

**CHALLENGES OF COMMERCIALIZATION OF RURAL WATER SERVICE  
PROVISION IN RABUOR SUB- LOCATION, KISUMU COUNTY**

**BY**

**OGODA PATRICK OMONDI**

**A RESEARCH REPORT SUMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN SOCIAL  
DEVELOPMENT AND MANAGEMENT.**

**SCHOOL OF ARTS AND SOCIAL SCIENCES**

**MASENO UNIVERSITY**

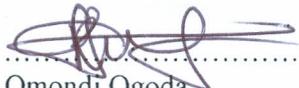
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**FACULTY OF ARTS AND SOCIAL SCIENCES**  
**DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY**  
**MASTER OF ARTS IN SOCIAL DEVELOPMENT AND MANAGEMENT**  
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**PROVISION IN RABUOR SUB-LOCATION, KISUMU COUNTY**

**ABSTRACT**

More than 80% of the world's population in rural areas currently has no access to improved safe water supplies. The Kenya Census of 2009, indicates that, more than 35.4% of Kenyan households depend on point sources (springs, wells, boreholes) while around 63.1% of rural population is relying on untreated (unsafe) water. These high figures occur yet water is recognized in the water Act 2002 and the constitution of Kenya 2010 as a fundamental human right. In an attempt to provide clean water, the government of Kenya, in the water Act 2002 focuses on commercialization and professionalization of water services to Kenyan population. Although in towns the commercialization of water services has picked up, the same is not true in rural areas. For example, in Rabuor Sub-location, a report indicates that for every three water systems established; only one survives. But it is not known why water systems fail. Therefore this study sought to investigate involvement of community members during establishment of the water projects; examine community willingness to pay for and consume quality water and investigate management models employed by the water systems. The study was guided by empowerment theory. The study employed a cross sectional survey design involving qualitative and quantitative data collection methods. Out of the 1521 households in Rabuor Sub-Location, a total of 93 household heads were sampled through systematic random sampling techniques, the researcher conducted 7 key informant interviews, bringing the total sample to 100 respondents. A semi-structured questionnaire was administered to the randomly selected household heads. On the other hand, purposive sampling was used to select key informants interviews. Two key focused group discussion (one with males and another with females) were conducted where in each session there were eight participants. Quantitative data was analyzed using descriptive statistics with the help of statistical package for social scientists (SPSS version 19). The results were presented in the form of frequency tables, charts, averages and percentages. Qualitative data was analyzed thematically and supported by verbatim quotations. It is hoped that the study may be used to inform and enforce the existing commercialization policies as well as contribute towards the realization of Millennium Development Goals that specifically target to halve by 2015 the proportion of the population without quality water and the realization of Vision 2030's goal of water and sanitation for all.

Signed  ..... Date 25, November, 2012 .....

Patrick Omondi Ogoda  
PG/MA/010/2011

Supervisor  
Signed ..... Date .....

Dr Omondi Ahawo  
Department of Sociology and Anthropology

Maseno University



## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of the Study

More than 80% of the world's population that currently has no access to improved water supplies lives in rural areas (Kenya National Bureau of Statistic, 2010). According to the Kenya Census of 2009, more than 35.4% of Kenyan households depend on point sources (springs, wells, boreholes) while around 63.1% of rural population is relying on untreated (unsafe) water. The percentage of the rural population having access to acceptable sanitation facilities is estimated at 50 % (Kenya National Bureau of Statistics, 2010). These high figures occur in spite of the fact that both the water Act 2002 and the constitution of Kenya 2010 recognize water as a fundamental human right (GoK, 2002; GoK, 2010).

The Water Act of 2002 and the Constitution of Kenya 2010 both focus on commercialization and professionalization of water services to Kenyan population (GoK, 2002; GoK, 2010). The privatization of this important service first became a major policy tool in the 1980s when the IMF/World Bank imposition of structural adjustment programs (SAPS), which forced governments to free markets and pull out of loss-making state enterprises (GoK, IMF and World Bank, 1996). By the 1990s, however, it had become clear that this strategy was inadequate and the government lacked sufficient resources to match communities' water needs (GoK, 2002). This led to the establishment of Water Act of 2002, which broadly sets out the legal implementation framework for implementing the privatization policy (GoK, 2002).

According to the GoK (2002), the Water Act introduced new water management institutions to govern water and sanitation. The Water Services Regulatory Board (WASREB) to set standards and regulate the sub-sector; the Water Appeal Board (WAB) to adjudicate on disputes; eight Water Services Boards (WSBs) to be responsible for the management of efficient and economical provision of water and sewerage services; Water

Services Providers (WSPs) to act as agents of the Water Services Boards (WSBs) in the actual provision of water and sewerage services; the Water Services Trust Fund (WSTF) to finance pro-poor investments; and the Water Resources Management Authority (WRMA) to manage and protect Kenya's water resources. Catchment Area Advisory Committees (CAAC) support the WRMAs at the regional Level. Water Resource Users Associations (WRUA) (GoK, 2003) were established as a medium for cooperative management of water resources and conflict resolution at sub-catchment level. The Ministry of Water and Irrigation (MWI) is vested with the responsibility for overall sector oversight including policy formulation, coordination and resource mobilization.

