

**IMPORTANCE OF COMMUNITY BASED WATER GOVERNANCE IN  
UTILIZATION OF WATER RESOURCE USERS ASSOCIATION  
DEVELOPMENT CYCLE FUNDS IN UPPER EWASO NYIRO,  
LAIKIPIA COUNTY**

**BY**

**MUUTHIA CHRISTINE MWENDWA**

**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL  
FULFILLMENT FOR THE REQUIREMENTS OF THE AWARD OF  
MASTER OF ARTS DEGREE IN PROJECT PLANNING AND  
MANAGEMENT OF THE UNIVERSITY OF NAIROBI**

**2014**

## DECLARATION

I declare that this research project report is my original work and has not been presented for a degree in any other University.

---

---

Muuthia Christine Mwendwa

Date

L50/74541/2012

This research project report has been submitted for examination with my approval as the University supervisor

---

---

Dr. Lillian Otieno - Omutoko

Date

Senior Lecturer

Department of Extra Mural Studies

University of Nairobi

## **DEDICATION**

This research project report is dedicated to my mother, Mary Muuthia and my son Peter Muthomi.

## **ACKNOWLEDGEMENT**

I acknowledge the support and assistance provided by the staff and lecturers of the University of Nairobi Nyeri Extra Mural centre, during the course of my studies and in the completion of this research project report.

Special thanks to my supervisor and the Resident Lecturer Nyeri Extra-Mural Centre Dr. Lillian Otieno who provided guidance throughout the course of preparing the research proposal. Her advice, support, quick response and continued guidance while working on this project report was invaluable and made what seemed impossible become possible.

I also acknowledge all my colleagues in the Masters class for their encouragement and support through knowledge sharing in discussion groups, online or through phones. I cannot ignore the great role played by my family who stood by me throughout with their encouraging words.

I also wish to appreciate the Director Thomas Traexler at Rural Focus Limited and work mates Diana, Wanjiru and Mwihuri who repeatedly took up some of my responsibilities to enable me concentrate on my studies.

<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
<b>DECLARATION.....</b>	<b>II</b>
<b>DEDICATION.....</b>	<b>III</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>IV</b>
<b>TABLE OF CONTENTS .....</b>	<b>V</b>
<b>LIST OF TABLES .....</b>	<b>VIII</b>
<b>LIST OF FIGURES .....</b>	<b>X</b>
<b>ABBREVIATIONS AND ACRONYMS.....</b>	<b>XI</b>
<b>ABSTRACT.....</b>	<b>XII</b>
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.0 Background to the study .....	1
1.2 Statement of the problem.....	3
1.3 Purpose of the Study .....	4
1.4 Research Objectives.....	5
1.5 Research Questions .....	5
1.6 Significance of the Study .....	5
1.7 Limitations of the Study.....	5
1.8 Delimitations of the study.....	6
1.9 Assumptions of the Study .....	6
1.10 Definition of Significant Terms .....	6
1.11 Organization of the Study.....	7
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>9</b>
2.1 Introduction.....	9
2.2 Utilization of funds in the management of water catchment resources .....	9
2.3 Community based water resources management .....	11
2.4 Water resources financing mechanisms .....	13
2.5 Management capacity and its importance on utilization of finances .....	14
2.6 Compliance to procedures and its importance on utilization of resources .....	16
2.7 Participation and its importance on utilization of resources .....	17
2.8 Accountability and transparency and its importance on utilization of funds.....	19
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>24</b>

3.1 Introduction.....	24
3.2 Research Design.....	24
3.2 Target Population.....	24
3.3 Sampling procedure and sample size.....	25
3.3.1 Sampling procedure .....	25
3.3.2 Sample size .....	25
3.4 Research Instruments .....	26
3.4.1 Focus Group discussion .....	26
3.5 Pilot study .....	27
3.6 Instrument Validity .....	27
3.7 Instrument Reliability .....	28
3.8 Data Collection Procedure .....	28
3.9 Data Analysis .....	28
3.10 Ethical Considerations .....	29
3.11 Operational Definition of Variables.....	30
<b>CHAPTER FOUR:DATA ANALYSIS, PRESENTATION AND INTERPRETATION</b>	<b>33</b>
4.1 Introduction.....	33
4.2 Response Rate.....	33
4.3 Demographic Data of the Respondents.....	34
4.4 Management of WRUA .....	35
4.4.1 Responsibility for Management of WDC Funds at WRUA .....	35
4.4.2 Role awareness in the management of WDC funds.....	36
4.4.3 Technical, financial and managerial Skills Management has to Utilize WDC Funds....	37
4.4.4 Importance of Training in Enhancing Skills in the Management of Funds .....	37
4.4.5 Adequacy of WRUA Staffing Levels .....	38
4.4.6 Effectiveness of Coordination between the Management and Stakeholders .....	39
4.5 Compliance to Procedures .....	40
4.5.1 Rules WRUA Uses in the Management of WDC Funds .....	40
4.5.2 Level of Compliance to the WRUA Constitution.....	41
4.5.3 Repercussions to WRUA Officials if they fail to follow the Constitution .....	41
4.5.3 Level of Compliance to Procurement, Financial and Reporting procedures .....	42

