KENYA

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Abstract: Community engagement is increasingly seen as crucial to achieving high quality, efficient and collaborative care. However, organizations are still searching for the best and most effective ways to engage citizens in the shaping of community services. The purpose of the study was to examine the determinants of effective community participation in Turkana County. The study was guided by the following four objectives; to determine the effect of training on effective community participation, to examine the effect of cultural practices on effective community participation, to establish the effect of socio-economic factors on effective community participation and to evaluate the effect of financial resources on effective community participation. The study was guided by community participation theory. The study employed a descriptive survey research design. The target population for the study included management committee and the local community members. The sample size for the study comprised of 100 community members and 18 management committee members. The study used stratified random sampling technique and purposive sampling. Data was collected using semi-structured questionnaires and interview schedule. Data was analyzed using Statistical Package for Social Sciences. In conclusion basing on the findings, cultural practices ($\beta = 0.674$) was found to be positively related community participation in Turkana county. From t-test analysis, the t-value was found to be 3.129 and the p-value 0.000. Statistically, this null hypothesis was rejected because $p < 0.05$. Thus, the study accepted the alternative hypothesis and it concluded that cultural practices affects community participation in Turkana County. The study recommends that the communities of Turkana County should embrace gender diversity among communities to enable effective participation in the water projects. They should embrace ownership for community participation water project they should also try to unite people from different cultures/tribes/clans in the region and promote social networks amongst residents in the region to enhance community participation. There should be capacity building sessions to develop community awareness of water supply problems will increase local participation in developing and demanding a project that will satisfy the needs of the community. Dissemination of information, community member's involvement in all stages of water project implementation and use of local knowledge in implementation of water projects are very crucial, as this would make the projects more sustainable in the long run. Sufficient trainings should be offered consistency and frequency in the mode (language used, background of the facilitator) of delivery of training to enhance effective participation in water projects by the community. It is assumed that the findings of the study would significantly contribute towards rural development by acting as a benchmark for identifying loopholes and corrective measures at policy level on water projects to achieve the Millennium Development Goal of provision of safe and clean water to all by the year 2030.

Keywords: Community Participation, Cultural Practices.

1. INTRODUCTION

Community engagement is increasingly seen as crucial to achieving high quality, efficient and collaborative care. However, organizations are still searching for the best and most effective ways to engage citizens in the shaping of health and care services. This review highlights the barriers and enablers for engaging communities in the planning, designing, governing, and/or delivering of health and care services on the macro level. It provides policymakers and professionals with evidence-based guiding principles to implement their own effective community engagement (CE) strategies. The concept of community participation in development gained prominence in development discourse in the seventies and since then literature on the subject has grown dramatically. The incorporation of the locals in development projects has become a common phenomenon that almost every organization talks about. Related literature shows that there is very little scope of participation for common people in decision making, management and supervision of many community based development projects. Since independence thousands of development projects have been implemented by popularly elected leaders, out of which some have failed to produce desired outcome. Poor villagers still live in misery and deprivation; their basic human needs are not fulfilled. Their lifestyle is not improved as much as it was expected. The participatory practice has not yet been cultured properly. Community information is hardly disseminated to the community people.

Globally donors play a critical role in social and economic roles to alleviate human suffering and reduce poverty in underdeveloped countries. Despite access to water, sanitation and hygiene being a human right, billions of people across the world still suffer daily challenges accessing even the most needed services (World Bank, 2013). Around 1.8 billion globally use a source of water that is facially contaminated (center for disease control and prevention 2016). Lack of water affects more than 40 percent of the global population and the figure is expected to increase as the grips of global warming tightens by the day. By managing our water sustainable resource, we are also able to improve and manage food and energy productivity (World Health Organization 2019). According to World Health Organization (2019), the world is on track to achieve the safe water target; however, 884 million people would continue using unimproved water sources mainly in sub-Saharan Africa. World Bank (2013) adds that over 1.2 billion people worldwide especially those living in rural areas and ASALs, over 300 million accounting for 88% do not have access to clean and safe water. Such statistics have informed various stakeholders, donors, policymakers and governments to formulate policies, initiate clean and safe water distribution plans especially to people living in Arid and Semi -Arid Lands, ASALS mostly found in the sub-Saharan Africa.

Community participation is seen as a process by which citizens and other interested parties take part in the control of development initiatives and the decisions and resources that influence these initiatives. Community participation concerns the engagement of individuals and communities in decisions about things that affect their lives, Burns and Taylor (2000). Community participation in the management of public projects can come in the form of involvement in identification of problems, design and application of solutions, monitoring of results, or evaluation of performance (Boon, Bawole & Ahenkan, 2013). Communities can also participate in public projects by providing resources. Chambers (1983) influential efforts led to the inclusion of participation as an important aspect of empowerment as a means to allow the poor control over decisions. There is also a shift to an increasing awareness that development is not just growth of national income, but a means of achieving basic human needs and development particularly those related to individual and collective wellbeing (Enefiok et al., 2014). Amartya's (2011) work influenced a shift in focus of development from material well-being to capability approach. Key characteristics in this approach were strategies that would lead to the empowerment of the poor, an agenda which was taken on by the World Bank and other international donors as part of their response to critiques of 'top-down' development. (Helleiner, 1992)

Community participation in development projects has become an important element in the design and implementation of development projects. Participation of the community is in the form of Community Based Development (CBD) and is among the fastest growing mechanism for channeling development assistance. The aim of community participation in CBD projects is not only to reverse the existing power relations in a manner that creates agency and voice for the poor but also to allow the poor to have more control over development assistance (Boon, Bawole & Ahenkan, 2013). It is expected that this was to result in the allocation of development funds in a manner that is more responsive to the needs of the poor, better targeting of poverty programs, more responsive government and better delivery of public goods and services, better maintained community assets, and a more informed and involved citizenry that is capable of undertaking self-initiated development activity (Mansuri and Rao 2003).