Water supply systems that include pumps will have to be repaired, maintained and perhaps even operated by professional equipment supplier/operator. Both the communities as well as the Water Services Boards are unable to perform that task by a lack of manpower (communities), transport (communities and Water Services Boards) or funds (Water Services Boards) (Kenya Water Scan 2011). Therefore need to commercialize rural water service provision.

In the rural areas, water supply and sanitation coverage is more or less stagnant since many years. The water to be supplied should be sufficient to cover both the existing and future population (Water Partnership Program 2011). Currently, focus in Kenya remains squarely on access to water. Although survey and testimonials often show that people claim to value safe water and to understand its health benefits, results from the field contradicts these assertions. In poorer communities, users will opt for cheaper or free untreated alternatives rather than pay for safe, treated water. (Safe Water Network, 2012)

At a professional policy level, WASREB has been able to improve the understanding of the economics of water provision. But this understanding is not found at the consumer level. The recognition that the process to make water safe requires sometimes expensive treatment, which may increase the cost substantially, is not well understood, or else disregarded. (Safe Water Network, 2012) Among low income populations, willingness to

pay for water appears overwhelmingly based on necessity and survival, rather than quality or health considerations.

Naturally, some communities struggle with the management of their water services after they assume its control due to a variety of reasons of which ineffective organizational behavior is one. Community participation is critical and key to ensure ownership and sustainability of the community water projects. (Water Supply & Sanitation Collaborative Council 2012)

## **1.2 Problem Statement**

Today almost a billion people in the world lack access to safe water supply, the majority of which lives in rural areas (Kenya National Bureau of Statistics, 2010). In Kenya 63.1% of the rural population rely on water from unimproved sources. Two main challenges dominate the water supply sector; increasing coverage and assuring sustainability that can only be addressed by the consumers' willingness and ability to pay for water services. It is against this back drop, the government of Kenya through water act 2002, provided for the commercialization and professionalization of rural and urban water service provision.

Water systems sustainability might be challenged obviously by inappropriate technology; poor construction, the unavailability or high cost of spare parts, energy, missing professional support services, thefts or just the drying-up of sources water. Failure rates can't be attributed to technological reasons alone, and is often a result of social and institutional factors, such as community involvement and creation of ownership at an early stage. In Rabuor Sub-Location, one out of three water projects (point sources; water systems) fail few months after commissioning (SANA 2010). Community willingness to pay and involvement in managing the water projects are critical for the sustainability of the water projects within the sub-location. Most of the rural water service providers cannot sustain their operations and maintenance may be due to a number of issues including governance and management, lack of technical, commercial and business acumen and reluctance of rural communities to appreciate and pay for quality drinking water at cost

recovery and sustainable rates. In view of this, the study set to investigate challenges of commercialization of rural water services provision.

### **1.3 Research Question.**

The study sought to answer the following research questions:-

1. How was the community members involved during the establishment of the water projects?
2. How is the level of community member's willingness to pay for and consume quality water?
3. What kind of management models do the water systems/points employ?

### **1.4 General Objectives.**

To investigate challenges of commercialization of rural water services provision in Rabuor sub-location, Kisumu County.

#### **1.4.1 Specific Objectives**

1. To investigate involvement of community members during establishment of the water projects.
2. To examine community willingness to pay for and consume quality water.
3. To investigate management models employed by the water systems and points

### **1.5 Significance of the Study.**

The study may be used to inform and enforce the existing commercialization policies as well as contribute towards the realization of Millennium Development Goals specifically target 7c (to halve by 2015 the proportion of the population without basic sanitation) and the realization of Vision 2030's goal of Water and Sanitation for All.

## **1.6 Scope of the Study.**

The study on challenges of commercialization of water service provision in Rabuor sub-location will be restricted to Rabuor sub-location, Kisumu County. The study will only focus on 93 adult household heads within Rabuor sub-location.

## **1.7 Theoretical Framework**

This study was guided by empowerment theory as espoused by Dr Donaldson, (1974) Empowerment is the process which enables individuals/groups to fully access personal/collective power, authority and influence, and to employ that strength when engaging with other people, institutions or society. Other authors take a slightly more narrowed approach, taking into consideration the institutional, social or political structures rules and norms within which the actors make and pursue their choices.

In "Empowerment in Practice from Analysis to Implementation" by Alsop, Bertelsen and Holland (1976), they define empowerment as the process of enhancing an individual's capacity to make choices and then transforming those choices into the sought after outcome. Similarly, in an article written in 2002 entitled "Empowerment and Poverty Reduction" by Narayan, the definition of empowerment is seen as increasing poor people's freedom of choice and action to shape their own lives.

In other words, "Empowerment is not just giving people power, people already have plenty of power, in the wealth of their knowledge and motivation, to do their jobs magnificently. Empowerment is defined as letting this power out." It encourages people to gain the skills and knowledge that will allow them to overcome obstacles in life or work environment and ultimately, help them develop within themselves or in the society. He says that empowerment theory explicitly focuses on the structural barriers that prevent people from accessing resources necessary for health and well-being, including the unequal distribution of power.