4.6 Participation in Water Governance .....	43
4.6.1 Meetings held to Plan for Funds Utilization .....	43
4.6.3 Management Representation of Stakeholder Groups .....	45
4.6.5 Frequency of Monitoring Implemented Activities .....	46
4.6.7 Awareness of the Ordinary Members about their Roles and Responsibilities.....	47
4.7 Accountability and Transparency in Water Governance .....	47
4.7.1 Storage of WRUA Records and accessibility .....	48
4.7.3 Frequency of Updating Information on the WRUA Notice board .....	49
4.7.5 WRUA Undertakings of Independent External Audits and Findings.....	50
4.7.8 Avenues Available to Members to Report Irregular Practices .....	51
4.8 Correlation analysis .....	51
<b>CHAPTER FIVE: SUMMARY, DISCUSSIONS, CONCLUSIONS AND</b>	
<b>RECOMMEDATIONS.....</b>	<b>53</b>
5.1 Introduction.....	53
5.2 Summary of Findings.....	53
5.2.1 Importance of WRUA management capacity in funds utilization.....	53
5.2.2 Importance of compliance procedures in utilization of WDC funds .....	54
5.2.3 Importance of participation in utilization of WDC funds.....	54
5.2.4 Importance of accountability in utilization of WDC funds .....	54
5.3 Discussion.....	55
5.3.1 Management capacity in the utilization of funds.....	55
5.3.2 Influence of the Level of compliance to procedures in utilization of funds .....	56
5.3.3 Extent of participation in utilization of funds .....	56
5.3.4 Level of accountability and transparency in the usage of WDC funds.....	57
5.4 Conclusion .....	58
5.5 Recommendations.....	58
5.6 Areas for Further Research .....	59
<b>REFERENCES.....</b>	<b>61</b>
<b>APPENDICES.....</b>	<b>64</b>
Appendix 1: Letter of Introduction .....	64
Appendix 2: Questionnaire for WRUA Officials and Stakeholders .....	65
Appendix 3: Focus Group Guide .....	73
Appendix 4: Introduction letter for research permit .....	74

<b>LIST OF TABLES</b>	<b>PAGE</b>
Table 3.1 Sample size by Strattek.....	26
Table 3.2 Operationalization of variables.....	30
Table 4.1 Response rate.....	33
Table 4.2 Demographic data of respondents.....	34
Table 4.3 Position held by respondents.....	34
Table 4.4 Responsibility of management of funds.....	35
Table 4.5 Management role as pertains to funds usage.....	36
Table 4.6 Importance of training in enhancing skills.....	37
Table 4.7 Adequacy of WRUA staffing levels.....	38
Table 4.8 Content analysis of WRUA, WRMA and WSTF records .....	39
Table 4.9 Effectiveness of coordination between management and stakeholders .....	39
Table 4.10 Level of compliance to WRUA constitution.....	41
Table 4.11 Repercussions to WRUA officials if they fail to follow constitution.....	41
Table 4.12 Level of compliance to procurement procedures.....	42
Table 4.13 Level of compliance to progress reporting procedures.....	43
Table 4.14 Regularity of management meetings to plan for funds usage.....	44
Table 4.15 Proportion of management members involved in planning for funds usage.....	44
Table 4.16 Management committee representation of all stakeholder groups.....	45
Table 4.17 Frequency of monitoring implemented activities .....	46



Table 4.18 Awareness of ordinary members of their roles in funds usage .....	47
Table 4.19 Storage of WRUA records .....	48
Table 4.20 Accessibility of records by WRUA members .....	49
Table 4.21 Frequency of updating procurements and expenditures information.....	49
Table 4.22 WRUA undertaking of independent external audits .....	50
Table 4.23 Avenues available to members to report irregular practices.....	51
Table 4.24 Correlation analysis output.....	52

**LIST OF FIGURES**

**PAGE**

Figure 1: Conceptual framework..... 22

## ABBREVIATIONS AND ACRONYMS

<b>CAAC</b>	Catchment area advisory committee
<b>CBF</b>	Constituency Bursary Funds
<b>CDF</b>	Constituency Development Funds
<b>CDTF</b>	Community Development Trust Fund
<b>CPC</b>	Community Project Cycle
<b>DANIDA</b>	Danish Development Agency
<b>EU</b>	European Union
<b>GWP</b>	Global Water Partnership
<b>IWRM</b>	Integrated Water Resource Management
<b>LWF</b>	Laikipia Wildlife Forum
<b>MDGs</b>	Millennium Development goals
<b>RFL</b>	Rural Focus Ltd
<b>SCMP</b>	Sub-catchment Management Plan
<b>WDC</b>	Water Resource Users Association Development Cycle
<b>WRMA</b>	Water Resource Management Authority
<b>WRUA</b>	Water Resource Users Association
<b>WSTF</b>	Water Services Trust Fund
<b>YEF</b>	Youth Enterprise Funds

## ABSTRACT

Water governance at all levels from the global, regional, national and local level has been identified as the major reason for the water scarcity problem facing most nations of the world. In order to improve governance water management has been decentralized to the lowest possible level which is the community and provided for the involvement of stakeholders in decision making. In Kenya, water management has been decentralized to the local level through the creation of WRUAs. These are community based organizations whose main mandate is to resolve conflicts over water at the Sub-catchment level. In order to fulfill its mandate, the WRUA receives funds from the Water Services Trust Fund through the WRUA Development Cycle framework. The Associations are responsible for managing, reporting and accounting for the usage of the funds. However literature reviewed showed that the institutional capacity of Community Based organizations in terms of availability of technical, financial and managerial skills is a bottleneck in their ability to effectively utilize funds received. Further the ability to account, report and involve stakeholders in funds management influences the ability to fully utilize funds earmarked for development activities. The result of this is that funds are withdrawn, diverted to other activities or do not result in value for money. Therefore the objective of the study was to assess the importance of stakeholder participation, management capacity, accountability and level of compliance to procedures in water governance on the utilization of funds. The purpose of the study was to establish the importance of community based water governance on the utilization of Water Resource Users Association Development Cycle (WDC) funds. The study is of significance to the WRUA, government and other development partners as it will add empirical evidence on the importance of governance on the rate of funds utilization. The study was carried out in the Upper Ewaso Nyiro Sub-region, Laikipia County and targeted a population of 559 members of the 7 WRUAs in Sub-catchment 5BE out of which a sample size of 85 was included for the study. The researcher administered questionnaires and focus group guide collect data with the assistance of a research assistant. The target population was the WRUA officials, ordinary members and water users from the Nanyuki, Likii, Ontulili, Siriomon, Timau, Ngusishi and Teleswani WRUAs. Descriptive statistics were used to analyze the data collected based on frequency. Correlation analysis using Pearsons product moment correlation was used to determine the relationship between the variables. The study found out that compliance to procedures of funds utilization was of most importance to utilization of WDC funds with a strong positive correlation coefficient of 0.854. It further found that management capacity especially in terms of staffing levels and financial, managerial and technical skills was important with a strong positive correlation of 0.641 with utilization of WDC funds. Participation was ranked of lowest importance with a correlation co-efficient of 0.118 in the utilization of WDC funds. Thus the study recommends training of WRUA to improve skills and enhance knowledge on compliance to WDC procedures. Also the involvement of all stakeholders at stages of the project cycle is important to enhance transparency and build the confidence of community members and development partners.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Background to the study**