Evidence on the performance of community participation approach is scant, but the work that is available suggests that practitioners may be overoptimistic and naive about the benefits of the approach (Mansuri and Rao, 2004). The empirical literature on community participation acknowledges that there may be a large gap between the idealised textbook representation of the concept and nonprofit organizations experiences with the approach. Case studies show that for a variety of reasons the textbook benefits do not always materialize. Given that community participatory processes are known to be expensive, demanding and time-intensive, it is vital to better understand the effect of this approach on the sustainability of community development projects. In fact, Mansuri and Rao (2004a) conclude that little is known about the effects of community participation on community-based projects. They attribute ignorance on this matter to a lack of thorough and systematic evaluations with counterfactuals. They add that robust evidence regarding the influence of community participation is required urgently. A public project is one that is funded using public resources or meant for public utility; while participation approach refers to a particular way by which stakeholders participate in projects which can be top-down, bottom-up, consultative etc. Literature reveals that community participation in public projects in Kenya today is more diversified than what it was during the colonial period that ended with Kenya's independence in 1963. Water is a natural resource that is necessary for sustenance of life, ecological systems and a key resource to social and economic development. Governments, Non-governmental organizations, local and international organizations from all over the world have implemented water projects to promote safe rural water supply and sanitation over the years. However, in most project areas there is lack of sustainability of these water infrastructures and water supply systems as most of the communities don't own the projects (Harvey and Reed, 2007).

Recent figures of operational failure rates from different African countries range from 30 to 60% (Blackman, 2003). In Kenya, it's a common phenomenon to observe non-functional water systems just a few years after implementation e.g. lack of adequate protection such as fencing of water pans, vandalism of solar pumping systems for boreholes, non-operational shallow well hand pumps and wind mills. The main issue in water supply in developing countries is gauging the willingness of community members to manage their water sources and infrastructures through contribution of time and resources. Contribution of more time and resources to the protection, operation and maintenance of rural water supply is a key action towards achieving sustainability of water supply infrastructures. According to Harvey and Reed (2007) community involvement strongly influences the sustainability of projects. Community members' contribution might take the form of labour, money, material, equipment, participation in decision making, and expression of demand for water, selection of the technology and project site, and selection of management structures within the community. In Chile, the most basic reforms in water institutions have occurred as part of the political changes during the 1980s when the new Constitution of 1980 and the Water Code of 1981 were adopted. Water is the most important natural resource for sustainable development and quality of life, yet it is unevenly distributed; almost one-fifth of the world's population lives in regions where water is scarce and one-quarter suffer from severe water shortage [UNDP (2012)]. Domestic water consumption in rural China is highly affected by water supply patterns, the characteristics of heads of households, vegetable gardening, and the use of water appliances. Despite considerably improved water supply facilities and living standards in rural areas over the past two decades, traditional lifestyles and household habits (low use of water appliances and preference for vegetable gardening) continue to significantly affect domestic water consumption. The problem can only be solved if communities are involved. (Shove et al.2010)

The major driving force for these initial reforms was the ideological orientation of the military government of the 1980s. In recent years, however, fiscal and macroeconomic necessities are adding more pressures for reforms within water sector. The institutional changes in the water sector of Sri Lanka are not as extensive and substantive as in the other countries of our sample. But still the reform experience of this country provides interesting insights and lessons on the theory and practice of water institutional reforms. Project approaches to development remain a vital instrument by development agencies to reach and assist poor communities in the developing world. Development interventions in the past have tended to focus on resource and knowledge transfer to beneficiary communities through the 'top-down' approach (FAO,2001). Several decades of development funding have demonstrated the failures of the 'top-down' approach to reach and benefit the rural poor. This realization has led to the adoption of the 'bottom-up' approach to development. However, despite the recent upsurge in the 'bottom-up' approach to development, project beneficiaries are still not fully participating in the identification, planning, implementation and monitoring and evaluation of projects that are meant to improve their lot (Blackman, 2003). Even when an element of 'participation' is built into projects, it is all too often largely in terms of local investment of labor and not in real decision-making. Beneficiary communities are only informed

after plans have been made and that this is done through formal meetings where the officers justify their plans but modification is not considered (APO,2002). Limited community participation in the implementation and management of projects means that the projects have few chances of sustainability. Lack of reliable data on effective community participation in development projects constitutes a major constraint to rural development practitioners such as policy-makers, planners and managers. This frequently leads to incorrect assessment of the development needs of rural people hence, making it difficult for governments and development agencies to properly measure progress achieved by development projects in improving livelihoods of rural communities (Karki, 2001). This often leads to poor performance of the projects and eventual failure. Recognizing the central role of communities in the project cycle, it is important for project donors/sponsors.

Africa has been found to have the lowest total water supply coverage compared to other continents in the world. In Africa and other developing countries national and regional governments, local and international NGOs and other concerned organizations invest large sums every year for the implementation of rural water supply projects (Blackman, 2003). Despite the continuous efforts of community based water project in ensuring access to clean drinking water for all the commodity is still not enough for the ever-growing human population. Most of the water projects fail to achieve the intended objective of providing communities with safe water soon after the funders close the project. In order to make the investment in water supplies more effective, failure rates of these systems should be reduced.