In relation to this study, this theory was relevant to determine the extent of empowerment advanced to the community as a whole. The communities in general require capacity building in ownership, payment for and consumption of quality water. On the other hand,

the water management committee needs technical assistance and financial empowerment from the government, donors and the local communities to ensure the sustainability of the water projects.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Water Sector Reforms

Kenya gained independence in 1963 (Wambua, 2004). At the time, existing water supply systems were largely sufficient in meeting the needs of the country's population. However, as the population grew, demand began to outstrip supply. The Ministry of Water Development was thus formed to develop and oversee the country's water resources. The government emphasized a policy of implementing water projects on self-help basis in which local communities took control (Wambua, 2004).

Economic reforms initiated at the behest of the World Bank and IMF since the late eighties have laid greater emphasis on government divestiture from service delivery in many sectors based on a greater recognition of the role of the private sector (Wambua, 2004).

By the 1990s, however, it emerged that this strategy was inadequate and the government lacked sufficient resources to match communities' water needs. It was against this background that need arose to revise the national water policy. This culminated in the National Policy on Water Resources Management and Development Sessional Paper No. 1 of 1999, which was first drafted in 1992. Other policy blueprints include the Water Act 2002, the Country Strategy on Water and Sanitation Services and Country Strategy on Integrated Water Resources Management. Water is one of the strategic sectors that have been targeted for reform as part of this wider divestiture by government from service delivery in the public sector. The policy framework paper on privatization published in 1992 and subsequently updated in 1994 and 1996 by far represents the clearest determination by government to privatize the water sub-sector alongside other sectors such as telecommunications. Since then, other policy and legislative frameworks principally, the Water Act 2002, have been developed to strengthen and clarify the government's views on infusing efficiency in the water sector (Wambua, 2004).

The Water Act 2002 is the main legislation that regulates the water sector in Kenya, this therefore means that all policies, regulations and by-laws, directives and administrative actions from the ministry, strategic plans and all activities by water sector institutions must be done in accordance with and be consistent with the provisions and content of the Water Act 2002. The Water Act which came into force in 2003 was passed with various objectives: The Act was meant to clearly differentiate the roles of various actors in water sector i.e. the government, local government, the private sector and the public into two main areas, water resources management and water services and supply. The Act also had the intention of entrenching public participation and involvement in water services and water resources management. The Act also intended to clearly define water rights and legislate ways in which water resources can be utilized. The Water Act introduced new water management institutions to govern water and sanitation. The Water Services Regulatory Board (WASREB) to set standards and regulate the sub-sector; the Water Appeal Board (WAB) to adjudicate on disputes; eight Water Services Boards (WSBs) to be responsible for the management of efficient and economical provision of water and sewerage services; Water Services Providers (WSPs) to act as agents of the Water Services Boards (WSBs) in the actual provision of water and sewerage services; the Water Services Trust Fund (WSTF) to finance pro-poor investments; and the Water Resources Management Authority (WRMA) to manage and protect Kenya's water resources.

Catchment Area Advisory Committees (CAAC) support the WRMAs at the regional Level. Water Resource Users Associations (WRUA) was established as a medium for cooperative management of water resources and conflict resolution at sub-catchment level. The Ministry of Water and Irrigation (MWI) is vested with the responsibility for overall sector oversight including policy formulation, coordination and resource mobilization (GoK, 2002).

The Water Act of 2002 provides the overall policy framework for the on-going water sector reforms in Kenya. The reforms aim to improve commercial viability of water service delivery, where community and private sector can participate and deliver services by signing a Service Provision Agreement (SPA) with Water Services Boards (WSBs) under

the framework developed by Water Services Regulatory Board (WASREB). The SPAs define the business model of the service providers and the terms of transaction between them and water users. The WSBs have the full responsibility for water services provision in their areas of operation. New institutions with separated functions have been established and decision-making is decentralized. (Tiwari and Abdi, 2011)

## **2.2. Community Involvement/Participation**

Community participation is one of the most essential principles in development. What is meant by this term is that the people have a say in the conception of projects and accept it as their own effort (Evans, 1992). One of the central principles behind the concept of sustainable development is that of participation, the involvement of people in decisions concerning the environment where they live. The concept partly reflects the observation that people who inhabit an environment over time are often the ones most able to make decisions about its sustainable use (Evans, 1992).

Involvement or community participation has become one of the important conditions and is essential for the implementation of programmes and projects and also fundamental condition to attract projects and programmes (Evans, 1992). 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 (Evans, 1992).

Lack of community involvement causes 50% of water projects to fail, hence those who lack access to water are not homogenously poor group (Water and sanitation program, 2000). Nearly 66% of people who lack safe drinking water live on less than \$2 a day, while 33% on less than a \$ a day (Water and sanitation program, 2000)

The importance of an initial contribution to capital costs by the community remains open to debate. Indeed, some studies have shown that a higher demand for a water supply service as expressed through initial payments in cash and/or kind is actually negatively related to sustaining the service. This may be because a small percentage contribution leads to high cost solutions which are expensive to sustain. The ability of a community (or its sponsors)

to make an initial contribution to project inputs does not necessarily reflect an ability, or willingness, to pay for service delivery costs over time. There is also the danger that once communities have “paid” for their facility they consider that they have already fulfilled their responsibility (Harvey, 2007).