Fresh water resources are among the most depleted natural resources in the world resulting in water scarcity in most countries. However the water scarcity problem has been attributed by most international organizations like Global Water Partnership, UNDP and World Water Council to a lack of proper governance in the water sector rather than an infrastructural problem. This is articulated further by the 2003 Summit on Sustainable Development in Johannesburg, South Africa as well as the Second (2000) and Third (2003) World Water Forums in Kyoto, Japan (Van der Zaag, 2009). The forums uniformly recognized that the key challenge in Water Resource Management is the lack of effective water governance structures and the inadequate financing to address the challenges of satisfying human and environmental water requirements. The Camdessus panel of 2003 further reiterated the need for necessary reforms in water governance to ensure proper management of the water investment initiatives (Rees, 2008). The Gurria task force also emphasized that governance plays an effective role in attracting financing and also ensuring continuous financial investment which puts a country closer to achieving the MDGs (Bayliss, 2003).

In developing countries poor governance has characterized water management, the symptoms of which include failure to cope with demand, failure to manage supply, institutional weaknesses, financial and technical problems (Bayliss, 2003; Budds & Mc Granahan, 2003 and K' Akumu, 2004). It is in this regard that the concept of good water governance is proposed as the desirable way to correct the effects of poor governance. Poor governance in institutions is characterized by lack of certain conditions necessary for good governance which include inclusiveness, accountability, participation, transparency, predictability and responsiveness (Rogers and Hall 2003).

The renewed emphasis on strengthening water governance resulted in the advent of reforms in the water sector in many countries. This resulted in the decentralization of water management to the lowest level possible which saw communities achieve a greater role in decision making through the creation of avenues for community participation. Community based water resource management has been defined as a strategy by which the local water users are involved in

decision making and become responsible for the management of their water resources. In Mexico community management is promoted through the establishment of river basin organization that involves all key stakeholders in management (Akhmouch, 2012). However the organizations are facing challenges of accountability which has made it difficult to link funds disbursed to achievements (Akhmouch, 2012). South Africa on the other hand established Catchment Management Agencies through the Water Act of 1998 which are controlled by the State but try to include the local stakeholders in management of water (Van der Zaag, 2009). South Africa has not formalized Community based Water Resource Management in the 1998 Act.

In Kenya community based water governance has been formalized through the Water Act 2002 that established the Water Resource Users Associations (WRUA) (Mumma, 2002). Section 15 of the Water Act 2002 states that the WRUAs are “voluntary” organizations formed along a specific water body or aquifer by the local community of water users. The main function of WRUA is to provide a fora for conflict resolution and enhance the participation of stakeholders (WDC manual, 2008). In fulfilling their mandate, the WRUA develops a Sub-catchment Management Plan (SCMP) that outlines intervention required to improve water resources within the sub-catchment for a period of 5 years. Through the SCMP, the WRUA seeks financing from development partners based on the interventions outlined. The WRUA fundraises from both internal and external sources including the Community Development Trust Fund, Constituency Development Fund and the WRUA Development Cycle (WDC) to achieve the objectives.

This research focused on the WDC funds since the WRUA is at the center of the development process as funds are provided directly to the association bank account. The funds disbursed range from Kshs 2million to a maximum of Kshs. 50million and the WRUA is responsible for procurement of supplies, contractors, reporting and accounting for the utilization of funds. The WRUAs are managed by a management committee drawn from water users who do not necessarily have any formal training in the technical or financial aspects of managing of water resources. Studies (World Bank, 2004; Devas, 2005; JICA, 2003; Joost, 2012; Paulais, 2010, Szabo, 2011) have shown that the institutional capacities in terms of technical, managerial and financial management are bottlenecks on the performance of community based organizations.

In the year 2010, 68 WRUAs were financed through the WDC framework but only five were able to account for funds usage and low institutional capacity was cited as the reason. This was supported further by the 2012 annual report of the Laikipia Wildlife Forum (LWF) which clearly outlines the extent of the problem in that out of the 24 WRUAs that the LWF provided financial and technical support to in the year 2010, only one association was able to fully absorb and account for the Kshs. 1.5Million provided per WRUA resulting in the funds being diverted to other activities. They attributed this to a lack of proper governance structures within the WRUA.

Thus lack of effective governance in community based projects can result in stalled projects and donors withdrawing development funds as they lose confidence in the managing entity (KWAHO, 2009). This withdrawal and stalling of projects has been seen also in a number of decentralized funds in Kenya like the Constituency development funds which has not resulted in the intended impact. This presents a major problem especially in Laikipia County which is highly affected by water scarcity resulting in conflicts over water, a problem which consistent investment in water resources management would go a long way in alleviating.

