FACTORS AFFECTING SUSTAINABILITY OF PUBLIC URBAN WATER POINTS IN UGANDA: A CASE STUDY OF FORT PORTAL MUNICIPALITY, KABAROLE DISTRICT

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DECLARATION

I, Tracy C. Kajumba declare that this report is a result of my own independent investigation. It has not been submitted to this or any other institution for any award. Where it is indebted to the work of others, due acknowledgement has been done.

Signature…….

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APPROVAL

This study was conducted under our supervision and the dissertation has been submitted for examination with our approval as student's Supervisors.

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DEDICATION

This work is dedicated to my dear family; my children Elliott and Elizabeth and My husband Davies N. Kwebiiha who stood by me and gave me support and encouragement throughout my studies. This work is also dedicated to my beloved parents Mr. and Mrs. Angelica and Paul Bitamazire on whose foundation this program stands.

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TABLE OF CONTENTS

DECLARATION ..... **ii**
APPROVAL ..... **iii**
ACKNOWLEDGEMENTS ..... **v**
TABLE OF CONTENTS ..... **vi**
LIST OF TABLES ..... **viii**
LIST OF FIGURES ..... **x**
ABSTRACT ..... **xiii**
CHAPTER ONE: **1**
INTRODUCTION **1**

1.1 Introduction 1
1.2 Background to the study 1
1.3. Statement of the problem 6
1.4. General Objective of the study: 7
1.5. Specific objectives of the study 7
1.6 Research questions 8
1.7. Hypotheses of the study 8
1.10. Justification of the study 10
1.11. Scope of the study 11
1.12. Operational definitions 12

CHAPTER TWO **14**

LITERATURE REVIEW **14**

2.1 Introduction 14
2.2 Theoretical review 14
2.3. Conceptual Review 15
2.3.1 Policy framework and sustainability of urban water points 15
2.3.2 Financial aspects and sustainability of urban water points 24
2.3.3 Technology and sustainability of urban water points 30
2.3.4 Economic status and sustainability of urban water points 33
2.4 Summary of the literature review 35

CHAPTER THREE: **36**

METHODOLOGY **36**

3.1 Introduction 36
3.2 Research Design 36
3.3 Study population 36
3.4 Determination of the sample size 37
3.5. Sampling Techniques and Procedure 38
3.6 Data collection methods 38
3.7. Data collection instruments 39
3.7.1 Interview guide: 40

3.7.2 Questionnaires 40
3.8. Validity and Reliability of the instruments 40
3.8.1 Validity of the instrument 40
Source: Primary Data 41
3.8 .2 Reliability 41
3.9 Data collection procedure 42
3.10. Data analysis: 42
3.10.1 Quantitative data analysis 42
3.10.2 Qualitative data analysis 43

CHAPTER FOUR 45

PRESENTATION, ANALYSISAND INTERPRETATION OF RESULTS 45

4.1 Introduction 45
4.2 Response Rate 45
4.3 Background Characteristics of Respondents 45
4.3.1 Gender of Respondents 45
4.3.2 Age-Group of Respondents 46
4.4 Empirical Findings 47
4.4.1 Policy framework and Sustainability of urban water points 47
4.4.1.1 Correlation results for policy framework and sustainability of water sources 50
4.4.2 Financial aspects on sustainability of urban water points FPMC 51
4.4.2.1 Correlation results for financial aspects and sustainability of water sources 52
4.4.3 Technology and sustainability of urban water points 53
Table 11; Technology aspects and sustainability of urban water points; Source: primary data 54
4.4.3.1 Correlation results of Technology aspects and sustainability of water sources 55
4.4.4 Economic status and sustainability of urban water point 56
4.4.4.1 Correlation of the Results of economic status and sustainability 58
Pearson Correlation Test 58

CHAPTER FIVE 59

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS 59

5.1 Introduction 59
5.2 Summary of the findings 59
5.2.2 Financial aspects and sustainability of urban water points 59
5.3 Discussion of findings 60
5.3.1 Policy framework and sustainability of urban water points 60
5.4 CONCLUSIONS 65
5.5. RECOMMENDATIONS 67
5.7 Areas recommended for future research 70

REFERENCES 71

Appendix1 :Questionnaire

Appendix 2 :Interview guide

LIST OF TABLES

Table 1: Functionality of water points in FPMC as at Sept.2010……..5

Table 2: Sample size and sample selection…….…….....41

Table 3: Variables…….…….45

Table 4:Sex of Respondents ……. ……..……..49

Table 5:Age Group of Respondents …….....50

Table 6:Highest Level of Education of Respondents……...…….51

Table 7: Occupation of the respondents……...…….52

Table 8:Gaps in the existing Policy Frame Work 53

Table 9:Gaps in the existing Financial Frame Work

……..…..…..…….55

Table 10:Gaps in the existing Technical Frame Work ……...57

Table11: Economic status of the

respondents…….58

Table 12:Correlations (Zero – order matrix) N =

105…….……60

List of Figures

Figure 1; Schematic diagram showing the relationship between policy framework, financial aspects, technical aspects and sustainability.....8

Figure 2 ; Gender of the Respondents ……52

LIST OF ABBREVIATIONS AND ACRONYMS

ACCU	Anti Corruption Coalition Uganda
ADBG	Africa Development Bank Group
AFDB	African Development Bank
CV	Critical Value
DDSP	District Development Support Program
DFID	Directorate for International Development
DWD	Directorate of Water Development
FPMC	Fort Portal Municipal Council
GoU	Government of Uganda
LC	Local Council
LG	Local Government
LGDP	Local Government Development Program
M&E	Monitoring and Evaluation
MDG's	Millennium Development Goals
MoLG	Ministry of Local Government
MWE	Minister of Water and Environment
NDP	National Development Plan
NGO	Non Government Organisation
NWSC	National Water and Sewerage Cooperation
O & M	Operation and Maintenance
PDC	Parish Development Committee
PSP	Public Stand Pipe
SNV	The Netherlands Development Organisation

SWAP	Sector Wide Approach
UBOS	Uganda Bureau of Statistics
UN	United Nations
UNICEF	United Nations International Children's Education Fund
WHO	World Health Organisation
WSCs	Water and Sanitation Committees
WUAs	Water User Associations
WUG	Water User Group

ABSTRACT

This study set out to examine the factors affecting sustainability of urban public water points in Uganda with a case study of Fort Portal Municipal Council, Kabarole district. Objectives of the study were to examine the effect of: policy framework; financial aspects; technology; and the moderating effect of the economic status on sustainability of public water points in Fort Portal Municipal Council, Kabarole District. The study deployed a cross-sectional research design which observed a sample of 105 using interview guides, observation check lists and self-administered questionnaires. Data was analyzed using Pearson's correlation coefficients, which establishes bi-variate relationships in terms of significance and direction of the relationships between study variables, regression, which determines the predictive strength of the independent variables on the dependent variable and finally simple frequencies were used to know the nature of the sample. The findings indicated significant effects of policy frame work and technical aspects which affect sustainability of urban public water points in Fort Portal Municipal Council (FPMC).The study recommended that the national and institutional frameworks for water governance should be reviewed to strengthen issues of prioritisation, roles of stakeholders and operation and maintenance with clear funding sources. There is also need to strengthen community based monitoring to supplement on government efforts and also involve community members in the privatization process. Financing for operation and maintenance needs to be availed to urban areas and tariffs reviewed to enable the urban poor access water services.

CHAPTER ONE:

INTRODUCTION

1.1 Introduction

Access to water for life is a basic and fundamental human right. Yet in our increasingly prosperous world, more than 1 billion people are denied the right to clean water and 2.6 billion people lack access to adequate sanitation. Every year, some 1.8 million children die as a result of diarrhoea and other diseases caused by unclean water and poor sanitation. According the Human Development Report (2006), unclean water is the world's second biggest killer of children. This study examined the factors affecting sustainability of public urban water points in Uganda, using a case of Fort Portal Municipality in Kabarole District. This chapter presents the background to the study, problem statement, purpose of the study, objectives of the study, research questions, conceptual framework, scope of the study and finally, the significance of the study

1.2 Background to the study

The water and sanitation sector world over, is increasingly attracting political attention, given its relevance to basic human development needs. The peak of this attention was marked by the launch of the UN Decade for Water and Sanitation of the 1990s, and of the UN Decade of Water for Life (2005-2015). The significance of the sector was further illustrated by its inclusion in the Millennium Development Goals (MDGs), and water development is apparently provided under goal 6 of Sustainable development goals which have replaced the MDGs with the aim of ensuring availability and sustainable management of water and sanitation for all and under target6.1 , with the aim of achieving universal and equitable access to safe and affordable drinking water for all by 2030.

Water Supply and Sanitation, managed by World Health Organisation (WHO) and United Nations International Children and Education Fund (UNICEF), was the United Nations mechanism for monitoring Millennium Development Goal 7, target 10, which is to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. Achieving this MDG

target was critical for sustainable development and the eradication of poverty and hunger.The WHO and UNICEF report on the progress on drinking water and sanitation update of 2014 found out that although the world met the MDG drinking water target, 748 million people, mostly the poor and marginalized; still lack access to an improved drinking water source. Of these, almost a quarter (173 million) relies on untreated surface water.

Water governance has been described as the range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services, at different levels of society. Good governance mainly depends on the quality of leadership, the strength of the institutions and how efficiently, effectively, sustainably, and transparently the resources are managed by sector institutions and main stakeholders. On the African continent however, rigorous technical, financial, economic and institutional assessments undertaken in support of projects have not guaranteed sustainability of project outputs and outcomes (AFDB, 2008).

Providing safe drinking water and basic sanitation to citizens is one of the major challenges facing African governments. The question of access to safe drinking water and improved sanitation is well articulated and prioritized in the various national continental, and international policy documents, strategy papers, declarations, and conventions. Yet it is not clear if sustainable access to safe drinking water and basic sanitation has been given the requisite financial and other support by the Sub-Saharan Africa policy makers and donors (ADBG, 2011). Many cities experience performance problems in the provision of water supplies and sewerage services. Water utilities are often poorly managed, operated with tariffs well below cost-recovery levels and have no means with which to plan for the capital investments needed to address current and future customer demands. In sub-Saharan Africa, many poor urban dwellers have to pay very high water prices to informal water vendors or do without water. Not having sufficient and safe water means constant weakness and pain through recurrent diarrhea and other debilitating or fatal water related diseases. It leads to loss of time, educational and

employment opportunities. Low incomes and limited access to water also means choosing between paying for water, food, school fees or medicines (UNESCO, 2015)

Clean and safe water is considered to be a vehicle for social and economic development, hence poverty reduction. Water is considered as a social as well as an economic good (Water Policy, 1999). However, the Uganda Water and Environment Sector Performance Report(2011), quoting the Uganda Bureau of Statistics (UBOS) Statistical Abstract (2011), defines the term Urban as all gazetted cities, Municipalities and Town Councils. It states that the urban population in Uganda has increased rapidly, more than six fold since 1980, representing an annual urban population growth of 4.8%. This increase has mostly been attributed to the creation of new urban administrative units, in addition to other demographic factors such as fertility and migration. The provisional results of the Uganda national population and housing census (NPHC, 2014) indicate that there are 197 urban centers up from 75 in 2002, with a population increase from 2,921,981 to 6,426,013 persons. The increasing trend of population growth in urban areas will continue to exert pressure on services and considerable investments in urban infrastructure services are therefore required to improve the coverage of water services at the current rate of urbanisation.

According to the Water and Environment Sector Performance Report (WESPR, 2014), access to improved water supplies in urban areas, based on estimated total population served, in both large and small towns, is 72.8% as at 30th June 2014, up from 70% in the previous year, and 69% in the FY 2011/12. The average functionality is 89%, up from 87% in FY 2012/13. However, the reality in peri-urban areas is different, given the tariffs associated with access to NWSC, water managed by vendors who sometimes over price it. The urban poor still struggle to access clean water due to failed operation and maintenance systems and therefore need cost effective methods and strategies of ensuring they access water as a common good and basic right and need.

The national target for Uganda Government was to achieve 100% safe water coverage and 100% sanitation coverage in urban areas by 2015, with an 80%-90% effective use and functionality of

facilities, and to achieve 77% safe water coverage by 2015, with an 80%-90% effective use and functionality of facilities. However, the Millennium Development goals progress report for Uganda (2015) reports that target 7.C, which was to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation was narrowly missed. It was noted that access to safe water is much higher in urban areas but there has been limited improvement over the MDG period. The most recent national household survey conducted in 2012/13 suggested a reversal, with access in urban areas falling from 90% to 87%. This may in part reflect methodological issues, but water services have also been strained by rapid urban growth. More concentrated settlement patterns should enable more efficient service delivery, but the lack of progress in urban areas reflects weak water network management and poor urban planning more generally.

Access to clean and safe water is a goal reflected in Uganda's Constitution and is also incorporated in the National Development Plan (NDP) as part of the objectives of the social sector. There is however a challenge of lack of capacity to pay for the water services, inadequate institutional capacity including limited skilled human resource to effectively plan and manage the supply of safe water and insufficient funding to meet the high population demands and limited financing options among others (NDP, 2010). Under the revised National Development Plan II (NDP II 2015-2020), Government plans to increase access to safe water in rural and urban areas; the sector targets to Increase urban water supply from 77 percent to 95 percent through construction, operation and maintenance of piped water supply systems in small towns and urban areas country wide, strengthening Operation and Maintenance, asset management and regulation for the urban water systems and improve the enabling environment for private water operators and reform the public utility model. However, without proper policy implementation and strong operation and maintenance frame works, the above might not be attained. The Ministry of Water and Environment (MWE) water and sanitation sector report (MWE,2011) acknowledges that one area where the Sub-sector has been weak is in the regulation of

water and sanitation services. Main issues of concern are the quality of service being provided, the pricing structure, sustainability of services and equity to service access.