Despite growing acceptance that full cost recovery from rural water users is an unrealistic goal, there is no doubt that community financing of operation and maintenance remains a crucial issue in the quest for sustainable rural water services. The assumption that poor people have no resources at all inevitably leads to unsustainable subsidies and is usually inaccurate since many people are already paying a high price for sub-standard services (Evans, 1992). Indeed, the poorest people in developing countries pay more on average per litre of water than their better off compatriots (Webb & Iskandarani, 2001).

Most communities do have resources and hence the ability to pay (at least something) for service delivery; however, the way in which those resources are managed will influence the ability of communities to access resources when needed, and the value assigned to a water service will affect the willingness to pay for services.

### **2.3. Willingness to Pay for and Consume Quality Water**

There are concerns about sustaining existing services (maintenance and expansion). Indicators for maintenance include the presence of regular functionality surveys, the first of which was conducted in 2009, finding only 58% of rural water sources to be functional. Willingness to pay studies are rarely used to establish cost recovery plans despite indications that people in rural areas can spend 15% of their monthly income on water (WSP, 2007)

The Kenyan market remains mainly focused on access to water, with drinking water safety a secondary concern. Although surveys and testimonials often show that people claim to value safe water and to understand its health benefits, mostly results from the field contradicts this assertions (Safe Water Network, 2011)

In poorer communities, users will opt for cheap or free untreated alternatives rather than pay for safe, treated water. It will be realized that at professional policy level, water services regulatory board has been able to improve the understanding of the economics of water provision. But this understanding is not found at the consumer level. The recognition that the process to make water safe requires sometimes expensive treatment, which may increase the cost substantially, is not well understood, or else disregarded (Safe Water Network, 2012)

Among low income populations, willingness to pay for water appears overwhelmingly based on necessity and survival, rather than quality or health considerations.

A study of the Water and sanitation for Urban Poor (WSUP) karagita scheme near Naivasha by safe water networks, noted that this scheme delivers both untreated and treated water at prices lower than residents had previously paid for untreated, less convenient water. Even at the lower prices, residents opted overwhelmingly to consume the cheaper untreated water for drinking purposes. A prior estimate by sponsors of water and sanitation for the urban poor show that 20% of the water sold would be treated and 80% untreated. Instead 94% of the water sold was untreated, even though the treated price was lower than the previous price for untreated water (Safe Water Network, 2012)

People need to be convinced of the concept of paying for water through appropriate community sensitization. Transparent and efficient financial management systems need to be developed. Willingness to pay among communities needs to be sustained through ongoing institutional support and promotion of income generation (Harvey, 2007)

Incremental strategies to phase out unsustainable subsidies, and/or develop mechanisms for sustainable cross-subsidy, need to be developed. Costing Operations and Maintenance is the first step to ensure that communities are aware of ongoing costs and the financial commitment required sustaining their water systems. This allows them to select the most appropriate technology and system for them. Whatever financing system is to be used, it is

essential that users are aware of typical costs from the outset and that those responsible for management are assisted in setting realistic and adequate water tariffs (Harvey, 2007)

Convincing people to pay for water is often not easy in communities, especially where there is a history of receiving services for free. Past activities may have reinforced the perception of poverty and dependency among communities, which retard efforts to encourage them to pay. Political interference can also be a significant barrier to sustainable community financing since politicians commonly make promises of free services to communities for political gain (Komives & Stalker Prokopy, 2000). Changing attitudes can be difficult in such situations and requires considerable time and skills.

Accountability and transparency can go a long way to convince community members to contribute to Operations and Maintenance costs (Tayong & Poubom, 2002). It is important that users can see where their money is going and how it is being used, if they are to be convinced to contribute and to continue contributing. This is why it is sometimes easier to raise funds for the installation of a new facility than for its maintenance.

Users may be unclear about why they should pay and what their money is being used for. If the principle of paying for water can be instilled, however, this dilemma disappears (Harvey, 2007)

Community financing strategies need to include appropriate mechanisms for revenue collection and storage and investment of revenue, as well as measures to sustain willingness to pay within the community (Harvey, 2007).

Perhaps the most effective mechanism that can be used to sustain willingness to pay is appropriate institutional support for communities. Where communities are regularly visited by an overseeing institution to monitor systems this reaffirms the need to contribute to the cost of O&M. The institution can advise communities on how to make best use of unspent funds through investment, can regulate water committees to ensure transparency, and can help to rectify any causes of dissatisfaction with a particular water system. Quarterly monitoring visits provide an ideal mechanism to identify problems early and find sustainable solutions (Harvey, 2007).

The second measure that can assist greatly in sustaining willingness to pay relies on a major mind shift among community members. If water supply users understand that they must pay for water, rather than to maintain a system, many of the obstacles to sustained community financing disappear. Such a mindset needs to be established early on in the community consultation process and, where there are existing facilities installed under different programmes, this is likely to be difficult to achieve. New programmes, however, have the opportunity to develop awareness and place the emphasis on “water” rather than the “facility”. If users accept from the outset that they have to pay for water from an improved water supply and that this will always be the case, financing is more likely to be sustained, providing that the service supplied meets the standard demanded by the users (Harvey, 2007)

#### **2.4. Management Models Employed by Commercial Water Service Institutions**

Different management models for rural water supply in Western Kenya are found (LVSWSB and LVNWSB, 2011 and SNV, 2011).