## **1.2 Statement of the problem**

In the year 2010 WDC funds were disbursed to 68 WRUAs countrywide but only 5 were able to give a proper account of how the funds were used. In addition the WSTF has managed to raise Kshs. 500Million from donors for the WDC framework but the WRUAs have only been able to utilize less than Kshs. 100Million which has resulted to the funds being reallocated to other activities. An impact study of the sister framework of the CPC by Rural Focus, 2012 found that the usage of the funds was plagued by opaqueness in terms of transparency and accountability which led to money being lost and projects stalling. This led to the suspension of the CPC funding framework as donors lost confidence. Another study carried out by the Kenya Water for Health Organization (KWAHO) in June 2009 in Bondo district also found that a bad governance environment in projects caused donors to withdraw resulting in stalled projects that did not achieve the intended objective. Research also carried out on other decentralised funds in Kenya by other researchers (K'Akumu 2004; Omollo 2009; Odhiambo and Taifa 2009; Kabaaya 2007) for example the CDF, bursary fund, HIV funds, Local Authority transfer funds,

women and youth funds and have found that accountability, transparency, citizen participation and institutional capacity of the managing body affects utilisation of funds.

Governance is especially important in the water sector as countries adapt an integrated approach to water resources management (IWRM) and gear up to achieve the MDGs. IWRM involves multiple stakeholders and institutions in addition to managing competing uses and demands for water. This requires constant investments to develop the necessary infrastructures and build the capacity of the newly created institutions. Due to this, Van Der Zaag, 2009 and GWP have identified governance of water resources as one of the six urgent water challenges that are not sufficiently researched.

There is growing concern internationally over the extent of utilization of available financial resources sourced from national governments and development partners. This general downtrend in funds utilization has been reported by the National Economic Development Authority (NEDA) in its 7<sup>th</sup> Overseas Development Aid Portfolio Review which suggests the need to look into how organizations utilize funds in relation to how much is dispensed (United Nations Development Programme (UNDP), 2004; United Nations, 2005; Bourginon and Sundberg, 2006: Water and Sanitation Program (WSP), 2007).

From the foregoing, the researcher acknowledges the existence of various challenges in water governance which influences funds usage. These challenges are of concern especially since Kenya has been ranked as a water scarce country (WHO/UNICEF,2008) and most catchments are characterised by a serious problem of water scarcity, more so the Laikipia County which has been classified as between 80 to 100% ASAL(ALRMP,2008). The investment intended by WDC in this area could have a positive impact if well utilised. Therefore this study attempts to add knowledge in this field of governance in community based organisations and funds utilisation.

### **1.3 Purpose of the Study**

The purpose of the study was to establish the importance of community based water governance on the utilization of Water Resource Users Associations Development Cycle funds within the Upper Ewaso Nyiro Sub-region, Laikipia County.



#### **1.4 Research Objectives**

The study was guided by the following research objectives:

- i. To determine the importance of WRUA management in the utilization of WDC funds;
- ii. To assess the importance of compliance to procedures in the utilization of WDC funds;
- iii. To establish the importance of participation in the utilization of WDC funds;
- iv. To establish the importance of accountability and transparency mechanisms in the utilization of WDC funds.

#### **1.5 Research Questions**

The study was guided by the following research questions:

1. How does the management of WRUA influence the utilization of funds?
2. How does the level of compliance to procedures influence the utilization of funds?
3. To what extent does participation influence the utilization of funds?
4. How do the accountability and transparency mechanisms influence the utilization of funds?

#### **1.6 Significance of the Study**

The study adds empirical evidence on the importance of community based governance structures on the utilization of funds. The study also contributes to the wider global debate on the importance of community water governance structures on the rate of utilization of funds. The findings and recommendations will inform current practice and the relevant authorities like the Water Resource Management Authority (WRMA), Support Organizations (SO), Water Resource Users Associations and the Water Services Trust Fund on actions that need to be taken to improve the absorption of funds and the development outcomes within the Ewaso Nyiro North Catchment Area (ENNCA)

#### **1.7 Limitations of the Study**

The limitations of the study included gaining access to some of the respondents especially the large scale commercial farmers. The researcher made several visits to the offices accompanied

by a WRUA official to gain their cooperation and participation in the study. The researcher also was limited by the willingness of some of the participants to respond to the FGD since most of the WRUAs were conducting elections and governance was an area of concern. The letter of transmittal was used to put the respondents at ease that the research was purely for research purpose.

### **1.8 Delimitations of the study**

The study was carried out in the Upper Ewaso Nyiro Sub-region in Laikipia County. The area covers 15,200Kmsq and is managed by the Water Resource Management Authority from a central office in Nanyuki.

### **1.9 Assumptions of the Study**

The study assumed that the variables will remain constant, the participants targeted will be available, willing to participate and will give accurate feedback to enquiries presented to them. It further assumed that they had and provided the right information required by the study and that the researcher will be granted access to relevant research data throughout the study.

### **1.10 Definition of Significant Terms**

- Utilization of funds:** This is the rate at which a group or institution is able to effectively and efficiently utilize the funds received. For the purpose of this research the utilization will be measured as a percentage of funds utilized by a WRUA from the WDC framework.
- Management of WRUAs:** This is capacity of the institution in terms of availability of skills, resources and ability to achieve the required outputs in an effective manner.
- Community based governance:** This is a strategy by which the local water users are involved in decision making and become responsible for the management of their water resources. The elements of good governance that will be used to assess the level of

governance of WDC funds are compliance to procedures, management capacity, participation and accountability and transparency.

**Compliance to procedures:**

This is how the WRUAs relates to acting according to the constitutional provisions, internal controls set up by the users to manage resources and compliance to procurement and financial management procedures set up by the WDC manual.

**Participation:**

This is the involvement of water users and other stakeholders in the utilization of funds

**Transparency:**

This is the methods by which the WRUA ensures open access and free flow of information on activities carried out, money received, procurements and expenditures

**Resources:**

These are materials, assets, finances and human resources which are transformed by the WRUA to produce the desired benefits.