According to the Uganda National Population and Housing Census provisional results Report (NPHC 2014), the population of Fort Portal Municipal Council (FPMC) stands at 54,275 persons. Out of the above only 35% is purely urban. The remaining 65% is Peri-Urban. (Physical planner's unpublished report 2012). Keeping up with the population increase is a major challenge for urban areas. Migration from rural to urban areas poses a major challenge for city planners; extending basic drinking water and sanitation services to peri-urban and slum areas to reach the poorest people is of the utmost importance to prevent outbreaks of cholera and other water-related diseases in these often over crowded places(World Water Day Report, 2013).

FPMC as a Local Government (LG) has been responding to the need to supply safe water to the community as demand arose. In 1998 FPMC accessed funds from Ministry of Local Government (MoLG) under the Peri- Urban Infrastructure Project, which later changed into the Local Government Development Programme (LGDP) phase I and II. Part of these funds were used to improve water coverage, thus creating NWSC public standpipes managed by private vendors and the communities and also construction of shallow wells and spring wells in the peri - urban areas. FPMC was driven by the demand to supply water but the sustainability of the projects has remained a challenge. The status of the water sources implemented in the period 1999-2006 is as follows;

Table 1: Functionality of Water Points in FPMC as at September 2012

WATER POINTS	NUMBER CONSTRUCTED	FUNCTIONAL	NON FUNCTIONAL	PERCENTAGE	
				FUNCTIONAL	NON FUNCTIONAL
Stand Pipes	59	27	32	45.8%	**54.2%**
Shallow wells	18	10	08	55.6%	**44.4%**
Spring Wells	08	03	05	37.5%	**62.5%**
TOTAL	**85**	**40**	**45**	**47%**	**52.9%**

Source: FPMC health Assistant's reports 2012

According to Ockelford and Reed (2002) a simple count of the proportion of water points, which are not delivering water, is a direct indication of the Operation and Maintenance status. Ideally the number of functioning points should be close to 100. A figure of around 80% is reasonably good. Figures lower than this indicates that there are problems with the functioning of water points. This means that the lower the percentage, the more serious the problem**.**

The poor communities of Fort Portal Municipal Council peri-urban areas, without access to safe water, where the systems have failed, have resorted to fetching from rivers and streams and traditional hand dug wells due to failure to meet expenses related to metered water provided by NWSC.

1.3. Statement of the problem

Sustainable water systems are expected to provide adequate water quantity and appropriate water quality for a given need, without compromising the future ability to provide this capacity and quality. In developing countries like Uganda however, maintenance of water facilities and activities aimed at sustaining the water supply in a proper working condition still remains a problem. There seems to be some shortcomings in terms of implementing the policy framework, planning and management and adequate technical and financial support in the water sector. Whereas developed countries have invested substantial sums of money in developing countries to improve their water supply services, developing countries are yet to achieve the sustainability of project outputs and outcomes. Indeed,

anecdotal and numeric evidence shows that a number of water supplies are not functional, and every year a proportion of water supplies cease to function and are not repaired. At the same time, governments are asked to continuously report increases in 'coverage' of water services, in order to meet international and national targets.

Despite heavy investment by the ministry of Local Government and Fort Portal Municipal Council, 59.5% of water points are either disconnected and abandoned, or broken down, yet a substantial amount of public funds has been invested to put up the facilities. Attempts by FPMC to solve the functionality problem have not yielded satisfactory results. This study therefore investigated the factors affecting sustainability of public water points in Fort Portal Municipal Council both at community and institutional level, focusing on the policy framework, technical aspects, financial aspects and the economic status of the community and their effect on sustainability.

1.4. General Objective of the study:

The general objective of the study was to analyse the factors affecting sustainability of urban public water points in FPMC, Kabarole District.

1.5. Specific objectives of the study

1. To examine the relationship between policy frame work and sustainability of public water points in FPMC, Kabarole District
2. To assess the relationship between financial aspects and sustainability of public water points in FPMC, Kabarole District
3. To investigate the relationship between technology used and sustainability of public water points in FPMC, Kabarole District
4. To assess the moderating effect of the economic status of the users on sustainability of public water points in FPMC, Kabarole District

1.6 Research questions

1. To what extent do the policy frameworks affect sustainability of water points in FPMC, Kabarole District?
2. To what extent do the financial aspects affect sustainability of public water points in FPMC, Kabarole District?
3. How does the technology used affect sustainability of public urban water points in FPMC, Kabarole District?
4. How does the economic status of the community affect the relationship between selected factors and sustainability of public urban water points in FPMC, Kabarole District?

1.7. Hypotheses of the study

1. There is a significant relationship between policy frameworks and sustainability of urban public water points
2. There is a significant relationship between financial issues and sustainability of urban public water points
3. There is no significant relationship between the technology and sustainability of urban public water points
4. Economic factors significantly affect the relationship between various factors and sustainability of urban public water points

1.8. Conceptual frame work

The study investigated the relationship between selected factors including policy framework, financial issues and technology aspects and sustainability of water points in Uganda, taking a case of Fort Portal Municipal Council. Sustainability was also conceptualized to include functionality, financial sustainability and reliability of urban water points.

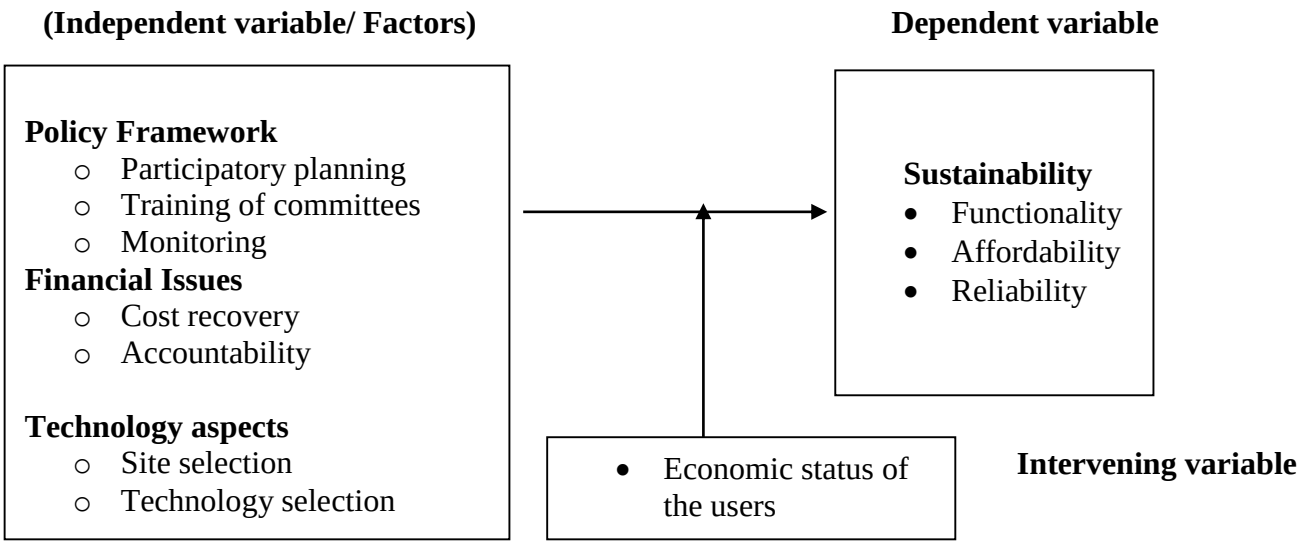

Figure 1: Schematic diagram showing the relationship between policy framework, financial aspects, technical aspects and sustainability adapted from Water Aid (2011)

The study used the conceptual analysis to synthesize the theory of sustainability of water sources. The study has adopted and modified the Water Aid sustainability framework to suit the objectives of the study. The frame work theorizes that without real need and demand there is little or no prospect of changed practices being sustained. It also stresses that there must be evidence of a functioning community-based management system in form of an active water user committee, sanitation committee or equivalent. External support to the community management system is also needed in relation to the various aspects and normally this would come from central government or local government together with private suppliers of goods and services. It also states that the existence of national policies and budget lines which reflect the need for external support, and a regulatory framework surrounding private providers, are essential aspects of the enabling environment. The framework also focuses on community participation which is a significant factor in achieving functioning water systems and in building local capacity. It also states that a technology which fails to fulfill the needs of its users, which is poorly installed or which is difficult to maintain, poses significant challenges for sustainability. The theory is supported by Carter et al,(2011),who argue

that monitoring is essential both for accountability, assuring governments, donors and user communities that services are appropriate, affordable and in compliance with standards. For management it helps to measure performance, based on objectives. When monitoring systems explicitly feedback information on performance to those who have the mandate to do something about it, then performance can improve.

1.9. Significance of the study

The findings of the study will help Fort Portal Municipal Council to identify and recognize problems underlying sustainability of the water points under their control. This could help in designing better systems that are sustainable in relation to relevant policies and working with institutions mandated to provide water services in urban areas.

The national government ministries and agencies, specifically Ministry of water and Environment, Ministry of Local Government (MOLG) and NWSC will benefit from the knowledge as a way of evaluating the water issues in urban areas. This will help them to improve on strategies of having inbuilt sustainability mechanisms which will promote value for money in future projects and also advocate for pro poor policies to ensure that they access clean and affordable water. It also raises the need to review and re-design effective operation and maintenance systems suitable for the urban poor.

The study findings will also be used by other researchers and institutions that can provide improved strategies for the water governance framework especially in urban areas.

1.10. Justification of the study

Sustainability of water sources in operating conditions is a problem facing many municipalities in Uganda and there seems not to be ready made solutions to overcome the problem. The government

of Uganda has put in place good policies for water governance but the problem still persists. This requires investigation to understand the underlying factors, informed by community views, analysis of the context and suggestions on the challenges. Failure to access safe water in municipalities is a problem affecting the urban poor and increasing the cost of living which is already high. Use of unsafe water increases diseases and it is of particular concern to the researcher because urban areas have toxic waste as well as biodegradable waste, and all of which is deposited in open water sources, worsening the problem for the urban poor who use them. There is an assumption that all urban dwellers can afford NWSC tariffs, which is not true. This study aimed at assessing factors that are affecting sustainability of urban water sources with a view of finding management solutions and innovative ways of improving the situation for the urban poor.

1.11. Scope of the study

1.11.1 Geographical Scope

The geographical coverage of the study was Fort Portal Municipal Council. Two peri-urban divisions were studied and one of the divisions was left out because it is the central business District and has a wide coverage of domestic connections and fewer of the public standpipes and other protected sources.

1.11.2 Time Scope

The time scope was 1999 – 2006. This was the time when Government invested a lot of money under the Local Government Development Programme, which has currently changed to Local Government Management and Service Delivery (LGMSD) programme. Many Local Governments including urban areas prioritised water projects, which included NWSC extensions, managed by private

contractors as well as boreholes and spring well in peri-urban areas with limited NWSC connections or where communities could not afford to pay for water.

1.11.3 Content Scope

The study investigated the specific areas under the national policy framework, financial aspects and technology aspects and their relationship with sustainability of urban water points in FPMC in Kabarole District as laid out in the conceptual frame work. International frame works were not studied since this is a Uganda case study. The study also investigated the moderator effect of economic status of community members on the relationship between the selected factors and sustainability of urban water points in FPMC. The term sustainability in the context of this study is used not to refer to the tension between development and the natural environment, but rather to refer to the context of service delivery in the field of water supply and management in Uganda. It has dimensions including functionality, affordability and reliability.

1.12. Operational definitions

Economic status

In this study, economic status means the capacity of a household or individual to pay for water services.

Willingness to pay

Means community contribution towards water project activities aimed at O&M as well as paying for commercial water at public standpipes.

Sustainability

The process of ensuring that water supply and interventions continue to operate satisfactorily and generate benefits over their planned life. (Abrams, 2003)

Accountability

The liability one assumes for ensuring that an obligation to perform a responsibility is fulfilled (Frost,2000).

Efficiency

Efficiency in general describes the extent to which time or effort is well used for the intended task or purpose. In this study therefore, efficiency is looking at the water projects implemented in regard to value for money and if the objectives of the project were achieved, which is improving access to safe water for the urban poor.

Affordable costs

This implies that attempts are made to balance between the social importance of facilitating affordable access to safe water as a common good and maintaining the water sources as a necessity for sustainability.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The study analyzed the factors affecting sustainability of urban public water points in FPMC, Kabarole District. This section presents the review of related literature, which is arranged according to the objectives of the study. Literature was reviewed using themes and sub themes derived from the study objectives as presented below. Reference is made to other studies as well as observations which form the researcher's own analysis of the problem.

2.2 Theoretical review

This study was based on the sustainability model borrowed from the Water Aid sustainability frame work (Water Aid, 2011); and modified to suit the study objectives. Abrams (2003) defines sustainability as a process of ensuring that water supply and interventions continue to operate satisfactorily and generate benefits over their planned life.

According to the true sustainability paradigm, (Muñoz, 2012), the nature of the population is heterogeneous, but equal rights and responsibilities for each group in society is assumed. The development goal should be balancing pro-rich-pro-poor growth. He also argues that the concern with inequality is also formal and it aims at eradicating all inequalities through optimal interactions, and the type of development advocated is inclusive as it is concerned about the impact that the pro-true sustainability good policy may have on all groups in society. This is supported by Koestler et al, (2010) who argue that affordable costs means that attempts are made to balance between the social importance of facilitating affordable access to safe water supplies necessary to maintain health and the economic needs of the poor and ensuring the resources are used efficiently (not wastefully) and that investments are sustainable

In addition, Heidi (2009) in the water resource sustainability frame work, economics and policy as well as society and culture are important in ensuring sustainability. In support of this theory, Komives and Prokopy (2002), state that it is now generally accepted that water is not only an economic good but also a social good. This means that any new strategy must not only be based on pure and economic considerations but should also take into account the need for equity and the basic needs of the poor and vulnerable people, in this case, the urban poor.