##### **2.4.1. Community Management**

In developing countries, the community management model is clearly the dominant one, and will probably remain dominant in the coming years. Even if the terminology varies strongly from one country to another, the main features of this model remain the same: a group of users is established at the level of a village or small town, usually through an election process, and this “water committee” manages all aspects of the water service – not only operation and maintenance, but in many cases also the improvement of the service: providing house connections, extending networks (Helvetas, 2009)

This is the most common type of rural water supply management in Western Kenya and also in general in Sub-Saharan Africa (LVSWSB, 2011). In this case an NGO or the Government of Kenya might have implemented the water supply and handed over the management to the local community. The community is fully responsible for all aspects of

the water supply including the O&M and financial management. In most situations a small committee bears this responsibility (Alida, 2012)

#### **2.4.2. Combined Community and Government Management**

This management model is comparable to the previous one, but in this situation the government still has a part of the responsibility. At some locations the water supplies are recently implemented and the government is still in the process of handing it over to the local community. At other locations the community is not found to be able to bear the responsibility and therefore the government did not completely hand over the water supply (LVNWSB). Their technicians are still checking the pumps and conducting the repairs, although the community might pay for the spare parts (Alida, 2012)

#### **2.4.3. Government Management**

Within this situation the whole management of the water supply is in the hands of the government, mostly executed by the local District Water Office. The existence of this management model is not according to the current Kenyan Water Act. This law states that water supplies should be handed over to communities or to private Water Service Providers. The reason that this type of management still exists, is that at some locations the government is not able to find people who are willing to take over the responsibility from them (Alida, 2012)

#### **2.4.4. Municipal Management**

In this case, the water (or sanitation) services are managed directly or indirectly by a municipality, commune or district council. This is the case in many countries. In both developed and developing countries this is probably the dominant model for rural areas. However, in developing countries, and especially in rural areas, there are rather few cases of successful management of RWS services by the municipality. The drawbacks of municipal management have been discussed and documented elsewhere (Helvetas, 2009). The three main disadvantages relate to: (i) the difficulty of retaining good professionals in the municipal departments; (ii) the difficulty of ring-fencing the revenue from water in a

context where communes struggle with insufficient budgets; (iii) the difficulty of creating incentives for the municipality to expand services and finance new facilities, when the municipal or district investment budget is already under considerable stress. Examples of municipal management models can be found in Colombia and other Latin American countries, among others (Helvetas, 2009).

#### **2.4.5. Private Management**

In this case a private person has his own water supply. In most cases these persons bought the pump themselves and after the installation they started selling water in order to make money out of it (Alida, 2012)

Private investor decides to build and operate a water point or a small piped network to serve a neighborhood that does not have access to any kind of water service. These private investments can occur spontaneously or be encouraged by the government if it does not have the capacity to provide the required water services. Privately- owned management models are driven by competition and therefore often develop in peri-urban contexts, where there is the possibility of offering an alternative to the service provided by the dominant utility. Especially in an urban setting, a key issue is how to regulate the activities of the private investors without putting them out of business (Helvetas, 2009).

## CHAPTER 3

### RESEARCH METHODOLOGY

This section describes the area of study, research design, and target population, sampling techniques and sample size, data collection as well as data analysis methods and presentation.

#### 3.1. Study Design

This study employed a cross-sectional survey research design involving qualitative and quantitative approaches. It is suitable when descriptions of events or opinions rather than manipulation of variables are intended (Oso & Onen, 2009), and when the researcher is interested in variation, data on different variables are to be collected simultaneously and the possibility of examining relationships only between variables (Bryman, 2012). The design combined both qualitative and quantitative data collection methods.

#### 3.2. The Study Area

The study was carried out in Rabuor Sub- Location covering an area of 15 Square Kilometers' and density of 477 (Kenya Population and Housing Census, 2009) in Rabuor Location, Kadibo Division, (GoK, 1997), Kisumu East District of Kisumu County.

Rabuor Sub- Location lies within the Lake Victoria Basin receiving an annual rainfall of 600-1400mm. The main crops grown include millet, maize, sorghum, beans and vegetables while the livestock reared include local breeds of cattle, goats, sheep, and donkeys in small scale. Fishing along the shores of Lake Victoria and small scale businesses are some of the economic activities in the study area.

Rabuor Sub-Location has a total of 3736 females and 3399 males who are majorly Christians spread across the 1521 households according to Kenya Population and Housing Census Report (2009).

### 3.3. Study Population and Unit of Analysis

The target population for this study comprised 93 households in Rabuor Sub Location. The unit of analysis was individual adult heads of the households and residing in the study area.

### 3.4. Sample Size and Sampling Procedures

The sample was derived from Taro Yamane's (1967) formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where n =the sample size, N =the population size and e =precision level.