In Africa, there is increasing demand for greater inclusion in local decision making, especially in water management. However, few countries have the appropriate institutions and mechanisms in place to ensure more effective local participation. Community water supply systems such as hand-pumps, water points and piped water points are considered as the most viable systems for peri-urban water supply. Data from Rural Water Supply Network (RWSN) shows that in a sample of 20 sub-Saharan countries the average for non-functionality rate is 36% (Kilasi, 2014). In Ghana, the non-functionality rates of community managed water systems are around 30%. It can be estimated that in peri-urban context, non-functionality and un-sustainability rate is between 30% and 40%. A study was done by Kilasi (2014) on Local Participation in Sustainable Community Water Management in Peri-Urban Areas of Greater Accra Region Ghana. The results indicated that the scope of local participation is limited, since their participation is more involuntary than voluntary. The facilitating agencies seem to determine decision making of the population, especially during planning stage. There were also variations in the perception of the concept of 'participation' between local communities and stakeholders. Local community participation and water institutions have greater impact on sustainability of peri-urban community water projects. Interestingly, local community participation in water issues was remarkably more pronounced for other public social services.

According to Freire (1970) in the struggle to liberate oppressed communities the people themselves should decide on the content of their own development. It is therefore no longer necessary to justify that local knowledge and participation by as many stakeholders as are interested is crucial for effective development of affected communities. Sustainable community development should thus be based on survey of those issues that communities have strong feelings about for instance the issues that give the community joy and hope, fear, worry, anger and sorrow. The role of community participation has to be recognized, this is through promotion of the same as effective involvement vehicles in initiatives of development of the members of the community for achievement of sustainable growth. A study done previously on this facet has given mixed bag of results portraying that there was need for further research. In Uganda Sseguya, et al (2013). Sseguya, et al (2013) in Uganda did a survey on determinants of leadership and involvement in groups on food safety in the south east of Uganda and time-honored that group involvement was positively related with age of household size, house hold head, and health facilities of food security groups and proximity to trading while group leadership was absolutely related with the educational level of the land size, household head, and non-agricultural sources of income.

Involvement or community participation has become one of the important conditions and is essential for the implementation of programmes and projects and also a fundamental condition to attract projects and programmes. It is also considered as a method capable of solving problems of maintenance of water services that some of our countries meet like inadequate access to water, inadequate maintenance and lack of public funds. The community participation, in the years 80's, aimed at improving the contribution of the community and, at the same time, taking into account the needs and the demands of the communities in the development of the community services. But this approach did not consider

really the questions related to the accountability, local specific needs and the low utilization of locally available resources (Tandia,2006).

Kenya is considered as water scarce nation, it contains renewable freshwater resources of 647m³ per capita, yet the UN standards require a national to have 1000m³ (USAID, 2018). Almost 80% of the country consist of arid and semi-arid land, rainfall in this most ASAL areas are unreliable and unpredictable due to climate change effects. In Kenya, Water is critical to the socio-economic development of the people. This is because of its importance to all sectors of the economy, but especially agriculture (which uses over 80% of the developed water resources)(Matiza-Chiuta, Johnson and Hirji, 2002). Kenya is classified at a water scarce category of 647m³ per capita against the global benchmark of 1000m³, an opportune time to implement this Strategy. It is estimated that 41 per cent of the Kenyan population lives without access to safe drinking water, relying on unprotected wells, springs or informal water providers. Sixty-nine per cent of the total populations do not have access to basic sanitation. Kenya's population is projected to grow for the next few decades. Given these realities, Kenya will also need to tackle issues related to water crisis (WHO/UNICEF, 2010). Community water projects funded by donors are critical components in water provision especially in rural areas and ASALs where government owned companies do not offer services (Macharia 2010). The Government has embarked on a structured effort to sensitize stakeholders and communities on the principles of water governance for the sustainable management of the limited resource to ensure the fulfillment of the country's vision 2030. After enactment of the Water Act 2002, GOK has been implementing water sector reform. In the water resources management, sub-sector,WRMA was established in 2003 and became operational in 2005 as a lead agency in the national water resources management. The water resources management system was changed from administrative basis to catchment basis in line with the principles of IWRM (GOK, 2015).

In Kenya, Boru (2012) conducted a study on determinants of community ownership of water projects in Kenya, a case of central division, Isiolo County. The study revealed that community involvement in site selection for water facilities, provision of labour, locally available materials, cash contribution, and selection of the management type influences community ownership of water projects. The study also concluded that there is a significant and inverse relationship between distance from the water source and ownership of water projects. The far the water points from the community the higher the likelihood that the facility will not be used or taken care of. The established that technology used, ease of operation and maintenance, cost, availability of spare parts influences community ownership of water projects. Boru recommends further studies to be done in other parts of Isiolo County on factors influencing community ownership of water projects.

Ngetich (2009) did an assessment of factors influencing sustainability, the case of community water projects in Keekonyokie central location, Kajiado district, Kenya. He recommends community training for empowerment and sensitization to environmental concerns and further studies should be conducted on the influence of distance on sustainability of water projects. Revena (2009) conducted an assessment of factors influencing sustainability of foreign aid projects, a survey of Imenti North district, Kenya.

Ochelle (2012) did a study on factors influencing sustainability of community water projects in Kenya, a case of water projects in Mulala division, Makueni County.The study concluded that community participation during conception, design, implementation, operation and maintenance of water projects influences sustainability of communal water projects. Community participation ensures that projects designed borrow from opinions of end users. This factor influences community ownership of water projects and enhances their willingness to effectively manage these projects after construction. The study also concluded that availability of funds, and technology used influences sustainability of communal water projects.