2.3. Conceptual Review

In view of the study, related literature considering the policy frameworks, technical and financial aspects and contributions by other scholars in the area of sustainability for urban water sources and factors that affect it was reviewed by the researcher.

2.3.1 Policy framework and sustainability of urban water points

According to Matyama, (2011), Uganda has a robust sector with systems, institutions and policies in place, donor coordination with respect to the sector is good, through monthly meetings to exchange knowledge and foster a common approach to government. The Water and Environment Sector Working Group (WESWG) enables dialogue between the MWE, development partners, nongovernmental organisations (NGOs) and other ministries. Whereas the above is positive for the country, a study conducted by the African Development Bank (2008) found out that policies and legislation sometimes over reach government's capacity to implement and enforce. Policies that are developed without sufficient finance in place for implementation complicate sector governance by adding to the existing collection of unenforceable or unrealistic legislative or policy initiatives. Likewise, the pursuit of targets or objectives set out in policy without sufficient attention being given to the processes and resources needed to attain them also inhibits effective sector governance thus affecting sustainability.

In addition, a study by Plummer and Slaymaker, (2007), demonstrated that there is a direct correlation between the countries most lacking water services and those with the weakest governance. Improving governance in the water sector is therefore not only about government systems and services delivery; it encompasses a much broader range of factors, including engaging civil society, non-state agents and their relationship to government. Sustainable services are not achieved without involvement of other stakeholders and particularly water users in the development of the policies and laws for sector development.

Whereas the above is ideal, policy implementation in Uganda is experiencing challenges as found out in a study by Mugumya (2013), that all sector policy and programme actors are aware of the need to support communities sustain water sources, but they also seem to indicate that 'their hands are tied' as the central government does not release funds in time, nor is there a sufficient budget to cover community based management activities. District Water Officers that are charged with the responsibility for managing water sector budgets are also blamed of either misappropriating or mismanaging the funds to meet their individual preferences. Local politicians also influence allocation of new water sources or rehabilitation of others based on how such actions will benefit their political ambitions.

2.3.1.1 Participatory planning and sustainability of urban water points

The LG Act, Cap. 243 define roles for different levels of Government in provision and management of water and sanitation related activities. It also empowers different levels of Government to plan and implement development interventions according to identified local priorities. The Local Government Act also empowers Local Governments to make ordinances and byelaws even at village Councils, which could be used for management and maintenance of communal water facilities. Alford (1993), a critique of managerialism states that managing in the public sector is a more contingent activity, requiring different approaches and methods in different circumstances. It

involves among others, corporate planning, and grouping of activities by outputs or outcomes, performance monitoring and result oriented remuneration.

Local Governments are involved in supporting the bottom up planning processes but sometimes communities are not involved in decision making regarding the nature of projects to be implemented in their areas or if they are involved they are just rubber stamps and do not make major decisions. This is supported by a study by Mwakila (2008) who found out that communities are involved at the beginning but are not consulted later and reported that Local Government officials were using them as label stamp to get funds. To make it worse, the project cycle is at times not complete, projects not handed over and communities not empowered or sensitised on how to manage them after completion. The issue of joint planning and measuring impact of water services to the communities is therefore of critical importance and needed to be evaluated.

The need for feedback in planning and management of services to promote meaningful participation is also important. Norman, et al (2005) in the evaluation of the District Development Support Programme (DDSP) noted that decentralized planning has been instrumental in promoting a process of participatory planning whereby community requests are progressively screened at higher levels. However, the long delays and lack of government response tend to generate a sense of powerlessness and frustration. There are clear limits to decentralisation, including the decisions necessarily made by technical departments, the capacities of village and parish development committees and, above all, the fact that without financial decentralisation there can be no meaningful delegation of decision making.

Despite the above, Work (2002) argues that community participation and boosting grass root development plays a key role in the sustainability of programmes and quality of life improvement, bringing stakeholders together to define priorities for projects and programmes which increases

interest and sense of ownership, which in turn promotes sustainability. Prokopy and Komives(2001) also found out that a gradual shift in thinking has been taking place in water and sanitation sector over the last decade. Where projects were once primarily supply driven with little thought given to either the consumer's needs or their ability to pay, they are now more demand driven due to an increasing recognition of the economic value of water. A study conducted by Poluha (1993) also found out that when people in the villages can express their needs and priorities, water is one of the first priorities with regard to interventions. The premises for a project to be sustainable is that the intended beneficiaries want the service the project delivers and feel that water is their priority. If not, installations will not be cared for and protected. Whereas the above is largely true, other studies have found out that the level of community participation is less than a partnership, which it is meant to be. In some cases, communities are only expected to inherit and not necessarily own the facilities generated by the various projects (Muhumuza and Toner, 2002).There was need therefore to investigate relationship between the process of prioritisation of projects implemented, the commissioning and handover to the community and how it affects the sustainability of the water sources.

The Oxford community development Journal (2006) presents an argument that there is a strong need to distinguish between 'community participation' which is a prerequisite for sustainability and 'community management' which is not. If community management systems are to be sustainable, they require ongoing support from an overseeing institution to provide encouragement and motivation, monitoring, participatory planning, capacity building, and specialist technical assistance. The capacity of community institutions to manage water points for the public good needed to be investigated, to understand how the management model affects sustainability.

Whereas there is consensus that community participation is ideal despite the short comings, other studies argue that one of the explanations for the low rates of functional water systems can be found in the management approach that dominates water projects in the developing world; that is

community management. Koestler,et al, (2010), notes that the approach was first introduced in the 1980s as a response to the failure of local governments to provide effective services. It quickly became unattractive approach for donors, because it puts the receiving community in focus, is based on cost recovery and aims to make projects self-sustaining. He however notes that the approach has many merits and, if implemented well, it can have positive outcomes. However, the approach normally fails in terms of producing enough funds for long-term operation and maintenance of water supplies. The role of the community in this instance may therefore be minimal in ensuring that the water sources are sustained in working conditions.

Apart from community involvement and management, privatization has also been another method used in managing water sources. This is in line with Uganda's adoption of the International Monetary Fund's structural adjustment reforms, and divestiture programme since the 1980s that involved the privatization of government institutions alongside public service reforms. The restructuring of public enterprises, particularly utilities, aimed at introducing private sector participation and competition to improve the delivery of services. The government has set an objective for the universal provision of safe water by 2015. The strategy for achieving this objective is based on increasing the involvement of the private sector and the local communities in the adoption and management of systems to ensure long-term sustainability (Awepon, 2007).Partnerships have been used between water vendors and LG's in the supply and management of public water. It is important to note that partnerships involve ensuring payment for water services, which includes an incentive for the private sector to manage the water sources, especially the piped water. Wilcox (2003) argues that it is necessary to consider factors for success in partnerships which include respect and trust, good leadership, clear and open process, time, good communication and effective organizational management among others. Despite the above, a good and sustainable partnership has to be well thought out and agreements that are binding put in place to ensure there is no defaulting because sometimes communities are powerless in regard to managing the private water vendors. Whereas the private collector may be focusing on

profit, little attention is given on whether communities are able to pay for the water or not. This scenario at times leads to communities using other free avenues including un protected ground water sources, or vandalizing the water infrastructure if they cannot afford it. There was need therefore, to find out if the prerequisites for successful partnerships were considered at the initial stages and if the communities were involved to ensure that the objectives of access to water for all are achieved sustainably.

It was necessary therefore to examine the role of different institutions and community structures in the planning and management of water sources, especially the roles they have to play, the supporting policies, the skills, mandates and also analyse the challenges that affects management functions, leading to unsustainable management of water points.

2.3.1.2 Training of water source committees

Formation and training of Water and Sanitation Committees (WSC), Water User Groups (WUG), and Water User Associations (WUA) as community level organisations or institutions has been emphasized by Government of Uganda in the water statute (1995) as a way of enhancing community management of water sources. Whereas the above structures are in place, in some instances the WSCs are not selected after completion of water sources and if they are selected they are not properly trained. Studies have found out that even when trainings are done it is a one off event which is not sustainable. A study by Poluha (1993) argues that it is not enough to initiate one-off training schemes or only train a few people. People forget, move, or die and there must be preparedness in the system to allow new individuals to learn and take on where others cannot continue. Whereas the above was found out in rural areas, no mechanism has been put in place especially for urban areas with protected water sources and people keep migrating or changing places. It should also be noted that whereas Districts have budgets from central government for training of WSCs, urban areas are assumed to be under NWSC and therefore have to find local resources to train the committees.

It has also been found that in most cases community management is poor and many water committees are not functional after six months. Committees rarely meet and where a committee is operational, they lack basic information (Brikke, 2004).The World Bank Participatory Source Book (1996) states that involving the poor in decision-making and getting resources to them requires strengthening their ability to act for themselves. This occurs through investment in human capital development like training, education, health and others.

There are other factors that increase functionality of a water source apart from training of water source committees (Mirembe, 2011). Others include committed and active water user committees, good cooperation between users and user committees, the gender factor, positive community attitudes towards making contributions for O&M, Enforcement of by-laws and motivation and encouragement given during field monitoring visits. Despite the above pre-requisites for proper water management, Carter, & Rwamwanja (2006) found out that most water sources showed evidence of neglect and less than half of the committees interviewed had not collected funds for O&M and over a quarter of beneficiaries viewed the water sources as government facilities. In many cases, there had been inadequate preparation before construction of facilities, lack of training and lack of follow up. Most committee members seemed to have little understanding of their function and they were assessed as unsustainable. This therefore required a thorough investigation on the functionality of the WSC in Fort Portal municipality and the relationship with sustainability of the protected water sources.

Functionality of community structures more often than not, require external support and guidance. As argued by other scholars above that communities are not able to manage all the management processes for sustainable results, It is also now accepted among scholars and practitioners that communities are not able to manage their water supplies independently, but that they need a 20 per cent support to their 80 per cent contribution (Koestler et al, 2010). This means that the community

needs support both in terms of continuous training and follow up, and through financial means. This is because a community will only take full ownership of a technology as long as it feels it has the knowledge and capacity to do so. As many developing countries are going through decentralization processes, the most natural entity to take on this responsibility of support is local government. However, in Uganda, financial authority has not yet been transferred to the lower administrative levels, and there is a general lack of capacity and resources in local government structures to support capacity building processes and most of the projects are left for communities to manage which is not sustainable without necessary resources (Ademun,2009).It was imperative therefore to assess other management methods and incentives to ensure that sustainability happens even amidst limited resources.

2.3.1.3 Monitoring

The Monitoring and Evaluation (M&E) system in Uganda is well developed and institutionalized. The basic framework and data to carry out a sector review are in place. A thorough annual review process takes place whereby key actions are agreed. A comprehensive Sector Performance Report is published annually providing information on budgets, expenditure, and outputs, as well as progress against a balanced set of indicators including access to water and sanitation, functionality, equity, value for money, and compliance with permit conditions. Whereas there are various institutions which undertake monitoring and inspection of water supply services including the Ministry of Local Government and Ministry of Finance, Planning and Economic Development, and Auditor General, the findings are not always consistent across institutions. Consistency across these sources needs to improve (AMCOW country status over view report; 2009/2010).

In a study conducted by Kanyesige et al, (2004),it was observed that there was enough staff in the Local Governments to carry out M&E, however they were lacking in specific skills and adequate, predictable funding. In an attempt to analyse the problems with M&E, another study by Norman, et

al (2005) argues that the programme M&E system has not repaid the considerable investments in terms of time and money and is still not fully utilised. Each line ministry has its own reporting requirement and corresponding software system, containing mostly quantitative data. The beneficiary evaluation process is complex and time consuming, budgets are inadequate and incentives are lacking for facilitators. At the national level, performance on sustainability is gauged by looking at the number and proportion of functioning and non-functioning facilities. Similarly in most districts, functionality is monitored alongside the physical condition of individual water source. Communities have been given a lot of responsibilities but have limited capacity to ensure that systems are functioning as required.

According to Kanyesige et al (2004), the follow up system is affected by funding in many LGs. In theory, the follow up system goes on with supporting communities at the beginning and collapses later on. The Community Development Assistant, Health Assistant and Ward Agents are supposed to follow up this O and M support set up. However, this set up is not functioning in a satisfactory way. Lack of funds just for basic transport is one of the causes identified by LGs. This is supported by the Water and Sanitation Sector Performance review report (2005), which found out that Poverty Alleviation Fund monitoring visits are typically limited to one day in each LG, which makes it difficult to make a detailed analysis and draw meaningful conclusions. Where the urban areas did not have specific funds allocated for monitoring, the situation could be worse than already stated.

Lack of enforcement of byelaws as well as mobilization, coupled with ineffective monitoring and reporting are also cited as part of the failures on the part of local Governments (Brikke, 2004).Muhumuza and Toner (2002) argue that more emphasis is now put on new models of financial investment like open and participatory budgeting and planning, efficiency, effectiveness and accountability. There is a belief that urban areas are well covered in terms of access to water, the thinking negates the urban poor who cannot afford water related costs. There is a disparity in access

to safe and clean water across districts and urban areas in the country. Therefore, additional investment and equitable distribution and monitoring of water services across the country is imperative. The Water and Governance institute (2009) argues that the water problem is not only the preserve of people in rural areas, but also affects urban residents. It is not uncommon to find residents of Kampala without water or seeing raw sewage flowing across many streets in Kampala and its suburbs. The reality on the ground needs to be ascertained to establish the number of urban poor without access to clean water and find pro poor solutions for them.