Therefore 
$$n = \frac{1521}{1 + 1521(0.1)^2} = 93$$

A total number of 93 households were selected and only adult heads of the household were interviewed. These respondents were selected through systematic random sampling technique in which after every 16<sup>th</sup> household a respondent was selected. Purposive sampling method was used on the basis of the belief that the respondents are knowledgeable, willing to talk and representative of the range of views about the variables under study (Chambliss & Schutt, 2010). Here, seven key informants were purposively selected. These include 1 area assistant chief, 2 water officials, 2 water committee members, and 2 church officials, especially 1 from catholic and another from any protestant churches. In total, the study targeted 100 respondents.

### **3.5. Data Collection Methods**

The study collected both qualitative and quantitative data to achieve its objectives.

#### **3.5.1 Primary Data Sources**

##### **3.5.1.1. Semi-Structured Questionnaires**

Questionnaires consisting of a mixture of both open and closed ended questions were administered to 93 respondents to gather quantitative data. The researcher personally administer the questionnaires. The data collected can be checked by other researchers therefore it is highly reliable and results of the questionnaire can easily be quantified (Haralambos and Holborn, 2008). The questionnaire as a data collection instrument was relevant for this study because it enabled standardization of the information acquired thus enabling collection of highly reliable information from every respondent

##### **3.5.1.2. Key Informant Interview**

The researcher conducted 7 Key Informant Interviews in order to triangulate the information gathered through questionnaires. The key informants selected included the Area Assistant Chief, 2 Faith Based Organization leaders, 2 Water Management Committee, 2 Water Project Staff.

##### **3.5.1.3. Focused Group Discussion**

The researcher conducted two Focused Group Discussions during the study; that targeted eight men and women respectively per session lasting for a period of 40 minutes each. The information was recorded using notebooks.

#### **3.5.2. Secondary Data**

This included relevant literature sourced from books, journals and articles. Records at the District Water Offices was also reviewed Library sources and journals from the internet

was used to source information on various studies done on challenges of commercialization of rural water service provision.

### **3.6. Data Analysis and Presentation**

Data entry was done after thorough verification of the interview guides, FGD and KII guides from the field. The quantitative data was entered and subsequently analyzed after cleaning using Descriptive statistics with help of the Statistical Package for Social Sciences (SPSS19) and presented in the form of percentages, frequency tables, pie charts and bar graphs. The qualitative data gathered was analyzed using content analysis method by identifying relevant themes and analytic discussion made in relation to the identified themes.

### **3.7. Ethical Considerations**

The researcher observed ethical issues as far as data collection is concerned. The researcher sought permission from the Graduate School, Maseno University and the Assistant Chief of Rabuor sub location then consent of the respondents as well explain the significance of the study. The respondents were assured of privacy and confidentiality of any information collected from them and that numbers were used for identification instead of names to maintain anonymity. Since the research investigates sensitive, personal social lives, the researcher did not coerce the respondents maintaining the standardized line of interviews for accurate data.

## CHAPTER 4

### FINDINGS AND DISCUSSION

#### 4.1 Findings

This study investigated the challenges of commercialization of rural water services provision in Rabuor Sub-location, Kisumu County. This chapter presents the findings and discussion of the study under thematic sub-section in line with study objectives. Before handling the three objectives of the study gender of the respondent and main economic activities of the respondents was tackled for it adds fertility to the subject matter of the study.

#### 4.2 Socio-demographic characteristics of respondents

Demographic information was collected on gender of the respondent and main economic activities of the respondents. The purpose of demographic information was to portray the nature and characteristics of the respondents and to enable the readers make informed decisions when applying the findings of this study.

##### 4.2.1 Distribution of respondents by gender

Gender of the respondent	Frequency	Percent
Male	63	67.7
Female	30	32.3
Total	93	100.0

Table 4.1: Distribution of respondents by gender

*Source: Field Data (2013)*

The results from table 4.1 above shows that most of the respondents in the study area were male approximately 68% while minority of the respondents were female, approximately 32%. This could be that men are majorly involved in decision making in matters pertaining to any initiative in the community especially initiatives meant to develop the community at large.

#### 4.2.2 Distribution of the respondents by main economic activity

Main economic activity	Frequency	Percent
Farming	46	49.5
Retail shop keeping	23	24.7
Hotel	24	25.8
Total	93	100.0

Table 4.2: Distribution of respondents by main economic activity *Source: Field Data (2013)*

The respondents were asked to indicate their attitudes their main economic activity. They reacted as shown in table 4.2 above. The results shows that most of the respondents in the study area were practising farming, an approximate of 49.5%, about 25.8% were engaged in hotel industry and about 24.7% were involved in retail shop keeping. The results from focus group discussions also supported the above results, during FGDs where an approximate of 100% discussants agreed that majority of the local residents in the study area were involved in farming while minority were involved in retail shop keeping.

#### 4.2.3 Distribution of the respondents by contributions by community members during construction.

##### Contribution by community members during construction

Contribution by community members	Frequency	Percent
Yes	21	22.6
No	72	77.4
Total	93	100.0

Table 4.3: Contributions by community members during construction *Source: Field Data (2013)*

The respondents were asked to indicate their contributions during construction. They reacted as shown in table 4.3 above. Approximately 77.4% of the respondents were not contributing towards construction of borehole while only about 22.6% of the respondents contributed towards construction of water boreholes in the study area. The above results were confirmed by results from FGDs where approximately 100% discussants stated that most of the community members were not contributing towards construction of water boreholes in the study. According to Water and Sanitation Program (2000), lack of community involvement causes 50% of water projects to fail, hence those who lack access to water are not homogenously poor group (Water and sanitation program, 2000).