According to Gebrehiwot (2006), sustainability of water projects could originate from the project environment, culture, lack of training and lack of sufficient resources and management related issues. Obtaining sufficient knowledge of the factors, which influence sustainability of water projects, has the potential to positively influence sustainability of the water projects. Despite the government and non-governmental organizations making good efforts to supply water to citizens, it has not been able to cover all areas especially rural areas. Consequently, it has become necessary for communities to organize themselves and launch community water projects to ensure they bring water closer to their homes (WHO/UNICEF, 2010). In any developing country, projects are the backbone of local development. Development projects are undertaken to improve the livelihood of the community. Effective management of development

projects depends primarily on proper project selection, project design, project implementation, monitoring and evaluation. Moreover, values, norms, social belief and opinions of the local people which are affected directly or indirectly by development interventions should also be considered. Otherwise, sustainability of development projects may generally be questioned (Khwaja, 2004). The participatory practice has not yet been cultured properly. Project information is hardly disseminated to the community people. An effective evaluation system has not been fully institutionalized to capture the opinions of the real project beneficiaries. In all the Citizen's report cards, they constantly make recommendations to the development partners to involve the community in project planning and throughout the project cycle to enhance ownership of the projects by the community in line with the new constitution. The lack of effective structures for community participation has been a major constraint. Community participation in their own projects has not yet attained the acceptable levels that qualify to imply full participation (Gicheru, 2012).

Since its inception, Water Mission has been keen on ensuring community participation in its funded water projects. The community members are actively involved from project designing, project implementation, monitoring and evaluation. In addition to that, Water Mission trains the local communities and the water management committees on proper usage and maintenance of the water projects to ensure its sustainability. Despite these efforts, majority of the community members are either inactive or partially active in these community based water projects. Thus, the level of community participation is still wanting. Therefore, the study sought to examine the determinants of effective community participation on water project in Turkana County.

2. EFFECT OF COMMUNITY CULTURAL PRACTICES

Cultures can have varying impacts on community participation. Culture is an important element to unify various company cultures in the corporate group structure (Kenny, 2012). Culture is gradually emerging out of the realm of social sustainability and being recognized as having a separate, distinct, and integral role in sustainable development. Within the community development field, culture is broadly defined as the whole complex of distinctive, spiritual, material, intellectual and emotional features that characterize a society or social group. It includes not only the arts and letters but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs (UNESCO, 2005). Within the sustainability field, culture is discussed in terms of cultural capital, defined as traditions and values, heritage and place, the arts, diversity and social history (Roseland *et al.*, 2005).

The stock of cultural capital, both tangible and intangible, is what we inherit from past generations and what we will pass onto future generations. From a policy perspective, UNESCO (2006) encompass cultural development as related to social policy and goals such as fostering social inclusion, cultural diversity, rural diversity, rural revitalization, public housing, health, ecological preservation, and sustainable development. Culture needs to be protected from globalization and market forces, as many fears that individual communities will lose their cultural identity, traditions, and languages to dominant ideals and culture. In response to these concerns, sustainability discussions focus on education, community development, and locally based policy that is open to change and consistent with the cultural values of the community (UNESCO, 2006). The creation of opportunities to expand and deepen diversity may act as a balance to this. Sustainability discussions on cultural heritage focus on the need to preserve cultural heritage for future generations, and to recognize the history of a place and the tangible and intangible attributes of its landscapes and communities (Matthews and Herbert, 2004). Mills and Brown (2004) argued that cultural development in a community has come to be understood as a collective process, often involving creativity interpreted in the broadest sense. This contributes to changes in people's lives and long-term developmental benefits for a community. Cultural development in a community encompasses a huge range of activities that give communities the opportunity to tell their stories, build their creative skills, and be active participants in the development of their culture (O'Hara, 2002).

Discussion of community participation, as Doubleday, Mackenzie, & Dalby (2004) observed, now incorporate both dynamic understandings of culture and the recognition that place matters because the practice that is in need of sustaining, as well as those that pose threats, happen in particular communities and in specific geographic contexts. Serious discussions of community participation require considerations of the dynamics of complex cultural arrangements in particular places, rather than assumptions of either peoples or their ecological contexts" and that fundamental debates on sustainability must contrast environmental and cultural preservation with active practices of living in culturally constituted places. Successful cultural integration within the corporate group is an important element to maintaining successful communication and improving performance (Idris, Wahab, & Jaapar, 2015). As Ledwith (2005) observed,

community development begins at the everyday lives of local people. Community development projects empower communities to position local issues within a larger political context. An important aspect of community development is that it is not handed down from experts or governments. Community development aims to strengthen the economy and the social ties within a community through locally based initiatives. The community development process is often characterized as a bottom line of amalgamating environmental, social, and economic well-being into a common audit. The bottom line is now expanding to include cultural well-being and good governance. The central goals of community development rely on residents having the ability to express their values, be self-reliant, satisfy basic human needs, and have greater participation and accountability in their community. This is accomplished by education, citizen participation, consensus building, and access to information.

Creating a sense of place in the community is central as it empowers residents to become decision-makers over their own environment, resources, and future. According to Williams (2003), sustainability is reflected in the capacity of the community to cope with change and adapt to new situations. Community sustainability is about creating a more just and equitable community through encouraging social and cultural diversity (Roseland *et al.*, 2005). It also requires the community to define sustainability from its own values and perspective. This involves community participation and a collective decision-making process that meets the social, cultural, environmental, and economic needs of the community. Sustainable community involves development of a local and self-reliant economy that does not damage the social well-being of communities. Community residents in sustainable communities employ strategies and solutions that are integrative and holistic. They seek ways of combining policies, programs, and design solutions to bring about multiple objectives. Sustainable project design utilizes essential aspects of cultural identity, can serve to synthesize the past with the present for the benefit of the future (Matthews and Herbert, 2004). Including residents in the design process can contribute to improving their quality of life.

According to Van (2008) water projects have greater impact when women are involved. In a study conducted on community water and sanitation projects in 15 countries found that projects with full participation of women are more sustainable and effective than those that do not. This supports earlier studies by World Bank which found that women's participation was strongly associated with water and sanitation project effectiveness. The women are involved in roles such as; decision making, educating children on sanitation and hygiene, capacity building, mobilizing political will and other priorities such as linkages between water, sanitation and hygiene. It is important to determine what the consumers of water and sanitation want, what they can and will contribute, how they participate in decision making on the technology used, location of facilities and operation and maintenance.