It was important therefore to investigate the monitoring and evaluation aspects including planning and budgeting for M&E, roles of different committees and how this affects sustainable access to safe water.

2.3.2 Financial aspects and sustainability of urban water points

2.3.2.1 Cost recovery

Cost recovery, as advocated by McDonald (2002), is interpreted as a strategy for retrieving, in part or in full, the costs associated with service provision. Cost recovery is not viewed as a means of ensuring economic efficiency by pricing water at its economic price but as a means for ensuring financial sustainability of water service institutions. In the context of sector reforms, policies and strategies regarding cost recovery are based on the premise that water is an economic as well as a social good, and that water services have a price that consumers should pay. Water may be a gift of nature but it is also a commodity. In economic sense, this is a good or service exhibiting scarcity. Alongside the mounting cost of supplying growing populations and servicing the rising proportion of urban dwellers, is the large and growing backlog of services to the poor. The concept of water being an economic good or the principle that full costs of water supply services should be recovered from users' needs proper analysis. It is true that without adequate cost recovery, water supply services will not be sustainable. However, the big challenge is to enable the poor to obtain basic

services at an affordable price, while still achieving the full cost recovery needed for sustainability (Fonseca, 2004).

Koestler, (2011) argues that cost recovery means in practice that the water-users pay for operation and maintenance and sometimes also capital costs through water tariffs or other arrangements. However, full cost recovery in water supply services is extremely hard to achieve. Even utilities that serve large populations and benefit from economies of scale can struggle to recover their costs. Water services have the characteristic that they require high spending on construction and maintenance of large infrastructure, but at the same time water is a social good and governments put in place laws and tariffs in order to ensure basic services for all.

In terms of government funding for water in Uganda, the 2011 Ministry of Water and Environment (MWE) performance report recorded stagnation in levels of water supply coverage, at 66% in urban areas and 65% in rural areas in that year. The 2012 report actually reported a decrease in rural areas, to 64%, mainly as a result of the creation of many new district local governments and a reduction in the budget for water and sanitation in 2012, but an increase to 69% in urban areas. In addition, 'on-budget' funding as a share of government expenditure has declined from 4.9% in 2004/05 to 1.7% in 2011/12. The water and sanitation sector is receiving less funding than other social sectors, with education and health consistently receiving higher budget shares in recent years. This in practical terms implies that the burden of maintaining water facilities will largely fall on the shoulders of the community.

However, between 1999 and 2000 water use studies were undertaken in three urban areas of Uganda, as part of a water surveillance project being implemented through Municipal authorities and the Ministry of Health. The project covered a total of 10 towns, covering the East, Central and Southwest areas of the country and encompassing towns of a variety of sizes and water supply administrations.

It was found out that in all towns with a piped water supply, public taps are available to the low-income population without a house connection. In the towns with NWSC supply, charges at public taps are levied on a per container basis. These charges were high in comparison to the income of the population. In towns with a Municipal water supply, charges at public taps included both per container and flat monthly rates and in general were lower than those in towns served by NWSC. In many towns, but particularly those served by NWSC supplies, private sale by individuals with a household connection was the most common form of piped water available. The cost of this water is high, on average between 3 and 4 times the cost of water from a household connection. With this scenario, sustainability of these water facilities is likely to become difficult and increase the number of dysfunctional water sources, reversing the successes achieved in water coverage.

Critics argue that under cost recovery, citizens' rights are confused with consumer rights, implying that water users can only exercise their rights to access the services if they can afford to pay for the services. Those who cannot afford to pay are therefore excluded. Exclusion has social and economic consequences. Prepaid meters were introduced in Kampala with a hope of improving accessibility to water by the urban poor but however, a study on the efficiency of the system revealed that the implementation of pre-paid water meters was associated with high and unaffordable registration and connection fees. Furthermore, the pre-paid water metering system would frequently break down. These factors left people without water for extended periods. Consequently, low income users were compelled to revert to alternative (traditional) sources of water supply that were often unsafe Xali (2002).

Despite the above findings, cost recovery has been affected by social, economic and political dynamics in society and there are many forces reducing willingness to pay for water and other services. Carter (2001) argues that in many communities, so-called community contributions are either not being sought, not being collected, or are being made by lower levels of local Government

or wealthy individuals. Efforts to create informed community-level demand for services are weak or lacking. Sometimes media and political messages are discouraging communities from participating in capital contributions and recurrent funding, expressing demand, and participating in community-based operation and maintenance. If the community had a realistic understanding of the source options open to them, of the uncertainties inherent in the development of groundwater sources, and of the dynamics of the public-private sector partnership in which they are the key participant, then they could take their centre-stage role in the management of the entire process. This argument is true to an extent given the free rider syndrome in the communities where different civil society organisations give free funds, votes are bought, etc. there has been an increasing trend of community members expecting free services and demanding for rights without fulfilling their responsibilities. The expectations that Government will provide all services also needs to be reduced and communal work revived to ensure sustainability of the services put in place. However, for urban areas, this should not negate the fact that the urban poor may not be able to pay for metered water and may resort to unprotected water sources to the detriment of their health and economic livelihoods.

Cost recovery from very poor households and communities must therefore take into account their ability to pay. This is different from expressed willingness to pay. However it has been noted that willingness to pay is in general low and decreases in time after handing over. Willingness to pay is also influenced by the capacity to pay. The amounts required are usually high and due to low incomes payments are usually not made (Brikke (2004), and Borgoyary (2002). However, it is worth noting that in most of these projects, financial responsibilities are not always clearly spelt out. The community more often than not is not aware of who is responsible for what. Whereas the above may be true in some cases, donor funds usually specify the responsibilities at the planning stage, where indicative planning figures are derived. There is need therefore to establish other factors that affect willingness to pay.

2.3.2.2 Accountability

According to Sirker, (2008), accountability is the obligation of power-holders to account for or take responsibility for their actions. In the case of water utilities these include those holding political, financial or other forms of power like public officials, utilities, Water Service organisations, water service providers, regulators, private employers, water associations, and other structures. Under accountability obligations, they must obey the law, rules and procedures; and not abuse them. They must also serve the public interest in an efficient, effective and fair manner. Managing water resources in a sustainable manner requires that social accountability is fulfilled with a focus on building accountability that relies on civic engagement, where ordinary citizens and/or their organizations participate directly or indirectly in exacting accountability. Social Accountability mechanisms can be initiated and supported by the state, citizens, utilities, regulatory agencies, service providers or a combination, but very often they are demand-driven and operate from the bottom up.

In support to the above analysis, Blanche (2010) argues that Uganda's water crisis is largely a result of deficient governance, including dysfunctional institutions and poor financial management. There is need for commitment by all stakeholders to demand for change. To improve water service delivery, there must be institutionalised use of feedback mechanisms. Water users must be allowed to voice their complaints to water service providers. Regular structured dialogues among stakeholders should be encouraged to foster a sense of mutual trust. The accountability systems can ultimately be useful if they result in better decisions being made by managers and politicians, and if accountability to the end user is improved. Local governments need to be encouraged to publish their performance and give regular feedback to beneficiaries.

Urban areas have been left under the guidance of NWSC, whose methods of recovery are not based on Community based services approach. Stalker and Komives, (2001) argue that when Government

partners with the private sector, financial and technical burdens are delegated. With the involvement of the private sector, the Government role often shifts to a regulatory one, to set or approve tariffs, monitor operations and ensure that political goals, such as a reliable service for the poor is achieved. Whereas the above is true for NWSC areas, even where Local governments are involved, cases of poor accountability persist. According to the Public Expenditure Tracking Survey in the Water Sector done by Anti-Corruption Coalition Uganda (ACCU, 2009), it was found out that corruption and mismanagement of funds in the water sector is a result of personal greed leading to poor contract management, inadequate contract supervision; shoddy works by the contractors, poor community management of water facilities and lack of poor financial accountability. Where communities are not involved in accessing contracting information and monitoring, cases of shoddy work increase and go unnoticed by the beneficiaries. These cases result in poor quality work which compromises sustainability. There is need therefore to engage communities at all stages to ensure that there is accountability for resources used to improve access to water services.

Even at community level, accountability problems stills exist among the committees responsible for maintaining the water sources as well as private tap stand vendors. A study by Brikke (2004) found out that there is a problem of lack of transparency and accountability in the handling of the money at community level, which raises a question of trust. Regular feedback to community members on the financial situation would greatly help to enhance confidence, one of the prerequisites of willingness to pay. Whereas the above recommendation may be ideal, another study by Socio-economic Data Center (2001) found out that the committees responsible for finances did not follow any accounting procedures and did not even keep simple records of accounts. This is due to the fact that they are not trained and do not have the basic skills to keep records and thus accountability to the community by word of mouth is hard to be accepted. Another study by DWD & SNV (2004) revealed that water vendors at times use funds meant to pay NWSC bills on personal effects and end up failing to pay the bills thus water points are disconnected and end up being vandalised. The study recommends that

communities should be empowered to take disciplinary action when their funds are mismanaged or when agreements are not honoured. It was therefore pertinent to find out if the LGs have taken the initiative to train the communities in record keeping and basic feedback mechanisms to ensure proper information flow which would increase accountability and motivate community members to manage their water sources in a sustainable manner.

Accountability is an important aspect of sustainability. Leaders at all levels have an obligation to fulfill their responsibilities and ensure that the rights of the poor are also fulfilled. Civic engagement in the management of water sources should be encouraged so that communities are able to take action on cases of lack of transparency in service delivery. Local Governments need to improve their governance systems, dialogue with the beneficiaries and find solutions together. Communities should also be involved in decision making on issues that concern them. The private sector actors should also be accountable to the water users and ensure that their role is a facilitating one and should be efficient and effective to ensure that even the urban poor are able to access the water services in a sustainable manner.

2.3.3 Technology and sustainability of urban water points

2.3.3.1 Site selection

The Water Statute (1995) provides for systems of water supply, formation of grassroots structures for development management and use of water resources and points. The statute stipulates the involvement of people in selecting suitable facilities according to need, cost and building management capacity to increase sustainability of the facilities. This implies that the community has to be involved from project prioritization up to final implementation. Whereas this is ideal DFID (1998) found out that it is common practice that the communities do not participate during site

selection. Insufficient discussions are held concerning the actual site and technology choice and service level with their technical, managerial and financial implications. It was important therefore to find out if the above issues were considered, or if any remedial action can be taken to ensure sustainability.

Selecting a sustainable site is important and impacts on the quality and quantity of the water source. According to Mugisha and Berg (2009), the issues that should be considered regarding sustainable sites are; sustainable site selection**,** sustainable Site Design**,** water efficiency and water quality. In the bid the promote community participation, sometimes communities select sites that are not suitable for a certain technology. The end result is that the water source may not be able to generate enough water for the community or some will completely dry up during the dry season. A study conducted by Kanyesige Et al, (2004) found out that in procedures of setting up a water source, the entire community is required to participate in discussions involving the siting of water sources and the choice of technology, taking into consideration gender concerns. The user communities are also responsible for preparing an O&M plan of the completed facility, facilitated by the respective local government. Sometimes Local Government staffs guiding community meetings do not have technical experience on site selection for suitable technologies and just go with what communities have selected. This can affect the water quality and quantity if not guided by a technical person and will affect the sustainability of that water source.

2.3.3.2 Technology selection

Proper technology selection contributes to good quality facilities that are better accepted by users and easier to maintain. However due to the usually hurried planning process lacking in bottom up aspects, consultation and discussion on alternative technologies is not adequately done, which contributes to the poor O and M leading to failure to sustain the projects (DWD & SNV 2004; Muhumuza and Toner 2002). Whereas the above could be true, the community may not be technical enough to know the details of the water source type they want. There was need therefore for find out

if technical persons are used to help the communities with their expertise on selecting the technology choice, because it will determine survival of the project.

The selection of water sources type and technology by poor households is also influenced by their ability to use it especially where it involves paying. A community can select to have a spring well when there is no sufficient ground water, and if they are not guided, it will be constructed and dry up in a short time. A study done in three urban areas in Uganda indicated that in all towns, significant numbers of households used multiple sources. An aggregated estimate of the level of use in the largest town, Kampala, showed little difference in the number of households collecting water from piped and non-piped sources. In the other towns, households in Soroti were more likely to use point sources than piped water and in Masaka most households used piped water, with unprotected sources the most common subsidiary source. Differentiation in use by source type was evaluated. In two of the towns no differentiation in use is seen. In Soroti, some differentiation in use is seen as the water from boreholes is widely used for drinking and that from other sources less frequently consumed. Supplemental water purchased from vendors was relatively uncommon in the towns, but two towns showed that many households collect rainwater for domestic use. The study also noted that coverage rates of urban populations enjoying piped water supply at the home or within the home remains low and is usually concentrated in higher-income areas. In low income areas most households must collect water from communal sources. The pattern of water availability in low-income urban areas is often complex with a variety of different sources offering different qualities, reliability, accessibility and cost (Odong &Luyima et' al 2002).

According to Brikke(2004),technology is central to the project and with poor technology selection the other aspects of the project would have been of limited relevance. It is essential to integrate technology with the policy, institutional, socio-economic and management issues. In the context of infrastructure development, neither is meaningful without the other. The current tendency to leave

technology out of the definition of the "system" is unhelpful. There is need to advocate for low cost water supply technology that is appropriate, given the hydrological, geographical and economic context of the area. These include springs, hand dug shallow wells, rain water harvesting and stand pipes. The design capacity of certain water points is sometimes under evaluated, the number of persons served by the water points being superior to normal standards which did not include possible demographic increases.