Involvement or community participation has become one of the important conditions and is essential for the implementation of programmes and projects and also fundamental condition to attract projects and programmes (Evans, 1992). 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 (Evans, 1992).

#### 4.2.4 Consultations by development partners to help make decision on the Location of Borehole

Consultation by development partners	Frequency	Percent
Yes	36	38.7
No	57	61.3
Total	93	100.0

Table 4.4: Distribution of the respondents by development partners to help make decision on the location of borehole *Source: Field Data (2013).*

The respondents were asked to indicate whether development partners consulted them to help make decision on the location of boreholes. They reacted as shown in table 4.4 above.

About 61.3% of the responded stated that they were not consulted while about 38.7% respondents were consulted. Community participation is one of the most essential principles in development. What is meant by this term is that the people have a say in the conception of projects and accept it as their own effort (Evans, 1992). One of the central principles behind the concept of sustainable development is that of participation, the involvement of people in decisions concerning the environment where they live.

#### 4.2.5 Paying for Water

Payment for water	Frequency	Percent
Yes	78	83.9
No	15	16.1
Total	93	100.0

Table 4.5: Paying for Water

*Source: Field Data (2013).*

Table 4.5 above presents the findings from the study area where by respondents were asked whether they pay for water they use. Approximately 83.9% of the respondent said that they pay for water while about 16.1% said that they do not pay for water. These findings were seconded by findings during FGDs where majority of the discussants said that they were paying for water services while minority who were majorly the people born in the study area did not pay for water.

People need to be convinced of the concept of paying for water through appropriate community sensitization. Transparent and efficient financial management systems need to be developed. Willingness to pay among communities needs to be sustained through ongoing institutional support and promotion of income generation (Harvey, 2007)

Willingness to pay studies are rarely used to establish cost recovery plans despite indications that people in rural areas can spend 15% of their monthly income on water (WSP, 2007)

#### 4.2.6 Amount Paid for a 20 litres jerrican

Amount paid for a 20ltr jerrican	Frequency	Percent
KESH 2	73	78.5
KESH 3	20	21.5
Total	93	100.0

Table 4.6: Amount paid for a 20 litres jerrican. *Source: Field Data (2013).*

Results from table 4.6 above shows responses from the respondents who were asked the amount they pay per 20 litres. About 78.5% were paying Ksh. 2 while approximately 21.5% were paying Kshs. 3 for a 20 litres jerrican.

#### 4.2.7 Availability of alternative sources of water

Availability of alternative sources of water	Frequency	Percent
Yes	93	100.0

Table 4.7: Frequency of respondent's responses on availability of alternative sources of water

*Source: Field Data (2013).*

The respondents were asked whether they have other alternative sources of water, approximately all the respondents 100% agreed that they had other alternative sources of water.

#### 4.2.8 Available alternative Source of Water

Available alternative sources of water	Frequency	Percent
Rivers	32	34.4
Shallow wells	36	38.7
Rain water	25	26.9
Total	93	100.0

Table 4.8: Availability of alternative Sources of Water. *Source: Field Data (2013).*

The results in table 4.8 above show respondents' responses on the available sources of water. Shallow wells were the main available alternative source of water as it was supported by approximately 38.7% of respondents, rivers about 34.4%, rain water about 26.9% of the respondents respectively.

In poorer communities, users will opt for cheap or free untreated alternatives rather than pay for safe, treated water. It will be realized that at professional policy level, water services regulatory board has been able to improve the understanding of the economics of water provision. But this understanding is not found at the consumer level. The recognition that the process to make water safe requires sometimes expensive treatment, which may increase the cost substantially, is not well understood, or else disregarded (Safe Water Network, 2012)

#### 4.2.9 Satisfaction with water management

Satisfaction with water management	Frequency	Percent
Yes	19	20.4
No	74	79.6
Total	93	100.0

Table 4.9: Satisfaction with water management *Source: Field Data (2013).*

The community members were asked about satisfaction with water management. Findings shown in table 4.9 above shows that approximately 79.6% of the respondents were not satisfied with water management while only about 20.4% were satisfied with water management in the study area.

#### 4.3.0 Daily water supply

Daily water supply	Frequency	Percent
Yes	48	51.6
No	45	48.4
Total	93	100.0

Table 5.0: Getting water supply daily. *Source: Field Data (2013).*

Majority of respondents in the study area 51.6% agreed that they were getting daily water supply while the about 48.4% of the respondents did not get daily supply of water. The results are as shown in table 5.0 above.

According to the rural water officer Lake Victoria South Water Services Board, consistent daily water supply enhances the consumers' willingness to pay for water. This is also stipulated in the Water Services Regulatory Authority key performance indicators of 24 hours water supply.

#### 4.3.1 Water management committee

Water management committee	Frequency	Percent
Yes	70	75.3
No	23	24.7
Total	93	100.0

Table 5.1: Availability of water management committee *Source: Field Data (2013).*

Results from table 5.1 above shows that most of the respondents (75.3%) confirmed that there was water management committee. This was supported by results from FGDs where the discussants noted that there existed community management and government and community management. Only about 24.7% respondents said that there existed no water management committee. Majority who argued that there was no water management committee dependent on rain water and water from the river as their main source of water.