Several studies have been done to assess community participation in community projects in Kenya. For example, Ochelle (2012) did a study on factors influencing sustainability of community water projects in Kenya, a case of water projects in Mulala division, Makeni County. Mukunga (2012) investigated the influence of community participation on the performance of Kiserian dam water project in Kajiado County. Kimani (2014) examined the influence of community participation on performance of Constituency Development funded Rural Borehole Water Project. Gicheru (2012) carried out a preparatory water resources assessment study in Isiolo, Garbatulla, Merti and Samburu East districts. However, none of these researchers have examined the determinants of effective community participation in funded water projects in Turkana County with a keen interest in the following study variables: training, cultural practices, socio-economic and financial resources. Thus, the study sought to fill this gap by examining the determinants of effective community participation in water project.

3. METHOD

This study adopts a descriptive research design with a target population for the study which comprised of the 100 local community members who use the funded water projects and 18 management committee of the funded water projects. Since the study population was small, the study worked with entire population which is census. Data collection instrument was questionnaire and other information relevant to the study. Piloting was done to test the validity and reliability of the data collection instrument. The research employed qualitative and quantitative techniques of data analysis. Data analysis involved the use of both descriptive and inferential statistics. Once data is collected, it was crosschecked and verified for errors, completeness and consistency. Data was then be coded, entered and analyzed descriptively using IBM Statistical Package for Social Sciences (SPSS 23). Pearson correlation coefficient was used to test the relationship between variables in the study hypotheses. Multiple linear regression analysis model was computed to determine the statistical relationship between the independent variable and the dependent variables at 95 percent confidence interval.

4. DISCUSSION

Cultures can have varying impacts on community participation. Culture is an important element to unify various company cultures in the corporate group structure (Kenny, 2012). Culture is gradually emerging out of the realm of social sustainability and being recognized as having a separate, distinct, and integral role in sustainable development. Within the community development field, culture is broadly defined as the whole complex of distinctive, spiritual, material, intellectual and emotional features that characterize a society or social group. The study sought to determine the effect of cultural practices on community participation in funded water projects in Turkana County. The findings are presented in a five point Likerts scale where SA=strongly agree, A=agree, N=neutral, D=disagree, SD=strongly disagree and T=total.

Table 4.1 below contains a summary of data relating to attitude of respondents towards cultural practices on effective community participation in funded water projects in Turkana County. For instance when respondents were asked whether there is provision of gender diversity among communities in Turkana County. The distribution of findings showed that 50.0 percent of the respondents strongly agreed to the statement that there is provision of gender diversity among communities in Turkana County, 30.0 percent of them agreed, 16.0 percent of the respondents were neutral, 4.0 percent disagreed while none of them strongly disagreed. These findings implied that there is provision of gender diversity among communities in Turkana County. The respondents were also asked whether the nomadic way of life among the Turkana does not give priority to the effective participation of the community in water management. The distribution of the responses indicated that 41.0 percent strongly agreed to the statement, 48.0 percent of them agreed, 9.0 percent of them were neutral, 2.0 percent of them disagreed while none of them strongly disagreed to the statement. These findings implied that the nomadic way of life among the Turkana does not give priority to the effective participation of the community in water management. The respondents were also asked whether lack of ownership affects effective community participation. The distribution of the responses indicated that 36.0 percent strongly agreed to the statement, 44.0 percent of them agreed, and 18.0 percent of them were neutral, 1.0 percent of them disagreed while 1.0 percent of them strongly disagreed to the statement. These findings implied that lack of ownership affects effective community participation.

The respondents were further asked whether people from different cultures/tribes/clans in the region benefit from the water project. The distribution of the responses indicated that 44.0 percent strongly agreed to the statement, 43.0 percent of them agreed, 10.0 percent of them were neutral while 2.0 percent and 1.0 percent of them disagreed strongly and disagreed to the statement respectively. These findings implied that people from different cultures/tribes/clans in the region benefit from the water project. The respondents were further asked whether the water project unites people from different cultures/tribes/clans in the region. The distribution of the responses indicated that 53.0 percent strongly agreed to the statement, 33.0 percent of them agreed, 11.0 percent of them were neutral, 2.0 percent of them disagreed while 1.0 percent of them strongly disagreed to the statement respectively. These findings implied that the water project unites people from different cultures/tribes/clans in the region. Finally, the respondents were asked whether the water project promotes social networks amongst residents in the region and good culture enhances community participation. The distribution of the responses indicated that 45.0 percent strongly agreed to the statement, 35.0 percent of them agreed, and 0.0 percent of them were neutral, 10.0 percent of them disagreed while 10.0 percent of them strongly disagreed to the statement respectively. These findings implied that the water project promotes social networks amongst residents in the region and good culture enhances community participation.

Table 4.1: Effect of cultural practices on community participation in funded water projects in Turkana County

Statements		SA	A	N	D	SD	T
There is provision of gender diversity among communities in Turkana county	%	50.0	30.0	16.0	4.0	0.0	100
The nomadic way of life among the Turkana does not give priority to the effective participation of the community in water management	%	41.0	48.0	9.0	2.0	0.0	100
Lack of ownership affects effective community participation	%	36.0	44.0	18.0	1.0	1.0	100

People from different cultures/tribes/clans in the region benefit from the water project	%	44.0	43.0	10.0	2.0	1.0	100
The water project unites people from different cultures/tribes/clans in the region.	%	53.0	33.0	11.0	2.0	1.0	100
The water project promotes social networks amongst residents in the region and good culture enhances community participation	%	45.0	35.0	0	10.0	10.0	100

4.2 Inferential Statistics

4.2.1 Pearson Correlation

The study sought to establish the strength of the relationship between independent and dependent variables of the study. Pearson correlation coefficient was computed at 95 percent confidence interval (error margin of 0.05). Table 4.2 illustrates the findings of the study.