**Riparian farmers:**

These are farmers whose land adjoins the river

**Commercial farmers:**

Farmers who cultivate more than one acre of land for commercial purposes

**Small scale farmers:**

Farmers who cultivate less than one acre of land both for commercial and subsistence purposes

**1.11 Organization of the Study.**

The study is organized into three chapters. Chapter one gives background of the study, statement of the problem, objectives, purpose, objectives, research questions, justification and significance of the study, limitations, and delimitations of the study, basic assumptions of the study and definition of key terms. Chapter two reviews the literature based on the objectives of

the study. It reviews the literature on water governance and the elements of good water governance like participation, management capacity, accountability and compliance to the procedures in relation to the utilization of funds. It further looks at the conceptual framework and the operational variables that will be used in the study. Chapter three has the following sections; research design, target population, sampling procedure, methods of data collection, validity and reliability, operational definition of variables and ethical consideration.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the literature based on the objectives of the study. It reviews the literature on water governance and the elements of good water governance like participation, effectiveness, accountability and compliance to the rule of law in relation to the utilization of funds. It further looks at the conceptual framework and the operational variables that will be used in the study.

#### **2.2 Utilization of funds in the management of water catchment resources**

Water management gained prominence in the late 1980's as a result of failed investments in infrastructure and technology by the World Bank and other development partners (Miguel and Jouravlev, 2006). This was after the intended effects of the investments were not realized and a school of thought emerged that considered governance as critical to the use of resources (Teismann,G, Buuren A.V, Edelenbos, J, and Warner, J. 2013).

Thus through the Johannesburg plan of implementation, nations first recognized that financing of water projects depended on good governance (Teismann,G, Buuren A.V, Edelenbos, J, and Warner, J. 2013). Governance was seen as encompassing democratic institutions that respond to the needs of the people, the rule of law, with anti-corruption measures, gender equality and an enabling environment for investment. The plan laid out the set of actions that governments were to take to achieve Integrated Water Resource Management. Further the Camdesus report on water financing presented at the third World Forum held in Kyoto Japan and the Gurria task force further emphasized the effects of governance on financing of water management by stating that the defects in global water governance hampered its ability to attract financing in the sector.

International organizations like Global Water Partnership, UNDP and World Water Council have also recognized the part governance plays by attributing the water scarcity situation facing most developing countries to a lack of proper governance in the sector. The organizations go further to propose that the strengthening of water governance will result in the reduction of the

number of people without access to clean water (Rees, 2008) which estimates from the Water Impact Report (2009) in the period 2006 to 2007 put the number of people in Kenya without access to clean drinking water close to their homes at 63%(WHO and UNICEF, 2008). This was articulated further by the 2003 Summit on Sustainable Development in Johannesburg, South Africa as well as the Second (2000) and Third (2003) World Water Forums in Kyoto, Japan. The forums uniformly recognized that the key challenge in Water Resource Management is the lack of effective water governance structures and the inadequate financing to address the challenges of satisfying human and environmental water requirements (Miguel and Jouravlev, 2006).

Governance has been defined by the Global Water Partnership (GWP) 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’ (Rogers & Hall, 2003). Other agencies including the World Bank, United Nations and Action Aid have adopted the same definition. The principles of good water governance follow those of good governance in general and build on core elements of equity, efficiency, effectiveness, compliance to rule of law, participation, decentralization, integration, transparency and accountability (UN, 2003). The Global Water Partnership further proposes that for water governance to work it should be effective, efficient, inclusive, coherent, integrative, accountable and transparent (Rogers & Hall, 2003).

Poor governance on the other hand is characterized by a lack of the necessary conditions for good governance such as effectiveness, participation, responsiveness, accountability and transparency. Rogers & Hall 2003 have indicated that poor water governance leads to increased political, social risk and institutional failure. It also leads to increased incidences of poverty as malfunctioning of systems lead to misallocation of scarce resources. KWAHO study of 2013 in Bondo district study affirms this as it found that bad governance of community based water projects leads to stalled projects and withdrawal of donor support.

To measure governance the researcher will use the Local Governance Barometer (LGB)index developed by the Impact Alliance (SNV of the Netherlands, Idasa of South Africa and Pact of the United States), since it is a holistic model that generates a collective opinion about the state

of governance in a certain locality in decentralized settings (Memela, 2008). The criteria of the LGB in measuring good governance are: Effectiveness, rule of law, Accountability, Participation and Civic Engagement, and Equity (Pact and Impact Alliance, 2006).

It will also build on the PEFA (Public Expenditure and Financial Accountability) indicators that are part of the Performance Measurement Framework. Thus the researcher has combined the LGB and PEFA indicators and came up with four dimensions of Management, Compliance to procedures, accountability and participation. Observable aspects of each dimension will be helpful in providing an indication of the importance of governance on the utilization of funds (Huther and Shah, 1998).

Further Devas, 2005 identifies that the major risks to the management of funds especially in decentralized settings are resources (finances and human), skills availability among the management team, accountability, transparency, information dissemination and participation of stakeholders.

### **2.3 Community based water resources management**

Adams and Hulme 2001 define community based water resource management as those principles and practices that emphasize the role of the local water users in decision making about the natural resources. It is a strategy that enables the local water users along a specific resource to participate in the management of the local resources (Thomas, 2012). The approach gained prominence after the state centric approach used before failed as it resulted in poor governance that led to corruption, misuse of resources and inequity in the access to water that resulted in the exclusion of the poor, conflicting roles in water management, high tariffs and high unaccounted for water (Miguel and Jouravlev, 2006). Involving the community was hoped to bring more accountability and effective management of resources since the local people know who abstracts water, how, why and when (Thomas, 2012).