#### 4.3.2 Executive committee

Executive committee	Frequency	Percent
Yes	83	89.2
No	10	10.8
Total	93	100.0

Table 5.2: Availability of executive committee *Source: Field Data (2013).*

Approximately 89.2% respondents agreed that there existed an executive committee that helped in water management in the study area while about 10.8% of the respondents noted that there was no executive committee that helped in water management in the study area. The results are as shown in table 5.2 above.

#### 4.3.3 Performance reports by the committee

Reporting	Frequency	Percent
Yes	78	83.9
No	15	16.1
Total	93	100.0

Table 5.3: Preparations of performance reports by the executive committee

Source: Field Data (2013).

The respondents were asked whether the executive committee prepared performance reports and the results presented in table 5.4 above where majority 83.9% of the respondents agreed that the executive committee prepared performance reports while about 16.1% of the respondents disputed that the executive committee prepared performance reports.

## CHAPTER 5

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

The purpose of this project was to explore challenges of commercialization of rural water service provision in Rabuor sub-location. The study was based on the theory of empowerment.

The study investigated involvement of community members during establishment of the water projects. It was established that approximately 77.4% of the respondents did not contribute towards the construction of the water projects either in kind or financially. This qualifies why most of the water projects within the communities' set-up hardly operate to their designed full life span. According to Water and Sanitation Program (2000), lack of community involvement causes 50% of water projects to fail, hence those who lack access to water are not homogenously poor group (Water and sanitation program, 2000).

The study further revealed that development partners and the government hardly consult with the community members on where and the type of projects should be situated and needed. 61.3% respondents attested to the fact that they were not consulted and they only saw projects being done within the location. This top down approach has contributed to lack of ownership of very good projects hence abandoned by the community members after millions of shillings are pumped.

The study further examined community willingness to pay for and consume quality water. Its very evident that for any water project or system to break-even and become sustainable, the consumers of water must be willing to pay for water at cost recovery tariff plans. It was revealed from the study that a majority of the respondents at 83.9% actually pay for water they consume, however a section of the community were not committed in paying for water consumed thus raising the non revenue water percentage affecting the operations and sustainability of the water projects.

The study established that a majority paid Kshs. 2 for a 20 liters jerrican of water that is socially responsive for the poor within the communities.

The presence of alternative sources of water threatens both the water projects and the human health at once, people tend to opt for free things and water in this case. Within the Rabuor sub-location there were rivers, streams and rain water as alternative sources that affects the revenue stream of the water projects, this as a result of community members resorting to free water that in the end is not quality.

The study finally investigate management models employed by the water systems and points, it was largely established that water management committees were the only management model practiced in the water projects in Rabuor sub-location. However the respondents registered dissatisfaction at 79.6% with water management committees, citing incompetence, lack of technical skills and prudent management practices.

It was interesting to note that some of the community members were not aware of the existence of the water management and the executive committee, thus lack of community ownership of the water projects.

Though 83.9% of the respondents knew the frequency of water management committee monthly meetings, they did not know the agenda of their meetings as complaints and feedback were not addressed effectively.

## **5.2 Conclusion**

In conclusion the study on challenges of commercialization of rural water service provision in Rabuor sub-location, had three critical questions of the community members involvement during the establishment of the water projects, community member's willingness to pay for and consume quality water and the kind of management model employed by the water systems/points.

It can be concluded that from the study there was negligible community members involvement/participation during the establishment of the water projects. Also to note, the development partners did not consult with the community members on the locations of the water projects thus creating ownership gap leading to disinterest in the projects by the community members.

The study confirmed that the community members were willing to pay for water consumed, though not all of them. This was because of the existence of alternative sources of water

like rivers, streams and rain water that they said are free. This raised the concerns of consumption of quality water which is an issue to be tackled.

The water management committees run the water projects, though the community members are aware of their existence and roles they play in water service provision, they say they lack the requisite skills and expertise for effective and efficient management of water service provision to sustain itself.

### **5.3 Recommendations**

From the study challenges of commercialization of rural water service provision in Rabuor sub-location, Kisumu County, it's evident that a lot of challenges still befall commercialization of rural water projects, hence hindering sustainability of the water projects. Community involvement leading to ownership is still a concern; consumption of water from the alternative water sources that are not improved is a threat to the water project, putting in place a robust management model is critical for the survival of the water projects to complete the full cycle of their designed life span.

Thus the following recommendations will be useful in providing the solutions to commercialization of rural water projects.

- Involvement of the community members in projects from inception, design, implementation and handing over. This will ensure ownership which is critical for the survival of any development project in a community.
- Market the consumption of quality water from tested sources, this will ensure all the community members buy water from the water projects, hence raising revenue that will be used for operations and maintenance.
- The community members to pay for water consumed 100%, this will ensure sustainability of the water project.
- Water management committee to recruit professional management team to run the water projects. This team will inject professionalization in operations and maintenance of the systems that has proved a challenge to the water management committee for quite a long time.

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