Table 4.2: Correlation Matrix

		Community participation
Cultural practices	Pearson Correlation	.684**
	Sig. (2-tailed)	.000
	N	90

As shown on Table 4.2 above, the p-value for Cultural practices was found to be 0.000 which is less than the significant level of 0.05, ($p < 0.05$). The result indicated that Pearson Correlation coefficient (r-value) of 0.684, which represented an average, positive relationship between cultural practices on community participation in Turkana County.

4.2.2 Multiple Linear Regression

Multiple linear regressions were computed at 95 percent confidence interval (0.05 margin error) to show the multiple linear relationship between the independent and dependent variables of the study.

4.2.3 Coefficient of Determination (R^2)

Table 4.3 shows that the coefficient of correlation (R) is positive 0.231. This means that there is a positive correlation between factors influencing community participation in Turkana County. The coefficient of determination (R Square) indicates that 53.0% of community participation in Turkana County is influenced by the factors. The adjusted R^2 however, indicates that 13.0% of community participation in Turkana County is influenced by the influential factors leaving 87.0% to be influenced by other factors that were not captured in this study.

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.231 ^a	.053	.013	.99661610

a. Predictors: (Constant), cultural practices

4.2.4 Analysis of Variance

Table 4.4 shows the Analysis of Variance (ANOVA). The p-value is 0.000 which is < 0.05 indicates that the model is statistically significant in predicting how factors affects community participation in Turkana county. The results also indicate that the independent variable is a predictor of the dependent variable.

Table 4.4: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.248	1	1.214	26.001	.268 ^b
	Residual	93.365	89	.993		
	Total	98.613	90			

a. Dependent Variable: Community Participation in Turkana county

b. Predictors: (Constant), Cultural Practices

4.2.5 Regression Coefficients

From the Coefficients table (Table 4.5) the regression model can be derived as follows:

$$Y = 39.122 + 0.670X_1$$

The results in table 4.5 indicate that all the independent variable have a significant positive effect on community participation in Turkana County. The most influential variable is cultural practices with a coefficient of 0.674 (p-value = 0.000). According to this model when all the independent variables values are zero, community participation in Turkana County will have a score of 31.122.

Table 4.5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	31.122	3.712	51.420	.000
	Cultural practices	.674	.130	.613	3.129

4.2. 6 Hypotheses Testing

Ho₁: Cultural practices does not have a significant effect on community participation in Turkana County.

From Table 4.5 above, cultural practices ($\beta = 0.674$) was found to be positively related community participation in Turkana county. From t-test analysis, the t -value was found to be 3.129 and the ρ -value 0.000. Statistically, this null hypothesis was rejected because $\rho < 0.05$. Thus, the study accepted the alternative hypothesis and it concluded that cultural practices affects community participation in Turkana County.

5. CONCLUSION AND RECOMMENDATIONS

In conclusion basing on the findings, cultural practices ($\beta = 0.674$) was found to be positively related community participation in Turkana county. From t-test analysis, the t -value was found to be 3.129 and the ρ -value 0.000. Statistically, this null hypothesis was rejected because $\rho < 0.05$. Thus, the study accepted the alternative hypothesis and it concluded that cultural practices affects community participation in Turkana County.

The study recommends that the communities of Turkana County should embrace gender diversity among communities to enable effective participation in the water projects. They should embrace ownership for community participation water project they should also try to unite people from different cultures/tribes/clans in the region and promote social networks amongst residents in the region to enhance community participation. There should be capacity building sessions to develop community awareness of water supply problems will increase local participation in developing and demanding a project that will satisfy the needs of the community. Dissemination of information, community member's involvement in all stages of water project implementation and use of local knowledge in implementation of water projects are very crucial, as this would make the projects more sustainable in the long run. Sufficient trainings should be offered consistency and frequency in the mode (language used, background of the facilitator) of delivery of training to enhance effective participation in water projects by the community.

REFERENCES

- [1] Amit, R. & Schoemaker, P J H. (1993). Strategic assets and organizational rent, *Strategic Management Journal*, 14 (1), 33-46.
- [2] Asian Productivity Organization (APO) (2002). Participatory Project Cycle Management (PPCM): A Planning Method for Community Development. *Human Resource Management*, vol. 47, no. 1, pp. 15–32
- [3] Baiocchi, G. (2005). Militants and citizens- the politics of participatory democracy. Porto Alegre, Stanford, Stanford University press, Vol 3(1), 12-20.
- [4] Barney, N.L. (1995). Select the right IS project manager for success. *Personnel Journal* Vol. 6, no. 4, pp 13-18.
- [5] Baur P. & Woodhouse, J (2009). Enhancing private sector in rural water supply: An action- oriented study. *The International Journal of Human Resource Management*, vol. 24, no. 8, pp. 1671–1684.