There was need to find out if the capacity of water sources was considered in relation to the population, if not, alternatives can be looked at, putting in consideration the urban poor, to ensure sustainability of the projects in place.

2.3.4 Economic status and sustainability of urban water points

According to the DFID guidance manual (1998), the concept of water as an economic good has gained currency, but it has to go with a condition of recognizing the basic right of all human beings to have access to clean water and sanitation at an affordable price. Blundell and Murdock (1997) argue that a public good is a good or service, which is available to all. They are paid for by taxes and borrowing and their prices may be expressed in the level of taxation required to finance their production. Public policy emphasizes on defining what counts as public, who provides, who pays, how they pay, and whom they pay. Komives and Prokopy (2002), state that it is now generally accepted that water is not only an economic good but also a social good. This means that any new strategy must not only be based on pure and economic considerations but should also take into account the need for equity and the basic needs of the poor and vulnerable.

There is another debate that water security should be for all, to reduce negative water related impacts on the poor and vulnerable. The concept of water security was highlighted in the Ministerial Declaration of The Hague in March 2000 and is seen as the key to addressing the emerging global

water crisis and improving the role of water management in poverty reduction. Water security is a condition where people and communities have reliable and adequate access to good quality water to meet the full range of their needs, are able to take advantage of the opportunities that water resources present, are protected from water-related hazards and have fair recourse where conflicts over water arise. The concept of water security is based on ensuring that the poor have secure and sustainable access to water resources, which in turn means strong links to the entitlements framework and the governance conditions that dictate this access. The poor are the most vulnerable to water-related hazards: extreme floods, droughts, major storms, landslides, and pollution. This vulnerability can undermine any effort to break the poverty trap and can even cast the not so poor into poverty where the basis of their livelihoods is destroyed by a catastrophic event. Low resilience to these water-related vulnerabilities is a defining characteristic of poverty where these threats exist. This therefore implies that in communities where the economic levels are low, water security may not be achieved unless there are subsidies for the poor to access water.

The economic situation of the community can also affect the operation and maintenance of existing protected water sources. When systems break down or water is disconnected, poor members of the community resort to using other available sources. A study conducted in Bushenyi and Rukungiri townships found out that communities preferred springs and rivers to stand pipes (Social Economic Data Center 2001).Water prices should therefore be set taking into account the special situation of the low income community, the ownership of assets, responsibility for operation and maintenance, the level of service and the willingness and ability to pay. Other factors may also be relevant. The pricing policy requires decisions to be made about cost recovery, cross subsidy within the utility area of operations and future investment. This should all be done with full transparency to maximise community and political commitment to the tariffs applied. High connection fees effectively discriminate against the poor and push them to use un- protected water sources like rivers and

streams. For the urban poor, the open water sources are specifically contaminated and a danger to their health which impacts on their livelihoods as they spend more money on treatment.

All the above arguments point to the fact that access to safe water is important in the livelihoods of the people, thus considering it as a social good. If sustainability is to be achieved however, the economic bit has to come in for different stakeholders to be able to maintain the facilities with reduced external support. Important to note however is the fact that the urban poor are vulnerable if the water prices are high and their vulnerability is increased by low household incomes which affect their capacity to afford water costs and thus affects their health when they do not access clean water. The study therefore intended to investigate if there are considerations for the urban poor and how the economic status of the users affects sustainability of the public water points.

2.4 Summary of the literature review

Literature was reviewed based on the objectives of the study. Although Uganda has basic policies, statutes and guidance manuals on sustainability of water points for both rural and urban water supply systems, literature reviewed indicates gaps in areas of policy implementation, financial planning, monitoring as well as technology aspects of water source planning and management. Participatory planning and management requires that there is an enabling policy environment that supports proper planning and management and communities are able to participate meaningfully in all the stages of the project cycle. The concern for this study was therefore to find out if the factors affecting sustainability are policy oriented, financial oriented, technology oriented or are due to lack of institutional policy management support, especially in the Urban Local Governments, the case of Fort Portal municipality was taken.

CHAPTER THREE:

METHODOLOGY

3.1 Introduction

The study analyzed the factors affecting sustainability of urban public water points in FPMC, Kabarole District This chapter describes the methods and procedures used in the study. Specifically, the chapter is presenting the research design, study population, sample size, sampling techniques and procedures, data collection methods and instruments, and data management and analysis.

3.2 Research Design

The research design was a case study that employed a mix of qualitative and quantitative methods to examine the factors affecting sustainability of water points, a case of Fort Portal Municipality. Sekaran (2003) describes a case study as involving in depth, contextual analyses of similar situations in other organizations, where the nature and definition of the problem happen to be the same as experienced in the current situation. Mugenda and Mugenda (1999) describe a case study as an in-depth investigation of an individual, group, institution or phenomenon. The case study is also viewed as an example of a class of events or a group of individuals. The water sustainability problems are being experienced all over the country, the case on one municipality will give an insight into the issues affecting proper management of water projects in other areas. The selected sample from FPMC and the community represents a cross section of the target population.

3.3 Study population

The study population included FPMC technical staff, politicians, water and sanitation committee members and members of the Parish Development Committees. These were selected due to the roles they play in the management and use of water points. Specifically, they included the political leaders, Town Clerks, Engineers, community development assistants, Health Assistants, Ward Agents, and Secretaries for health and enforcement officers. At community level, members of water, and

sanitation committees were selected out of the 68 committees. There are 08 Parish Development Committees and 02 people were selected from each committee. All Chairpersons L.C.II were interviewed because the number was manageable.

3.4 Determination of the sample size

The study sample size was determined using simple random sampling and purposive sampling methods The same procedure was used for sub groups as seen in Table 2: Below.

Table 2: Sample Size and Sample Selection

CATEGORY	***Population***			***Sample***	***Sampling Technique***
	East	**West**	FPMC		
Political leaders	5	5	5	**04**	Simple random sampling
Health Department	01	01	01	**03**	Purposive
Community Development Department	01	01	01	**03**	Purposive
Engineering Dep't	-	-	02	**02**	Purposive
Finance Department	02	02	05	**03**	Simple random sampling
Management department	06	06	07	**13**	Purposive
Water and sanitation Committee members	68	62	-	**80**	Simple random sampling
Parish Development committee members	08	08	-	**16**	Purposive
Chairpersons L.C.II	01	01	-	**08**	Purposive
	92	**86**	**21**		
Total population	**199**			**132**	

Source: Researchers illustration from Fort Portal Municipality Records (2012)

3.5. Sampling Techniques and Procedure

Non probability Sampling was done at two levels, organizational and individual. Purposive sampling was used to select the heads of departments and sectors. These were selected because they are the ones charged with planning and monitoring of Government programmes. The politicians and Chairpersons L.C.II were also selected using census method because they were charged with overseeing implementation of Government programmes.

Probability based sampling; using simple random sampling was used to determine the sample size at community level involving the water and sanitation committees and parish development committees. This is a method, which involves giving a number to every subject or member of the accessible population placing the numbers in a box and then picking any number at random. This was used because the number of committees and members were too big; the above method would give a probability of any subject to be selected. To select the actual 66, pieces of paper were put in a box, this was then shaken and 66 pieces were picked out randomly. The 66 selected respondents were given questionnaires to respond to. The same procedure was done for the other sub-groups. The response rate was 118 which is 89% response rate.

3.6 Data collection methods

Primary and secondary methods of data collection were used as described below;

3.6.1 Semi structured Interviews

These were used with the water and sanitation committees, the Parish Development Committees and political representatives to understand the perspectives of water management and sustainability based on their personal experiences as leaders and representatives of the wider community. The method was also flexible; it allowed the researcher to have personal interaction with respondents thus giving an opportunity to probe.

3.6.2 Self-administered questionnaires

The researcher also used self-administered questionnaires for the technical staff of Fort Portal Municipal Council because of their education levels and ability to interpret the questions on their own. The questionnaire was a quick method of collecting data (Moser & Kalton 1979; Mbaga, 2002) compared to other methods like focus group discussion, structured and unstructured interviews, or observation that require a lot of time and money. Questionnaires also gave clear and specific responses. In addition, there was evidence that people answer personal and embarrassing questions more willingly and more accurately when not face to face with an interviewer, who often is a complete stranger (Moser & Kalton, 1979).

3.6.3 Observation

The researcher also used the observation method by visiting sampled water points in the two selected Divisions to ascertain and triangulate the information collected through interviews with the respondents.

3.6.4 Document review

Documents were reviewed to establish facts related to the research questions. The documents reviewed include; the five year development plans, the division and municipal budgets, the water vendor agreements and health reports, where the water sector is reported in Municipalities since there is no water office.

3.7. Data collection instruments

During data collection, the instruments used included interview guides and questionnaires. The questionnaires were self-administered while trained research assistants administered interview guides in the field during data collection.

3.7.1 Interview guide:

Semi structured interview guide was used to collect both qualitative and quantitative data and it was researcher administered. The interview guide was selected because interviews provide in depth data, which was not possible to get using a questionnaire. This instrument outlined questions about issues to be explored, guided the interview and made sure that the variables were covered. It also sought to tap supplementary and detailed information on the opinions, beliefs and perceptions on the topic because interviews allowed the researcher to access in-depth information, by probing further, where the respondents did not give satisfactory information. Similarly, responses in questionnaires might have lacked details because they were made without emotional and intellectual support of the interviewer (Halt, 1952 as cited in Mbaga, 2000).

3.7.2 Questionnaires

The choice of questionnaire as the main research instrument was mainly prompted by the fact that the target population was literate, responsible and capable of filling the questionnaires (Moser & Kalton 1979). The instrument had outlined questions about issues to be explored, to guide the respondents and make sure that all relevant issues on policy frameworks, technical and financial aspects and sustainability are well captured.

3.8. Validity and Reliability of the instruments

3.8.1 Validity of the instrument

The content validity index (CVI). According to Amin (2005), the formulae for establishing the CVI is given as below;

$$\frac{\text{No of items declared valid}}{\text{Total No. of items}}$$

During the pretest, the factor analysis, a multivariate technique further confirmed which items were most appropriate for each dimension on Policy Frame-work, Technical aspects and financial aspects and sustainability of urban public water points. It helped to test whether the instrument portrayed the concept as theorized, hence establishing the construct validity. Results from the expert judgment

revealed that on the overall, the Content Validity Index score was 0.812, which is above the recommended score of at least 0.7 (Sekaran, 2003). Results are as illustrated in the table below:

Table 3: Variables

Variable	No of items	No of items declared valid	CVI
Policy framework	13	10	0.769
Financial factors	9	7	0.778
Technology aspects	4	4	1.000
Economic status of community members	6	5	0.833
	32	26	0.812

Source: Primary Data

3.8 .2 Reliability

For quality control, a pre-test of the research instrument to test the reliability on all indicators on Policy Frame-work, Technical aspects and financial aspects and sustainability of urban public water points was carried out. This coefficient tested whether all questions and perceptions about a particular variable, worked together as a set, for internal consistency. That is; do all items in a particular construct tease out the institutional weakness in that specific variable. If the reliability was below 0.7 then the researcher looked out for questions that were ambiguous or where non-response was high and they were improved or deleted. It was done by giving questionnaires to a section of the target respondents that is 20% out-side the selected sample to evaluate if the data is free from error. The responses were coded and analyzed and reliability tests run. The instrument was then improved and data collection commenced. The following were the reliability tests for each variable/construct based on the average of the individual reliability tests of the items in each construct.

Table 3: Variables

Variables	Cron-bachAlpha Coefficient	Number of items
Policy framework	.71	13
Financial Framework	.73	8
Technical Framework	.85	5
Economic status of the community	.77	7

Source: Primary data

3.9 Data collection procedure

Upon successful defense of the study proposal, a recommendation letter was issued by the Uganda Management Institute School of Management Science, which introduced the researcher to the Administration of Fort Portal Municipal Council to allow data collection. On reaching the field, a sample frame was drawn, and then sampling was done accordingly. Sampling was done to determine sample at community level involving water and sanitation committees and parish development committees. Instruments were then administered and data collected. The research assistants were trained for efficiency and proper handling of ethical questions, which were raised.

3.10. Data analysis:

Data management and analysis was done through quantitative and qualitative methods, based on the data collected by the researcher.

3.10.1 Quantitative data analysis

This involved editing of collected data, coding, measurement and tabulation. Coding involved a number of stages. The researcher begun by editing the collected data, the purpose of editing was to check for any errors in the filling of questionnaires; to ensure correctness and consistency in answering questions. Questionnaires with questions that were not fully completed were identified at this stage and respondents traced and requested to complete them. Data was collected using questionnaires and was entered using statistical package for social scientists (SPSS). The relationship between the independent variables, Policy Frame-work, Technical aspects and financial aspects and dependent variable and sustainability of urban public water points was analyzed using Pearson's correlation coefficients (which establishes bi-variate relationships in terms of significance and direction of the relationships between study variables), regression (which determines the predictive strength of the independent variables on the dependent variable). Finally to know the nature of the sample, simple frequencies were used.

Data analysis also involved descriptive statistics (frequency tables and percentages). Bivariate analysis followed in order to establish the relationship between independent factors and the main outcome variable (sustainability of public water points). Bivariate analysis applied chi-square test for categorical variables, and binary logistic regression since the main outcome was to be measured as sustainability or non sustainability of public water points(Y/N). This led to the generation of odds ratios. Odds ratios were used to test the strength of association. In the end, all results were triangulated together and presented as per objective.