To achieve these countries had to decentralize how water was managed to the lowest possible level which is the community. Countries in Latin America, India and Bangladesh were among the first to embrace the approach through the establishment of Water Users Associations (WUA) in the 1980's (Hulme and Adams 2001). These are community based groups that perform the dual function of water supply and water resources management. In Africa countries

like South Africa and Zimbabwe were among the first to take the approach by reviewing their Water Acts in the early 90's. The reviewed Water Acts provided for the formation of WUAs which undertake the dual function of managing the water supply projects and the resources. Kenya through the water Act 2002 took a different approach by separating the water supply and water resource management functions (Weismann and Kiteme, 2005). This resulted in the institutionalization of Water Resource Users Associations in the Act whose main role is conflict resolution and enhancing cooperative management of water resources at the community level. WRUA reports to the Water Resource Management Authority whose main mandate is to regulate, monitor, assess, allocate water resources, manage and protect the water catchments and to collaborate with other institutions for better water resource management in the country (Water Act, 2002).

Kiteme and Weisman 2005 highlight the success of community water resources management in the Mt. Kenya area as the institutions were successful in resolving 42 out of the 50 conflicts brought to them. In Tanzania Rufiji basin 70% of respondents interviewed preferred to deal with the WUA in resolving conflicts (Aggarwal, 1992). Marcus, 2007 agrees with the success of community based resource management but states that in some cases it has helped to divide the community. He also states that it disengages the Government in its role in resource management as they leave everything to the community. To change these he proposes some degree of control by the state through capacity building, continuous financial support and clear definition of roles. In the work of Aggarwal, 1992 he finds that the disengagement of the state leads to a power vacuum as the government cedes authority to a community group that lacks capacity to undertake the tasks outlined.

The vacuum is well exemplified by a study carried out in Zimbabwe Gwanda district where they found that 67% of the residents depended on a community managed water supply but due to management challenges 60 to 70% of the water points were non-functional (Thulani, 2013). The groups experienced challenges of inadequate resources, depletion of committee memberships and limited government support and limited capacity to manage finances (Thulani, 2013). The situation is no different in Kenya where close to 70% of community managed water points are non functional due to a lack of both technical, financial and management skills (Thomas, 2012). Thus the good intentions of decentralizing management to



the community to improve the management of water continue to be elusive and the people who suffer the most are the water users.

#### **2.4 Water resources financing mechanisms**

At the global level water resource management is financed through Trust Funds which consist of money legally restricted to the conservation of water. The Trust Funds use the basket funding concept where sources of funds are varied from levies on water use, taxes and funds raised from different donors (USAID, 2009). The Conservation Finance Alliance Guide 2003 estimates that there are more than 50 conservation Trust Funds established in the world. The Trust Funds are more common in Latin America where the Latin American and Caribbean Network of Environmental Funds (REDLAC) was established as an association of more than 20 Trust Funds.

An example is the Sierra de Las Minas Water fund in Guatemala established in 2002 and started its operations in 2006. Various stakeholders make payments into the water fund but the initial funding to establish the fund was provided by the WWF, Swiss Reinsurance Company, USAID, DANIDA among others. The board comprises of representatives from stakeholder groups drawn from the community, agriculture, hydroelectric companies, local authorities and environmental organizations. The Brazilian Biodiversity Fund was founded in 1995 as non-profit association with a grant from the Global Environmental Facility. It provides financial and material support to conservation activities in Brazil. The Mexican Nature Fund established in 1994 is among the largest having raised close to \$100million (WWF, 2009). It uses a participatory approach where communities and civil society groups can access grants.

Africa also has examples of successful Trust Funds with the establishment of the Madagascar Biodiversity Fund in 2005 that provides financing to protected areas and the creation of new ones. Zambia also established the Devolution Trust Fund (DTF) through the Water and Sanitation Act of 1997 and provides financing to commercial utilities. It has established two funding windows; the General Fund which supports commercial utilities to extend water to the urban poor and the Performance Enhancement Fund that targets commercial utilities that want to enhance their financial viability. The DTF has been lauded as the most significant initiative

by the Government of Zambia to extend water supply and sanitation services to peri-urban areas (Kosamu and Gongga, 2007).

Kenya established the Water Services Trust Fund (WSTF) modeled after the DTF of Zambia through the Water Act 2002. The WSTF established three funding windows: WDC that supports Water resources management through WRUAs, the Urban Poor Concept (UPC) that supports projects in Kenyan Urban slums and the Community Project Cycle (CPC) that supports community based water supply projects. Through the WDC framework the WSTF provides funding directly into the WRUA account. The WRUA therefore is responsible for implementing activities and managing the funds provided which range from Kshs. 2million to a maximum of Kshs. 50million. This is contrary to the other Trust Funds mentioned which place the funds in the hands of a professional entity to manage. Initial funds to establish the WSTF funding cycles were provided by SIDA who withdrew with close to 500million unspent funds in 2010 citing a low uptake of funds by the WRUAs. An impact study by Rural Focus in 2012 of the CPC framework showed that the funds resulted in little impact in improving the water supply situation due to irregularities in procurements, diversion of funds, limited technical capacity among the community and little support by the Water Services Board.

Donor confidence in how funds are utilized has been cited as an important factor in the success of Trust Funds like the Madagascar and the Mexican Funds. Therefore the challenge for WDC is whether it will have the same success by placing the management of funds entirely on the community who have little technical, financial or management skills.