- [6] Bhandari, B., & Grant, M. (2007). User satisfaction and sustainability of drinking water schemes in rural communities of Nepal. *Sustainability: Science Practice and Policy*, 3(1), 12-20.
- [7] Blackman, R. (2003). *Project Cycle Management*. Tearfund. Teddington, England, vol. 24, no. 8, pp. 1671–1684.
- [8] Boru, J.(2012).Determinants of community ownership of water projects in Kenya, a case of central division, Isiolo County.*Unpublished MA Thesis University of Nairobi*.
- [9] Brikke, F. (1997). Linking Technology Choice with Operation and Maintenance for Low Cost Water Supply and Sanitation.London: WEDC, *Loughborough University. UK*.Vol. 7, no. 3, pp 113-115
- [10] Burns, D. L., & Taylor, M. (2000). Auditing community participation. Policy Press
- [11] Camisón H., (2005). Patent thickets, licensing and innovative performance. The *International Journal of Human Resource Management*, vol. 24, no. 8, pp. 1671–1684.
- [12] Campos, M. (2008). Making sustainable water and sanitation in the Peruvia Andes: an intervention model. *Journal of Water and Health*. Vol. 6, no. 1, pp 2008-2015.
- [13] Cernea, M.M &Ayse. K. (1997). Social Assessment for Better Development: Case Studies in Runia and Central Asia. Washington DC. *The International Bank for Reconstruction and Development*. The World Bank. Vol. 5, no. 1, pp 99-111.
- [14] Enefiok, E.I. and Ekong, E.D. (2014) Rural Water Supply and Sustainable Development in Nigeria: A Case Analysis of Akwa Ibom State. *American Journal of Rural Development*, 2, 68-73. <http://dx.doi.org/10.12691/ajrd-2-4-2>
- [15] Food and Agricultural Organization (1991). Plan of Action for People’s Participation in Rural Development: Twenty-Sixth Session,*FAO Conference. Rome*. Vol. 9, pp 9-28.
- [16] Fielmua N. (2011). The role of the community ownership and management strategy towards sustainable access to water in Ghana: A case of Nadowli District. *Journal for sustainable development* Vol. 4, No.3, pp 33-56.
- [17] Gicheru C.M (2012).*Preparatory water resources assessment study. Isiolo, Garbatulla, Merti and Samburu East Districts*. Unpublished Thesis.
- [18] GOK (2015).Water Resources Management Authority. Strengthening Regulations. For Sustainable Water Resources Management in Kenya.*Session Paper no. 12*.
- [19] Global Water Partnership - GWP (2000a). Towards Water Security: A framework for action. Global Water Partnership. *Stockholm and Harare*, Vol. 4, No.3, pp 33-56
- [20] Global Water Partnership – Technical Advisory Committee - GWP-SATAC. (2000). Water for the 21st Century: Vision to action –Southern Africa. Global Water Partnership. *Stockholm and Harare*, Vol. 4, No.3, pp 33-56.
- [21] Harvey, P.A. & Reed, and R.A. (2007) .Community-Managed Water Supplies in Africa: Sustainable or Dispensable? *Community Development Journal*. Vol. 42, no. 3, pp 365-401.
- [22] Hoopes, B., Madsen, J. & Walker, H. L. (2003). Global cost benefit analysis of water supply and sanitation interventions, *Journal of Water Health*. Vol. 5, no. 5, pp 481-552.
- [23] Idris, S., Wahab, R., & Jaapar, A. (2015). Corporate cultures integration and organizational performance: A conceptual model on the performance of acquiring companies. *Procedia - Social and Behavioral Sciences*, 172, 591-595. doi:10.1016/j.sbspro.2015.01.407
- [24] International Rescue Committee, IRC (2012). Presentation for the first Northern Uganda regional learning forum in Gulu. *Journal of Water Health*. Vol. 10, no. 5, pp 181-252.
- [25] Kay, J. K. (2005). Statistics notes: The intra-cluster correlation coefficient in cluster randomization. *British Medical Journal*, vol. 4, no. 316, pp 1455–1460.
- [26] Keen, J. J. (2007). Methods of initiating community participation in water supply and sanitation Programs. *Journalon Community Health*, vol. 5, no. 3, pp 26-44.

- [27] Khwaja, A. I. (2004). Is Increasing Community Participation Always a Good Thing? *Journal of the European Economic Association*, Vol. 10, no. 5, pp 181-252.
- [28] Karki, M (2001). Institutional and Socio-Economic Factors and Enabling Policies for Non-Timber Forest Products-Based Development in North East India. *Paper presented in the Pre-Identification Workshop for NTFP-led development in NE India, organized in IFAD, Rome: Feb. 22-23.*
- [29] Kilasi J. S. (2014). Local Participation in Sustainable Community Water Management in Peri-Urban Areas of Greater Accra Region Ghana. *The American Economic Review*, vol. 86, no. 2, pp. 263–267.
- [30] Kimani, N.(2014). Influence of community participation on performance of Constituency Development funded Rural Borehole Water Project. *Journal of the European Economic Association*, Vol. 10, no. 5, pp 181-252.
- [31] Kleeimer, E. (2002). The impact of sustainability: An analysis of the Malawi rural piped scheme program. *World Development*. Vol. 28, pp 929–944.
- [32] Kothari, C. R (2007). *Research Methodology: Methods and techniques.* 2nd Revised Edition. New Delhi. *New Age International Publisher*. Vol. 5, no. 2, pp 23-74.
- [33] Lee, J., & Gaur, A. (2013). Managing multi-business firms: A comparison between Korean Chaebols and diversified U.S. firms. *Journal of World Business*, 48, 443- 454. doi:10.1016/j.jwb.2012.09.001
- [34] Lee, Y. (2014). Insight for writing a qualitative research paper. *Family and Consumer Sciences Research Journal*, 43, 94-97. doi:10.1111/fcsr.12084
- [35] Lien, Y., & Li, S. (2013). Does diversification add firm value in emerging economies? Effect of corporate governance. *Journal of Business Research*, 66, 2425-2430. doi:10.1016/j.jbusres.2013.05.030
- [36] Matiza-Chiuta, T., Johnson P. and Hirji, R. K. (2002). Water and the economy. Defining and Mainstreaming Environmental Sustainability in Water Resource Management in Southern Africa. SADC, IUCN, SARDC, World Bank: Maseru/Harare/Washington DC. *Journal of the European Economic Association*, Vol. 10, no. 5, pp 181-252.
- [37] McCommon, C. (2009). Community Management of Rural Water Supply and Sanitation Services, Washington DC, USA. *Nordic Journal of Political Economy*, vol. 31, pp. 47–73.
- [38] McCommon, C., D. Warner, and D. Yohalem. (1990). Community Management of Rural Water Supply and Sanitation Services. *WASH Tech. Report Number 67*, pp. 467–501.
- [39] Mclvor, C. (2008). Community participation in water management, experiences from Zimbabwe. *Personnel Psychology*, vol. 61, no. 3, pp. 467–501.
- [40] Mugenda, M. & Mugenda, G. (2003). Qualitative and Quantitative approaches. Research Methods. *Africa Center for Technology Studies (ACTS) Press*. Nairobi Kenya.
- [41] Mukunga, F. M. (2012). Influence of community participation on the performance of Kiserian dam water project, Kajiado county Kenya. *Unpublished MA Thesis- University of Nairobi*.
- [42] Mushtaq, A. M. (2004). Community participation in water supply and sanitation schemes around Hyderabad, Pakistan. *Nordic Journal of Political Economy*, vol. 31, pp. 47–73.
- [43] Mwakila M. W. (2008). An Assessment of Community Participation in Water Supply and Sanitation Services: The Case of Yombo Dovyva and Barabara ya Mwinyi, Water Community Projects, Temeke, Tanzania. *Personnel Psychology*, vol. 61, no. 3, pp. 467–501.
- [44] Narayan, D. (2018). Participatory Evaluation: Tools for Managing Change in Water and Sanitation. *Paper NO. 207, The World Bank*, Washington, D.C., USA.
- [45] Ngetich R C. (2009). An assessment of factors influencing sustainability: The case of community water projects in Keekonyokie Central Location of Kajiado District, Kenya. *Unpublished MA Thesis-University of Nairobi*.
- [46] Nkongo, D. (2009). Management and regulation for sustainable water supply schemes in rural communities in Tanzania. *The American Economic Review*, vol. 86, no. 2, pp. 263–267.