3.10.2 Qualitative data analysis

Coding was done involving classifying respondent to each category of question in order to bring out the response patterns. First the researcher read through a sample of filled interview guides and developed a set of themes commonly mentioned by the respondents. The researcher then read through all the collected data pieces, extracting quotable information about individuals' experience with the Policy Frame-work, Technical aspects and financial aspects and sustainability of public water points in Fort Portal municipal council. Data analysis employed content analysis (Kakooza, 1996). Data from interviews and (supportive data from) the questionnaires was analyzed in thematic categories based on the objectives. The responses were summarized into patterns or meaningful categories called themes. Out of the patterns or themes the researcher identified emerging issues or themes on Policy Frame-work, Technical aspects and financial aspects and sustainability of urban public water points. This involved systematic identification of characteristics of the findings (information and data), related to secondary data used to avail quotations, to support positions and provide the necessary authenticity to the research findings for drawing conclusions and inferences with dominant themes of the findings.

3.11 Measurement of Variables

The measurement involved use of ordinal scales and nominal scales based on the data collection instruments. Numbers were used to code nominal or ordered values especially for questions with yes and no options and those with two or multi value options. The variables were presented using frequency or cross tables as well as graphic visualization. The research was interested in the relationship between the variables, so spearman correlation was used especially for ordinal scale.

The variables were measured by operationally defining selected factors that may influence sustainability of urban water infrastructure. The independent variables (IVs) were measured in form of; policy frameworks, financial factors and technology aspects. On the other hand a moderator variable, economic status was also measured to ascertain how it affects the relationship between the selected factors and sustainability of urban water points. The dependent variable (DV), sustainability of urban water points, was measured using the dimensions including functionality, financial sustainability and affordability.

CHAPTER FOUR

PRESENTATION, ANALYSISAND INTERPRETATION OF RESULTS

4.1 Introduction

The study analyzed the factors affecting sustainability of urban public water points in FPMC, Kabarole District The chapter presents, analyzes and interprets the results of the study. Data presentation, analysis and interpretation is done objective by objective. Details of findings are shown later in section 4.3.

4.2 Response Rate

The response rate findings are presented in table 4 below.

Table 4.1: Response rate findings

Instruments	targeted	Actual	Response Rate
Questionnaire	108	84	78%
Interview guide	24	21	87.5%
Total	**132**	**105**	82.75

Source: primary data

From table 4.1 above, out of the 108 scheduled questionnaires only 84 were filled correctly and returned constituting a response rate of 78% and out of 25 interviews planned, 21 were conducted constituting 87.5%. The final (average) response rate for the study was 82.5%.

4.3 Background Characteristics of Respondents

The back ground of the respondents assessed was gender, age grouping, educational levels and occupation of the respondents. The following are the results that were attained;

4.3.1 Gender of Respondents

The study requested the respondents to indicate their gender and the findings are presented in figure 2 below;

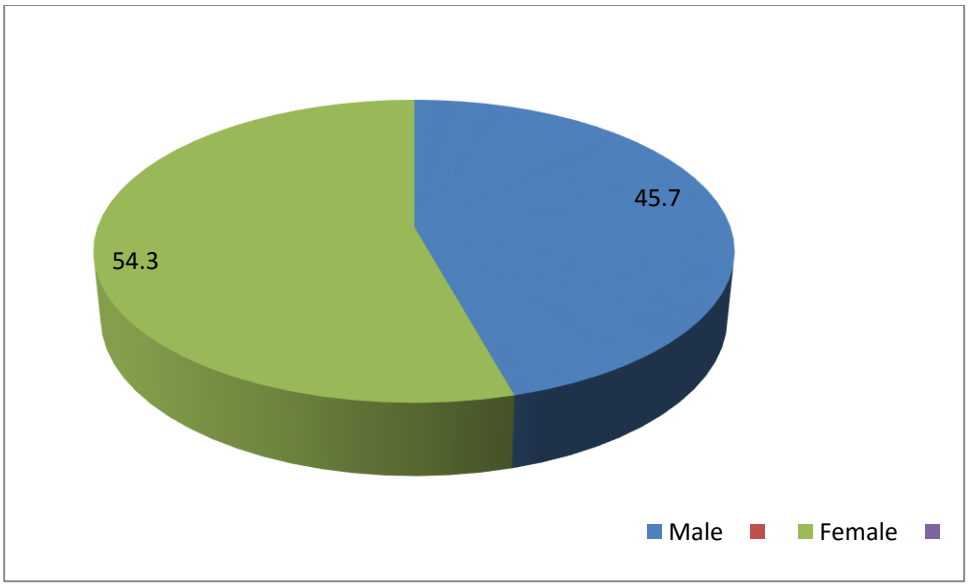

Figure 2: Gender of the Respondents Source; Primary data

From figure 2 above, it can be observed that male respondents in the study were 48 (45.7%) while the female respondents were57 (54.3%) and were the majority respondents. The implication from these findings is that despite the disparity in gender distribution, the study was representative because both male and females were observed

4.3.2 Age-Group of Respondents

The age of the respondents of respondents was analyzed in table five below:

Age-group	**Frequency**	**Percent**
25-30 years	16	15.2
31-35 years	18	17.1
36-40 years	40	38.1
41-45 years	14	13.3
46 and above years	17	16.2
Total	105	100.0

Table 5: Age Group of the Respondents; Source: Primary Data

In the table above, the majority of respondents 40 (38.3%) were in the category of 36-40 years. . These were mature and experienced responds that were expected to understand and appreciate the importance of the study

4.4 Empirical Findings

4.4.1 Policy framework and Sustainability of urban water points

The first objective of the study was to assess the extent to which the policy framework affects sustainability of water points in FPMC, Kabarole District. The responses were as presented in table 7 below;

Table 7: **Policy Framework and sustainability**

Questions about policy frame work	**RESPONSES**	
	YES **f (%)**	**NO** **f (%)**
Availability of Water Source Committees	44 , 41.9	61, 58.1
Functionality of Water Source Committees	52 , 49.5	53, 50.5
Training of Water Source Committees	43, 41	62, 59.0
Training of Water Source Committees on Accounting and Recording Procedures	45, 42.9	60, 57.1
Formal Handover of Water Points	36 , 34.3	69, 65.1
Formulation of Operation and Maintenance plan	00, 00	105, 100
Signing of agreements between the Community and FPMC and Water vendors	44, 41.9	61, 58.1

Source: Primary Data

About a half of respondents 53 (50.5%) disagreed that water source committees are functional and 52 (49,5) reported that they are functional. One of the members of the Parish Development Committee interviewed reported that he does not even know the members of the water and sanitation committees.

"*I used to hear about that committee but they have not been doing anything to help the community or else our water source would be functioning. I do not even know who the members are because the committee was not introduced to us."*

However, in some of the areas, respondents indicated that the water and sanitation committees started off well and were supporting communities to report water related issues to the Divisions but were frustrated by non response by the Local Government. One local leader interviewed said that;

"*The water source committee members tried their best to report the breakdown of the water source, at one time I even endorsed a letter informing the Division that our water source was broken and not functioning. However, the Local government has not done anything to date. This has frustrated the committees and made them redundant."*

In terms of training, 59.0% reported that the water and sanitation committees did not receive any training, nor were they trained in accounting and recording procedures. One of the water source committee members in Rwengoma, west division said:

"*We were nominated at the completion of the project but we were not trained after that. They explained our roles which included reporting, collecting funds to repair the water source and ensuring cleanliness around the water point. Since that time, we have not had a meeting or training of any sort."*

Some members of the water and sanitation committees reported that they did not have avenues of reporting on expenditure. This would usually be done in community meetings but the local council chairpersons no longer call meetings and therefore they had no way of reporting. They also reported that apart from informing parish chiefs about the water problems, they do not have other avenues to engage the municipal officials to solve their issues. This had created a communication gap with each party blaming the other for poor management of the water sources.

Two thirds 61 (58.1% of the respondents also reported that the community and FPMC did not sign agreements with water vendors, while 44 (41.9) reported that the agreements were signed .Sustainability was affected due to largely inactive committees that are not even trained. A review of the FPMC documents revealed that some of the water vendors did not have partnership agreements with the Local government and the community, which affected the efficiency of the water sources especially the tap stands and led to disconnection. From observation, some tap stands had been abandoned for a long time and were vandalised and stood as white elephants with no use to the community. Similarly, in an interview with the community development officer, he noted that;

"*Water source committees do not participate in the process of signing partnership agreements with water vendors. The agreements, where they were signed are between FPMC and the vendor. Indeed sustainability is affected due to largely inactive committees that are not even trained, coupled with water vendors who are not sensitized. It will need financial support to do this, because internally in the division, we cannot raise money for training***."**

A review of one of the budgets of the FPMC's East divisions did not indicate any funds allocated to support community structures including water source committees. The Available funds in the budget

were allocated to capital development projects which were all new and no funds were provided for strengthening the management of the existing projects.

All the respondents (105) reported that operation and maintenance plans were not formulated and this has had implications on sustainability of water points. Only a third of the respondents said that the water projects were formally handed over. They reported that the practice of handing over was done at the beginning when there was a lot of excitement about the project. Later on, the process stopped and contractors would finish the work and community members start fetching water without waiting for handover, which never happened anyway.

4.4.1.1 Correlation results for policy framework and sustainability of water sources

A pearson correlation test was used for the study to measure the relationship (correlation) between policy frame work and sustainability, and establish whether a relationship existed between the two study variables and the findings are presented as below;

	Policy framework
Sustainability	0.208*
Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed)	

Table 8; Correlation results for policy frame work and sustainability

Table 48 above comprises of variables including policy framework and sustainability. Based on the results obtained, r = 0.208* significant at 0.05, it indicates a positive relationship existed between policy frame work and sustainability. This implies that Local Governments need to ensure that there is an enabling environment and financial resources to implement policy frameworks and recommendations for sustainability to be successful.

4.4.1.2 Hypothesis statement one

The first hypothesis statement was**, "**There is a significant relationship between policy frameworks and sustainability of urban public water points in Uganda" The results obtained revealed a positive effect and therefore the null hypothesis (H0) was rejected and the alternate hypothesis (H1) accepted.

4.4.2 Financial aspects on sustainability of urban water points FPMC

The second objective of the study was toinvestigate how the financial aspects affect sustainability of public water points in FPMC, Kabarole District. The responses are as below;

Financial aspects and sustainability

Questions on Financial aspects	**RESPONSES**	
	YES **f (%)**	**NO** **f (%)**
Community Contribution to Water Point Repairs	44 , 41.9	61, 58.1
Community Feedback on Expenditures	03 2.9	102 97.1
Availability of local government budget for operation and maintenance	49, 46.7	56, 53.3
Functionality of Maintenance Budget	45, 42.9	60, 57.1
Bye Laws in regard to operational and maintenance of water projects	3, 2.9	102, 97.1

Table 9: Financial aspects and sustainability. Source: Primary Data

The majority of respondents representing 58.1% disagreed that communities contribute to repairs of water points. Community members interviewed reported that at the beginning, they used to collect some money for repairs, but then only a few households collected and others were not willing to pay. This demoralized the members who were paying and the practice phased out with time. Even more discouraging was the fact that even the collected money was not accounted for, raising a concern that the responsible water source committee members were using the money for their own benefit. Whereas the above is true, other said that they have contributed to an extent, and the LG should also contribute in maintaining the water sources.

When asked if the Local Governments have a budget for operation and maintenance, 53.3% reported that the budget was nonexistent because every time they report, they are told that there is no money. In terms of functionality, 57.1% reported that the operation and maintenance budget is not functional. The health officer interviewed explained that during planning for water source projects, O&M plans are not made nor were responsibilities of different stakeholders clarified. This affected functionality later on because nobody seems to have a solution. The LG does not have money for repairs, and communities also expect support and do nothing about it. Review of the municipal and division development plans and budgets indicated that no funds were budgeted for operation and maintenance of water facilities within the Municipality.

On the issue of byelaws, 71.5 % of the respondents reported that they were not aware of any bye laws passed by FPMC in regard to operational and maintenance of the water projects implemented in their areas. When the researcher interviewed the municipal staff, they also confirmed that there was no byelaw but added that lower local councils can also pass byelaws at village level to manage the water sources. There was no system therefore to ensure that offenders are brought to book to facilitate proper functionality of the water sources.

4.4.2.1 Correlation results for financial aspects and sustainability of water sources

The relationship financial aspects and sustainability was measured to establish whether a relationship existed between the two study variables and the findings are presented as below;

	Financial aspects
Sustainability	0.266**
Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed)	

Table 10; Correlation results for financial aspects and sustainability

Table 9 above comprises of variables which include financial aspects and sustainability. Based on the results obtained, r = 0.2668* significant at 0.01, it indicates a positive relationship existed between policy frame work and sustainability. This implies that Local Governments need to ensure that financial aspects including accountability, and cost recovery are strengthened to support sustainability.

4.4.2.2 Hypothesis statement two

The second hypothesis statement was**, "**there is a significant relationship between financial issues and sustainability of urban public water points in Uganda" .The results obtained revealed a positive effect and therefore the null hypothesis (H0) was rejected and the alternate hypothesis (H1) accepted.

4.4.3 Technology and sustainability of urban water points

The third objective of the study was to assess howtechnology used affect sustainability of public urban water points in FPMC, Kabarole District. The results are presented below;

Questions on technology	**RESPONSES**	
	YES	**NO**

	f	(%)	f	(%)
Technical Guidance on Suitability of selected Sites	36 ,	34.3	69,	65.1
Discussion of Various technologies with Community Before Selection of Sites	22,	21	83,	79
Consideration of Population in in Constructing Water Points	19,	18.1	86,	81.9

Table 11; Technology aspects and sustainability of urban water points; Source: primary data

The majority of respondents (65.1%) said that no technical person guided the community on suitability of the selected sites, and a vast majority, 79% reported that the different technologies were not discussed with the community before they selected the sites. One of the women respondents said that their community requested for a spring well during the planning meetings and it was constructed. Later on it dried because the source dried up due to insufficient water at the source of the spring.