## **2.5 Management capacity and its importance on utilization of finances**

Management refers to the act of bringing people together to accomplish desired goals and objectives using available resources efficiently and effectively. Management comprises planning, organizing, staffing, leading, and controlling an organization or effort for the purpose of accomplishing a goal. In an organizational sense it can also be defined as human action, including designing that facilitates the production of useful outcomes from a system (Manal, 2010). Management of the WRUA centers upon an executive committee made up of the office bearers and other representatives from different sections of the river, or different interest groups (Kiteme and Weismann, 2005). The frequency of both committee and general members'

meetings varies, but members meet on average about once a quarter, with the committee meetings being called in response to specific problems. One of the members' meetings is the Annual General Meeting where the progress of the WRUA and elections are carried out (Kiteme and Weismann, 2005). It has been noted that the WRUAs would need to employ an Executive officer if they are to be run efficiently (Rural focus 2008; LWF, 2012). However most WRUAs cannot meet this cost in addition transport costs, office space and general infrastructure development which results in low performance (Joost 2002).

Membership and management of WRUAs is detailed in their constitution, the contents of which are largely governed by their legal status under the Societies Act Cap 108. Detailed management provisions are also contained in bye-laws made subsidiary to the constitution (Kiteme and Weismann, 2005). The complex issue of membership is managed by the creation of different categories of membership which ensures that all users in the catchment are represented either directly or indirectly in the association (Watson, 2007).

Watson 2007 notes that the responsibilities of membership of the WRUA often take time to absorb, and project representatives may be lax in reporting back decisions made at meetings, as well as the rationale behind them, to their project members. Further the organizations do not have the right skills to engage with stakeholders and be democratic in its operations (Bellamy 1999). Lack of skills is a bottleneck on the ability of organizations to absorb funds (Sumpikova 2011; Lopez, 2010; Serie, 2009; Rees, 2008; Szabo, 2011) and this is reflected in procurement, project design and preparation, reporting and financial management skills which are required by local levels in order to improve funds utilization. Organizations with low skills and without a network of other skilled organizations will experience low absorptive capacity (Paulais, 2010).

Studies carried out by JICA (2003) on sustainable community based irrigation and drainage schemes in 11 Districts in three Provinces of Kenya in the former Rift-valley, Central and Eastern provinces also agree with the above findings in that they indicated that community based irrigation schemes were not performing as expected due to various challenges which included; management and coordination conflicts of Water User Associations, poor project leadership, lack of transparency and accountability, lack of participation and ownership of the Water User Association, weak commitment and lack of technical skills.

WDC funds are similar to other decentralized funds in Kenya and studies carried out on the decentralized funds (Constituency Development Fund, Women Enterprise Funds, Bursary Funds and the Youth enterprise funds among others) also conclude that the funds are necessary for local level development but a lack of transparency and accountability of the funds leads to corruption and funds being used on activities not budgeted for (Omollo 2009; Odhiambo and Taifa 2009; Kabaaya 2007). This corruption is tied to management capacity in terms of lack of skills of the managing body, poor leadership, and low participation of community in planning and monitoring of funds use resulting to “elite capture”. Devas, 2005 further identifies lack of financial resources, technical, managerial and financial management skills as major limiting factors in the usage of decentralized funds. These factors limit the institutional capacity of the organization affecting its overall performance.

## **2.6 Compliance to procedures and its importance on utilization of resources**

Compliance to procedures refers to the ability of an organization to comply with the laid down rules of operation. The procedures lay down the objectives of existence, do not change (unless by consensus) and are applied equally to all persons regardless of the status. At the WRUA level there is a constitution and By-laws developed by the water users and provide the rules of operation which include regulations on elections, removal of leaders, Annual General Meetings and general conduct of members of the Associations. It also provides rules on the handling of the finances and property of the group and the penalties for mis-management (Watson 2007). In addition to the constitution the WDC manual, 2008 has outlined the rules the WRUA have to follow in order to effectively manage the WDC funds. Financial management and reporting guidelines were further enhanced in 2013 that set the accounting, record keeping and reporting procedures. The WRUA is supposed to report quarterly on utilization of funds by submitting a progress report that contains the status of activities to date, funds accountability statement, community contribution, unit cost tracking and expenditure reports (WDC financial guidelines, 2013). The documents also have to be posted in the WRUA notice board for accountability. The WDC financial management guidelines further states the procedures of procurement and procedures of filing documents. The WRUA has to create 13 files kept in the WRUA office for different records (WDC manual, 2013). Procurement has to be done entirely by the procurement sub-committee consisting of between 3 to 5 persons. Goods or services procured

above Kshs. 10,000 must receive 3 quotations from suppliers whereas anything below Kshs 10,000 is by direct procurement (WDC manual, 2008).

A field appraisal by Orgut Kenya, 2012 in six WRUAs across Kenya found out that the level of compliance to procedures was very low. This was attributed to low literacy levels among the committee, varied financial management trainings not consistent with WDC manual, 2008, unclear WDC guidelines and lack of role clarity among the various WRUA sub-committees. Compliance to reporting procedures and durations was also very poor (Orgut, 2012).

Compliance is an important aspect without which there can be no respect of the procedure no matter how well the rules are formulated (Watson, 2007). Compliance to the procedures provides the foundation for governance the lack of which promotes corruption and lack of accountability which results in donors losing confidence and reducing investment (Miguel and Jouravlev, 2006). The Rio Earth summit (1992) recognized this and established an international mandate to build compliance capacity as an important aspect of environmental management. Inadequate compliance to the procedures has been found to hinder the implementation of integrated water resource management and is hampered by among other factors a deficient technical and institutional capacity (KWAHO, 2009).

According to Water Partnership Programme (WPP), 2008, effective water sector financial management is crucial if services are to be provided equitably, transparently and efficiently. The WPP report further observes that budget formulation and expenditure management framework are critical in the water sector finance management. The report identifies several initiatives that could be adopted to improve the absorption rate of funds by the management such as participatory planning, involvement of all stakeholders, financial management and compliance in relation to accepted accounting standards and the external audit of expenditure at least annually.