- [47] Ochelle G.O (2012). Factors influencing sustainability of community water projects in Kenya, a case of water projects in Mulala division, Makueni County. *Journal of the European Economic Association*, Vol. 10, no. 5, pp 181-252.
- [48] Office, N. S. (2011). *Analytical Report: Population Projections*. Lilongwe: Government Printer.
- [49] Paul, B. (1987). Community Participation in Development Projects. *World Bank Discussion Paper No. 6*, World Bank, Washington, D.C., USA.
- [50] Petersen, K. O. (2006). Water for rural communities. How Kenyan rural communities can create their own water supplies with assistance from the water services trust fund Danish international development agency. *English Press Nairobi*, Kenya.
- [51] Pfeffer and Salancik (1978). The dismal science and the endless frontier: How and why economists think about S & T policy: *A guide for further reading*. Available at: <http://ideas.repec.org/p/wpa/wuwpit/0411007.html>.
- [52] Ravena K. M. (2009). An assessment of factors influencing sustainability of foreign aid projects: A survey of Imenti North District Kenya. *Unpublished MA Thesis* University of Nairobi.
- [53] Sekaran, U. (2003). *Research methods for business: A skill-building approach*. 4TH ed. New York: John Wiley.
- [54] Tandia T. C. (2006). A ladder of community participation for underdeveloped countries, *Habitat International*, Vol. 20, pp 431–444.
- [55] Toole, N. (2002). Community Participation in water projects, *The American Economic Review*, vol. 86, no. 2, pp. 263–267.
- [56] Twebaze, J. (2010). Community Mobilization in Rural Water Supply and Sanitation Programs: How Effective is it? A case of Wakiso District-Uganda. *Unpublished Thesis - Makerere University*.
- [57] Uma, S., & Rodger, B. (2013). *Research Methods for Business* (6th Edition ed.). Chennai:Printer Trento Srl. *Economics of Education Review*, vol. 30, no. 6, pp. 1118–1122.
- [58] Shove E, Franceys R, Morris J (2010) Behavioural change and water efficiency. ESRC (Economic and Social Research Council) Seminar Series - Mapping the Public Landscape, United Kingdom.
- [59] UNDP (2012). *The Millennium Development Goals Report*. United Nations Development Programme, New York, USA
- [60] Van, S.C. (2008). Gender in water resources management, water supply and sanitation: Roles and realities revisited. *International Research Centre for Water and Sanitation*. Delft, the Netherlands. *Personnel Psychology*, vol. 61, no. 3, pp. 467–501.
- [61] WHO/UNICEF (2010). Progress in Drinking Water and Sanitation: *Special Focus on Sanitation*. Available on: http://www.who.int/water_sanitation_health/monitoring/jmp2008/en/. Accessed on 16.07.2015.
- [62] World Bank, (2010). Project Appraisal Document on a Proposed Credit to the Republic of Ghana for a Sustainable Rural Water & Sanitation Project. May 28, 2010. *The World Bank, Washington, DC*.
- [63] Wright, A. M. (1997). Toward a Strategic Sanitation Approach: Improving the Sustainability of Urban Sanitation in Developing Countries. *UNDP/World Bank Water and Sanitation Program*, Washington D.C., USA.
- [64] Yacoob, M. and J. Walker. (1991). Community Management in Water Supply and Sanitation Project: Costs and Implications. *J. Water SRT-Agua* Vol. 40, no. 4, pp30-34.
- [65] Zheng, S., Zhang, W., Wu, X. and Du, J. (2011). Knowledge-based dynamic capabilities and innovation in networked environments. *Journal of Knowledge Management*, 1035-1051.
- [66] Zikmund, W. G. (2003). *Business research methods* (7th ed.). Mason, OH: Thomson South-Western. *Business Journal*, vol. 61, no. 3, pp. 467–501.