"*We did not get any guidance about this or we would not have asked for it. We thought spring water is good for drinking but we did not anticipate that it will dry up after a few months*."

From observation, it was noted that several water sources had dried up, two shallow wells had smelly and yellowish water which the community had failed to use and some springs had actually dried up due to weak sources. On population considerations, an overwhelming majority (81.9%)of the respondents reported that the population of the community members accessing each water point was not considered while constructing the water sources. The health Officer noted that;

Due to financial constraints and the many demands of the community, it is difficult to ration water according to population. It is better for many to share one water point than giving to a few and leave many more without water" Health Assistant, FPMC, west division.

4.4.3.1 Correlation results of Technology aspects and sustainability of water sources

The relationship of Technology and sustainability was measured to establish whether a relationship existed between the two study variables and the findings are presented as below;

	Technology aspects
Sustainability	0.357**
Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed)	

Table 12; Correlation results for Technology and sustainability

Table 10 above comprises of variables which include Technology aspects and sustainability. Based on the results obtained, r = 0.357** which indicates that a positive relationship existed between technology aspects and sustainability. This implies that Local Governments should take into consideration the technologies selected based on hydro meteorology conditions but also select sites that are suitable for the technologies.

4.4.3.2 Hypothesis for statement three

The third hypothesis statement was**, "t**here is no significant relationship between the technology and sustainability of urban public water points in Uganda" .The results obtained revealed appositive effect contrary to the hypothesis and therefore the alternate hypothesis (H1) was rejected and the null hypothesis (H0) accepted.

4.4.4 Economic status and sustainability of urban water point

The fourth objective was to investigate if the economic status of the community has an effect on sustainability of public urban water points in FPMC, Kabarole District. The findings are presented in table 10 below.

Table 13; Economic Status and sustainability of public water points in FPMC

ITEM	RESPONSES	
	YES f (%)	NO f (%)
Offer of Financial Support for O and M activities	41 , 41.9	64, 58.1
Affordability of Water Prices to the Community	49 , 46.7	56, 53.3
Community Awareness About Dangers of Using Unsafe Water	40, 38.1	65, 61.9
Existence of Community Members Who Use Water From Streams and Rivers	68, 64.8	37, 35.2

From the above table, results indicate that the majority of respondents reported that the economic status of the water users was poor. It was also found out that FPMC does not give financial support for O and M activities (58.1%), and 53.3% reported that they do not get support and yet water prices were not affordable to the community. One of the respondents noted that:

"*For the poor, the problem of using unsafe water is serious. Our leaders can afford piped water, so they are less bothered about our problems. We cannot afford piped water and the protected water points are not functioning. We are now using local open hand dug wells or fetching from river Mpanga which is contaminated with waste from the abattoir, Mpanga market, Mugunu, Kisenyi and other areas. Government should help us and reduce water costs or protect water sources for us."*

On awareness of the dangers of using unsafe water61.9% reported that they were not aware of any problems while64.8 said that community members use water from rivers and streams. From the discussion the old beliefs and traditions where communities used water from un protected sources and never got sick influenced this decision as much as poverty was the main factor. An old woman, when asked about using water from open sources said:

"*I have been using water from open sources and un boiled all my life and I have never fallen sick. The water used to be clean but currently people are increasing in town and do not care the way they use the water sources. The water has now become un safe due to the dirt all over town. We do not have an alternative and we have to use water from mugunu –kisenyi stream"*

In support to the above, the researcher observed that the population of people operating along the river banks is increasing, There are many youth washing cars in the river, the business men working in the abattoir in Kabundaire wash their offals in river Mpanga, cows also drink from the same river and there are many mushrooming garages close to the river bank, and when it rains, all the fuel and oil is washed into the river. The rivers might have been safe some years back but the contamination and pollution is very high to date. However using open rivers was preferred, not because they are the best but communities could not afford water related costs. When the researcher asked the respondents on the preferred water source, one of the female water and sanitation committee members had this to say;

"*Most of us prefer to fetch from river Mpanga, and we use the water for other domestic uses. We only buy one 20 Litrejerry can from the tap stand to work as drinking water"*.

Further probing revealed that the cost of water was high, a 20 litre jerry can costs between 100 – 150, depending on the season and availability of water. This is rather high for the urban poor. Some respondents reported that for a big household, buying water is not sustainable.

4.4.4.1 Correlation of the Results of economic status and sustainability

Pearson Correlation Test

This was used to establish significance of the relationships using Pearson's rank-coefficients and a level of significance of 0.01 as basis for interpretation. It was specifically used to find out the relationships between the economic status and sustainability. Results are as shown in the table below;

Table 14: Corrélations (Zero-Order Matrix): N=105: Source:Primary Data

	Economic status of the community
Sustainability	0.312**

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

*Correlation is significant at the 0.05 level (2-tailed)

Source: Primary data

According to results presented in Table 11, economic status of community is three times more likely to influence the sustainability of water sources , r =(0.312). This implies that policy frameworks, financial aspects and tariffs as wells as technology aspects should take into consideration the ability of the water users to pay. If not done, sustainability will not be achieved.

4.4.4.2 Hypothesis statement Four

The second hypothesis statement was**, "**eeconomic status significantly affect the relationship between various factors and sustainability of urban public water points in Uganda"

.The results obtained revealed a positive effect and therefore the null hypothesis (H0) was rejected and the alternate hypothesis (H1) was accepted.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study assessed factors affecting sustainability of urban water points, using the case of FPMC, Kabarole District. This chapter presents the summary and discussion of findings in relation to study objectives. The chapter also presents conclusions and recommendations.

5.2 Summary of the findings

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5.2.1 Policy frameworks and sustainability of urban water points

Study findings revealed that policy frame work has a strong relationship with sustainability of urban water points. The study found out that FPMC did not budget for recurrent costs nor were they receiving funds from national government to maintain the existing water sources or train the community structures as much as the policies and structures for operation, maintenance and sustainability of water points were in place.

5.2.2 Financial aspects and sustainability of urban water points

Financial aspects were established to have a significant effect on sustainability urban water points. The inadequate accountability levels affected the communities' willingness to pay for water maintenance costs due to a fear that the money will be misused. This affects the choices community members have to make as well as sustainability of existing community water sources.

5.2.3 Technological factors and sustainability of urban water points

Technology aspects showed a positive correlation with sustainability of water points. When the technology used is not appropriate, it leads to drying up or breakage and regular repairs of water sources, yet the municipality has no funds and the community is not collecting operation and maintenance fees.

5.2.4 Economic factors and sustainability of urban water points

The study found out that the water prices on tap stands are high for the urban poor, most of whom do unskilled labour and have to pay for all other utilities in an urban setting. Most have resorted to using un protected water sources including rivers, streams and open wells. Some reported that they buy a little for drinking purposes and for general domestic use, they fetch from other sources

5.3 Discussion of findings

The discussion of findings below is done according to study objectives

5.3.1 Policy framework and sustainability of urban water points

Whereas the study found out that Fort Portal Municipality conducted planning meetings in line with the LG Act (1997), that defines the roles for different levels of Government in provision and management of water and sanitation related activities, other requirements for sustainability were not in place. It was found out that operation and maintenance plans were not developed and most of the projects were not commissioned or officially handed over to the community, which would be an avenue to inform communities of their roles and responsibilities towards management of the water sources. It was also found out that the LG had left management of the water sources to the community and no follow up is made to ensure that they are functioning. This contradicts the Local Government Act Cap 243 which stipulates that citizen participation must be promoted in planning processes. Failure to manage the planning process and hand over facilities with clear responsibilities to the communities also affected O&M. When the communities were asked on who is responsible for repairs, they were not sure who is responsible. Some mentioned the local government, others mentioned the lower local councils and yet others said it was the water vendors. None mentioned the role of the community in ensuring the functionality of the water sources. Failure to define responsibility creates dependency on the Local Governments in terms of operation and maintenance.

Poor planning and management of water facilities will continue to affect sustainability of water sources and create a reversal in the achievement of the MDGs and the national targets for Uganda Government, which is to achieve 100% safe water coverage and 100% sanitation coverage in urban areas by 2015, with an 80%-90% effective use and functionality of facilities if not well managed.

In regard to the water and sanitation committees, FPMC had put water and sanitation committees in place, but they lacked training and monitoring, which are prerequisites for sustainability. The Water Statute 1995 provides for the formation of water and sanitation committees (WSC), water user groups (WUG), and water user associations (WUA) as community level organisations or institutions to ensure proper management, operation and maintenance of the facilities as well as the sustainability of the facilities by the users. The study found out that in some instances the WSCs were not selected after completion of water sources and where they were selected they were not properly trained which is not sustainable. When the process stops at forming the committees without proper support, it affects operation and maintenance as well as reporting on functionality of the water sources. This is supported by a study conducted by Poluha (1993) which argues that it is not enough to initiate one-off training schemes or only train a few people. People forget, move, or die and there must be preparedness in the system to allow new individuals to learn and take on where others cannot continue. Effective training and functionality of WSC committees is important in sustainability of the WSC and if communities are not involved, functionality of the water sources becomes a problem due to breakdown in communication between LGs and the community and also failure to full fill respective responsibilities. The challenge for FPMC however still remains that there is no financial support to water related activities which also affects capacity building for community institutions.

The government set an objective for the universal provision of safe water by 2015 using the strategy of increasing the involvement of the private sector and the local communities in the adoption and management of systems to ensure long-term sustainability (Awepon 2007). In FPMC, the

partnerships had not worked due to lack of proper implementation of partnership prerequisites. The water vendors' agreements were formed but enforcing the penalties was not done. Wilcox (2003) argues that it is necessary to consider factors for success in partnerships, which include respect and trust, good leadership, clear and open process, time, good communication and effective organizational management among others. In FPMC, the process lacked transparency and reporting mechanisms which left community members helpless and stuck with disconnected tap stands thus defeating the Government objective of restructuring public enterprises, particularly utilities, aimed at introducing private sector participation and competition to improve the delivery of services.

5.3.2 Financial aspects and sustainability of public urban water points

The study findings revealed that financial aspects have a significant effect on sustainability of urban water points. FPMC tried to use the principle of community contribution for ownership of the water sources, however the actual payment by individuals failed and the local government resorted to using institutional funds in form of 25% remittance which should have been allocated on other community priorities to offset the community contribution. This created laxity and reduced the sense of ownership community contribution was supposed to instil among community members. This agrees with the findings of Carter (2001) that in many communities, so-called community contributions are either not being sought, not being collected, or are being made by lower levels of local Government or wealthy individuals. Efforts to create informed community-level demand for affordable services are weak or lacking. The dependency on Local government has affected the community in terms of taking action for their own development, probably because most of the time the responsibilities and modalities of managing and sustaining these water sources is not defined by the LGs. If the process was clear from the beginning, communities would then opt for choices that they can manage given their financial status and within their means.

In the context of sector reforms, policies and strategies regarding cost recovery are based on the premise that water is an economic as well as a social good, and that water services have a price that consumers should pay. According to the water policy (1999) Clean and safe water is considered to be a vehicle for social and economic development, hence poverty reduction. According to Brikke (2004); Borgoyary (2002), cost recovery from very poor households and communities must therefore take into account their ability to pay. However it has been noted that willingness to pay is in general low and decreases in time after handing over. Willingness to pay is also influenced by the capacity to pay. The amounts required are usually high and due to low incomes for the urban poor, payments are usually not made. The in ability of the urban poor to pay for water services calls for policy and strategy review to identify options that are affordable for the poor. If this is not done, access to safe water will be a dream for the poor given that the operating policy assumes that all urban dwellers can afford NWSC costs for water charges. In reality, current actual water sales at public water kiosks are rather high making the poor pay more than the rich, contrary to the subsidy target. This reverse cross subsidy is still a challenge to serving the urban poor in practice and needs to be addressed.

Accountability for collected water user fees is also important in making communities motivated to pay when they know how the funds are spent. If accountability is not given, it affects contribution for operation and maintenance. The study found out that there was no feedback mechanism to discuss water management issues, which would motivate community members to contribute for maintenance. Therefore, even if community members could afford to contribute for some of the repairs, there seems to be no clear mechanism to do that which makes sustainability very difficult. This agrees with a study by Brikke (2004) which found out that there is a problem of lack of transparency and accountability in the handling of the money at community level, which raises a question of trust. The study also found out that communities are in a resigned state and do not exercise their powers to question why services are not being delivered. They lack a platform for dialogue to hold duty bearers accountable and behave as if they have no right to access better services and in this case, access to

safe water supply. According to Blanche C (2010), Water users must be allowed to voice their complaints to water service providers. Regular structured dialogues among stakeholders should be encouraged to foster a sense of mutual trust. This does not happen in FPMC and it has greatly affected sustainability of the water sources. Without proper accountability at community and institutional level, substantial amounts of funds will continue being sank into increasing access to safe water but functionality will continue going down.

5.3.3 Technology and sustainability of urban water points

Technology was found to have a significant effect on the sustainability of urban water points. Proper technology selection contributes to good quality facilities that are better accepted by users and easier to maintain. However due to the usually hurried planning process lacking in bottom up aspects, consultation and discussion on alternative technologies is not adequately done, which contributes to the poor O and M leading to failure to sustain the projects (Muhumuza and Toner 2002). The study found out that communities were not given technical guidance on the best technology to use in their given areas which affected the quality of water sources. It is also common knowledge that urban areas are contaminated with both toxic and biodegradable waste because of the high population and activities taking place there in. This also puts to question the quality of protected ground water sources in the urban areas which have high levels of toxic waste. Failure for the technical staff to guide communities on suitable sites has affected efficiency of the water sources and affected the poor's access to safe water because some of the water points had salty, coloured or smelly water and could not be used yet substantial sums of money had been used to construct them for the community.

The selection of water source type and technology by poor households is also influenced by their ability to use it especially where it involves paying. The design capacity of certain water points is sometimes also under evaluated, the number of persons served by the water points being superior to normal standards which did not include possible demographic increases (Brikke, F 2004).The study

found out that the population was not considered when allocating water sources in FPMC, it depended on the availability of funds. Given that urban areas are overpopulated, there is need for technical support and population consideration to ensure equity in access to water services so that the principle of “some for all, rather than all for some” is achieved.

5.4.4 Economic status and sustainability of water points

The assumption that urban dwellers can afford metered water has overshadowed the need to strengthen water governance in urban areas. The study found out that the urban poor still use water from unprotected sources including rivers, streams and hand dug open wells. This implies that water security has not yet been achieved by the urban poor and vulnerable, which exposes them to negative water related impacts. According to the DFID guidance manual (1998), the concept of water as an economic good has gained currency, but it has to go with a condition of recognizing the basic right of all human beings to have access to clean water and sanitation at an affordable price.

There is no reliable and adequate access to good quality and sustainable water sources to meet the needs of the urban poor who are vulnerable to water-related hazards. What makes the situation worse is that even some of the protected ground water sources like the spring wells and shallow wells are not functioning and yet no mechanism has been put in place to resolve issues of operation and maintenance. Even when NWSC has undertaken pro-poor strategies aimed at improving the lives of the people living in poor settlements in the urban areas they serve, tap stands continue becoming dysfunctional, which implies that the costs are not friendly enough for the very poor in urban areas. This therefore calls for a review of the current strategies to ensure that the very poor access safe water in a sustainable manner.

5.4 CONCLUSIONS

In light of the discussions presented above, this section focuses on conclusions arising from the findings of the study.

5.4.1 Policy framework on sustainability of the water points

The study concluded that there is a positive significant relationship between policy framework and sustainability of urban water points. The analysis of results indicated that failure to implement the policy provisions affects sustainability. The findings show that most water source committees were not trained and some not functional, there are no records, some private vendors did not sign agreements, monitoring was poor, all of which affected sustainability of water sources.

5.4.2 Financial aspects and sustainability of urban public water points

The study concluded that there is a positive significant relationship between financial aspects and sustainability of urban water points. The findings indicate that low budgeting for O&M activities, poor community contribution and lack of budgets for recurrent expenditure like repair of water sources has negatively affected sustainability of water sources in FPMC.

5.4.3 Technology and sustainability of the water points

Guidance on appropriate technology and suitability of certain sites needs to be emphasized. The study findings indicated that the community members selected the sites but were not guided on the appropriate technology and they ended up selecting un suitable choices that led to drying of some of the water sources. There is need to explore options for low cost water supply technology that is appropriate, given the hydrological, geographical and economic context of the area. The design capacity of the water points should also be evaluated in relation to the population to ensure that they can serve them effectively and also be sustained in a working condition. If this guidance is not given, sustainability of the water sources will continue to be a challenge. O&M needs to be in build at the planning stages and sources of financing identified and allocated or else the urban poor will continue suffering with the negative impacts of using unprotected water, reversing the achievements of access to safe water that GoU is working hard to increase.

5.4.4 Economic status and sustainability of water point

From the findings, it is clear that the urban poor, whose incomes are low and most of whom are engaged in unskilled and low paying jobs cannot afford metered water and are depending on open water sources. The study concluded that there is a positive significant relationship between economic status and sustainability of urban water points in local governments of Uganda

5.5. RECOMMENDATIONS

In view of the findings, the study recommends the following:

5.5.1 Policy framework and sustainability of the urban water points

To strengthen community participation and management, it is recommended that Local Governments should introduce community based monitoring in regard to the water sector, train and give them simple tools to monitor the functionality of water sources in their locality, this will give the community the voice to take informed decisions in an organized way and advocate for change regarding access to safe water. It will also increase citizen's empowerment, improve governance and enhance transparency in the management of and access to water related services.

To strengthen policy implementation, it is recommended that a review of the national and institutional framework that defines and directs the roles and functions of Government entities at different levels as well as of communities is conducted and efforts made to strengthen the relationship between the processes of prioritization of projects implemented and their functionality.

Furthermore, to strengthen the operation and maintenance of water points, it is recommended that the practice of formulating operation and maintenance plans at the beginning of the planning process for projects, with clear sources of financing for recurrent expenditure should be made mandatory. Local Governments should establish financing guidelines for O&M with clear responsibilities for the community, local government and the private sector and ensure they are implemented.

5.5.2 Financial aspects and sustainability of urban water point

It is recommended that Government should regulate the water prices that the private vendors are charging so that water is available to the urban poor.

Government should increase funding for water in urban areas to make the tariffs friendly for the urban poor. With the community involvement in the management, it is likely that the water sources will be more affordable and more sustainable.

Under privatization of water services, it is recommended that community members get involved in selection of a trusted member of their community, agree on the terms, monitor him and review his performance before the situation gets out of hand. This would promote social accountability between the water vendors and the community, where community members are able to engage with the water vendors, the LG and NWCS and also participate, directly or indirectly in exacting accountability. This would reduce cases of defaulting and abandoning the tap stands and increase sustainability of the water sources availed.

In relation to funding for water in urban areas, it is recommended that Government should increase funding for water in urban areas to make the tariffs friendly for the urban poor. With the community involvement in the management, it is likely that the water sources will be more affordable and more sustainable.

5.5.3 Technology and sustainability of urban water points

It is recommended that FPMC reviews all the peri urban water sources including others that can be repaired and budget for funds to repair them. This should be done after putting in place other management measures to ensure that there is a clear and functional monitoring and management of the rehabilitated facilities.

Local government water engineers should be more involved in guiding communities in peri urban areas in selecting suitable sites for locating the water sources to avoid wastage and selecting areas that are not viable for certain types of water sources.

5.5.4 Economic status and sustainability of water point

To improve access to safe water by the very poor, it is recommended that alternative sources of water in peri urban areas other than NWSC should be financed and supported to help the urban poor who cannot afford domestic water to access alternative clean and safe water.

To manage water contamination, it is recommended that FPMC should enforce regulations that safeguard the environment within the communities and the municipality at large to avoid contamination of open water sources specifically river Mpanga which is one of the major rivers in Uganda, as well as other streams going through the town. Integrated water management should be promoted and communities sensitized about management of the natural resources.

5.6 **Limitations of the study**.

The study was mis understood to be an audit of the performance of local leaders and LG staff. The research assistants made effort to clarify to the respondents that the research is purely academic and has nothing to do with the political and technical evaluations.

The respondents within the council were sceptical about pointing out faults. This was overcome by encouraging respondents to be truthful because the research was academic and not related to council

work and recommendations could be used to better the situation. Efforts were also made to access some of the information on the files and convincing council officials on the benefits of the research.

5.7 Areas recommended for future research

In the course of the study the researcher discovered salient areas related to the area of study, and it is worth recommending to other researchers. The following are the recommended areas;-

There is need to determine and compare the bacteriological quality of treated and untreated water supplies and identify possible risk factors to the community. This could influence subsidies for the urban poor.

A study on the alternative environmentally smart technologies of providing safe water to the urban poor needs to be conducted, which could lead to other innovative ways of providing water to the urban poor who are not using NWSC services.

There is also a need to conduct a separate study of the population in urban areas who are not using NWSC services and identify what sources of water they are using. The data could inform better planning and provision of water to the urban poor.

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APPENDICES

APPENDIX 1: QUESTIONAIRE

Dear respondents, you have been selected to contribute to the study on the factors affecting sustainability of Public water points in Fort Portal Municipality. The study will identify problems, with a view of making recommendations to address them. All information given will be treated with the highest confidentiality and used only for the purpose of this study.

Please answer the questions as truth fully as possible. There is no need to disclose your name.

BIO DATA OF RESPONDENTS

Sex of respondent …….…….

Age of respondent ……..

Occupation ……..

SECTION 1

(Please tick the correct answer)

Extent to which policy framework affect efficient and reliable services

1. Who identified the water sources to be constructed in your area?

I. Community
II. Division
III. Municipality
IV. Local leaders
V. Others, specify ……

2. Were the project formally handed over?

Yes

No.

Please give a reason for your answer

……

……

3. Did you formulate an operation and maintenance plan at planning level?

Yes

No.

4. If yes to 4 above, is the plan operational in maintaining the water points?

Yes

No.

5. If No to 4 above, who handles repairs and disconnections?

I. Community
II. Divisions
III. Municipality
IV. Others (specify) ……...

6. Do you have water source committees in place?

Yes

No.

7. If No, please give a reason for your answer

……

……

8. Are the Water Source Committees functional?

Yes

No.

If not, please elaborate

……

……

9. Have the committees received any training?

Yes

No

10. How often do the Committees get trainings?

I. Once a year
II. Twice a year
III. Once in two years
IV. Other (specify)……

11. (a) Who is responsible for monitoring and supervision of water projects?

I. Community
II. Health assistants

III. CDA'S

IV. Ward agents

V. Others (specify)……

(b). How often do you get back up support in terms of monitoring?

I. Once a year

II. Twice a year

III. Four times a year

IV. Other (specify)…….

12. How do you report community water problems?

I. Through water source committees

II. Through councilors

III. Technical staff

IV. Water vendors

V. Other (specify) ……

13. (a) Did the Community and FPMC sign agreements with water vendors?

Yes

No.

(b) If No to 16 above, who supervises the water vendors?

I. Community

II. Divisions

III. Water source Committees

IV. Others (specify)……

Extent to which financial issues affect affordability of involved costs

14. What is the cost of water at public standpipes?

(i). 100sh per jerry can

(ii). 75 shs per jerry can

(iii). 50. sh per jerry can.

(iv). None of the above (specify) ……

15. Do the Communities contribute to repairs of water points?

- Yes
- No.

16. If the answer is yes to 15 above, who handles the funds?

I. Water vendors
II. Water Source Committee members
III. PDC members
IV. Other (specify)……

17. Does the Community receive regular feedback on how funds are spent?

- Yes
- No.

18. If yes in 17 above, what methods are used to ensure effective Communication

I. Radio
II. Village meetings
III. Council sittings
IV. Written communication
V. Others (specify)……

19. Does your Local Government have a budget for O&M?

Yes

No

20. Were the water source Committee members trained in accounting and record keeping procedures?

Yes

No.

Please elaborate

……

……

21. Has FPMC passed any bye- laws in regard to O and M of water projects?

Yes

No.

22. If yes in 21 above, are the byelaws in force?

Yes

No.

Please elaborate

……

……

The effect of Technology on effective and reliable services

23. Who selected the sites for the water points?

I. Community
II. PDC member
III. Councilors
IV. Divisions
V. Others (specify) ……
VI.

24. Did a technical person guide the Community on the suitability of the selected sites?

Yes

No.

Please elaborate ……...

……..

25. Were the different technologies discussed with the Community before they selected?

Yes

No.

Please elaborate

……

……

26. Was the population considered while constructing the water points?

Yes

No.

The effect of the economic status of the community on affordability of water related costs

27. Does FPMC give financial support for O and M activities?

Yes

No

Give a reason for your answer

……

……

28. Are the water prices affordable to the community?

Yes

No.

29. If your answer is no to 32 above, what do you think can be done to ensure the Community accesses safe water?

……

……

30. What type of water source do you use?

I. Stand pipe
II. Spring well
III. Shallow well
IV. River
V. Others (specify) ……

Give a reason why you selected the above particular water source

……

……

31. Have you ever received training in health education about dangers of using unsafe water?

Yes

No.

In your view, what can be done to improve functionality and access to safe water?

……

……

……

END

THANK YOU FOR YOUR CONTRIBUTIONS

APPENDIX 2: INTERVIEW GUIDE:

Dear respondent, you have been selected to contribute to the study on the challenges facing sustainability of Public water points in Fort Portal Municipality. The study is for academic purposes only. All information given will be treated with the highest confidentiality and used only for the purpose of this study.

Please answer the questions as truth fully as possible. There no need to disclose your name.

Bio data of respondents

SEX: **……**

OCCUPATION/TITLE: **……**

DIVISION: **……**

1. How many water points do you have in your division?.....
2. What type of water points do you have?.....
3. How many of the above are not functioning?.....
4. What do you think are the reasons leading to break down or disconnection of water points?

   ……

   ……
5. How were the water projects identified for implementation?

……..
……
……..

6.a Were the requirements for operation and maintenance considered during project design

……
……..

6b If the answer is yes to the question above, please specify on the procedure used

……..
……..
……..

6. Who manages the water points?
……
……..

8. How often do you give support supervision and training to the water and Sanitation committees?
……..
…….

9. Do you think the committees are performing their duties in managing the water points? If not, what are the reasons?
……
……

10. a). Do you have a budget for operation and maintenance?.....

b). If no, who repairs the water points in case of break down
.....

11. a) Did the community get training on managing the user fees collected from community members?.....
…….
…….

b) If no, how do they manage the funds?
……
……..

12. Do you have byelaws related to water management?.....
If yes, are they being implemented?.....
……

13. Generally what role do you play in the management of the water points?
……
……
……

14. Can you please suggest ways of improving management of water points to ensure sustainability?
……
……..
…….
……..
End

Thank you for your input.