## **2.7 Participation and its importance on utilization of resources**

Participation of stakeholders involves giving people a voice in how the resources are governed. This is expected to increase the legitimacy of laws, policies and decisions made involving the people most affected. It also creates ownership and the people are more motivated. Participation

further postulates that the local users are also experts of their own problems therefore are more able to generate local innovative solutions to the challenges faced.

Two broad dimensions of citizen participation in governance are identified in the literature namely, indirect involvement and direct involvement. Indirect involvement acknowledges that electoral officials and professional administrators should act on behalf of the citizens in a representative democracy (Omollo, 2009). Direct involvement suggests that citizens are the owners of the institution and should be involved in the decisions of the institution. The WRUA mostly uses indirect involvement through a management committee elected by the water users and which oversees the day to day activities of the association (Kiteme and Weismann, 2003). However, direct community participation in the management of resources has been known to improve ownership of development projects and in the long run sustainability (Omollo, 2009; Odhiambo and Taifa, 2009; Kabaya 2007). Participation provides checks and balances against unnecessary interference in service delivery and disregard for professionalism in the public sector (Odhiambo and Taifa, 2009) and further helps to build the capacity of the members involved. Therefore this research will focus on direct participation and look at the involvement of the water users in decision making at all the stages of the project cycle. In order to participate effectively in management of decentralized funds the membership needs to be aware of their roles, responsibilities and the necessary skills to undertake their tasks. Lack of clarity of roles on who does what and the limits of responsibilities will result also in poor funds usage (Arunatilake, 2007) which makes capacity building important in how the group is managed. Capacity building consists of developing knowledge, skills and operational capacity so that individuals and groups may achieve their purposes (Okello, 2008).

Localized decision making also improves relevance, reduces administration cost, and improves transparency and greater mobilization of funds (Burki, 1999; Grauwe, 2005; Caldwell, 1999). The level of authority given to the local decision makers by the central government and those that allow greater participation of the community in decision making processes influence the level of success of activities (Gunnarson, 2004; Sawada, 2000). A study done in Africa and Asia to assess who had greater benefits and decision making authority found that in most cases the central government determines the nature of power and control, placing tight constraints on local decision makers (Shackleton, 2002). Many decisions had to be taken at the national, sub-

national and community levels presenting a challenge to efficient collaboration and quick decision making (Plummer and Slaymaker, 2009) that is necessary to improve absorptive rate.

Inclusiveness of committees in terms of gender has also been linked to an improvement of governance and overall performance of community based water resource management groups (Pokharel, 2008, World water vision, 1999). Grauwe, (2005) also found out that the quality of leadership of the local organization has an importance on the outcomes. Similarly, Jinxia, 2010 observes that legal status and participation of users is one of the key principles in utilization of water resources by the WRUA. The report further states that a WRUA should be the users own organization, a legal identity and have a leadership elected and accepted by its members.

## **2.8 Accountability and transparency and its importance on utilization of funds**

In developing countries, accountability of the water sector is in a state of confusion and dysfunction with little responsiveness or accountability to citizens (Tropp, 2005 in Plummer and Slaymaker, 2009). Accountability or lack of it is brought by a breakdown of the information feedback loop (Svensson, 2006). In Tanzania failure of proper feedback mechanisms resulted in 80% of funds being spent on activities that were not planned for while in Uganda it was 87% (Svensson, 2006). Feedback helps in the improvement of future activities and ensures that money is spent on planned/budgeted activities. Participation of those involved in the process is important as the beneficiaries identify with the project and create a sense of ownership (Svensson, 2006).

Meera and Dinah, (2008) in a study on financing water and sanitation found an over emphasis on upward accountability. Also that mechanism for upward accountability existed in the organizations sampled but mechanisms for downward accountability were absent. The indicators measured were citizen's involvement in budgeting and planning and whether plans, reports, budgets and expenditures were publicly available. Other studies found out that focusing on accounting to the donor has its positive side which strengthens some forms of accountability by increasing external pressures for accurate reporting and more monitoring (Tendler, 1989; Bobbington and Riddell, 1996 pg 53-56 in Hulme and Edwards, 1995) which in turn builds the capacity of the group in the long run. Therefore any organization has to ensure that they adequately maintain the feedback loop and report upwardly to the donors, internally to its

membership in order to remain true to their vision and mission, downwardly to the target project beneficiaries and also to other organizations in the sector. This accountability will ensure the improvement of future projects and strengthen the organizations networks.

Similarly, WPP, 2008 acknowledges that transparency and accountability are key to governance. The report states that transparency requires strong sector monitoring and evaluation mechanisms. Some of the strategies that could be adopted include ready access to information, involvement of beneficiaries in management operations, citizen scorecard, and performance contracts for WRUAs. The report also identifies the need to incorporate reporting, documentation and monitoring procedures departmental budgets of the various WRUAs. In reality most organizations will concentrate on reporting upwardly to the donors just to get additional funds (Desai and Howes, Shah and Shah, Gariyo in Hulme and Edwards, 1995). These results in the organization defining performance based on the donor criteria and not the members. For the membership organization, this re-orientation of accountability from the members and the grassroots is a threat as its members turn into customers (Desai and Howes, Shah and Shah, Gariyo in Hulme and Edwards, 1995).

Transparency is a fundamental element of good governance and means that decisions are made on the table and not under the table. It means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely available and directly accessible to those who will be affected by such decisions and their enforcement and that enough information is provided and that it is provided in an easily understandable format and media. If transparency is optimized and corruption reduced close to 70% of resources in the water sector would be saved. In a study by Estache and Kouassi in 21 water companies in Africa they found that nearly 2/3 of operating costs were due to corruption. A study by Transparency International (June 2009) in Kenya found out that 57% of water consumed was unaccounted for and that cases of bribery were high at 87% which meant that corruption was hampering the provision of water services to the users. Thus enhanced transparency could free up a lot of much needed resources for other activities.

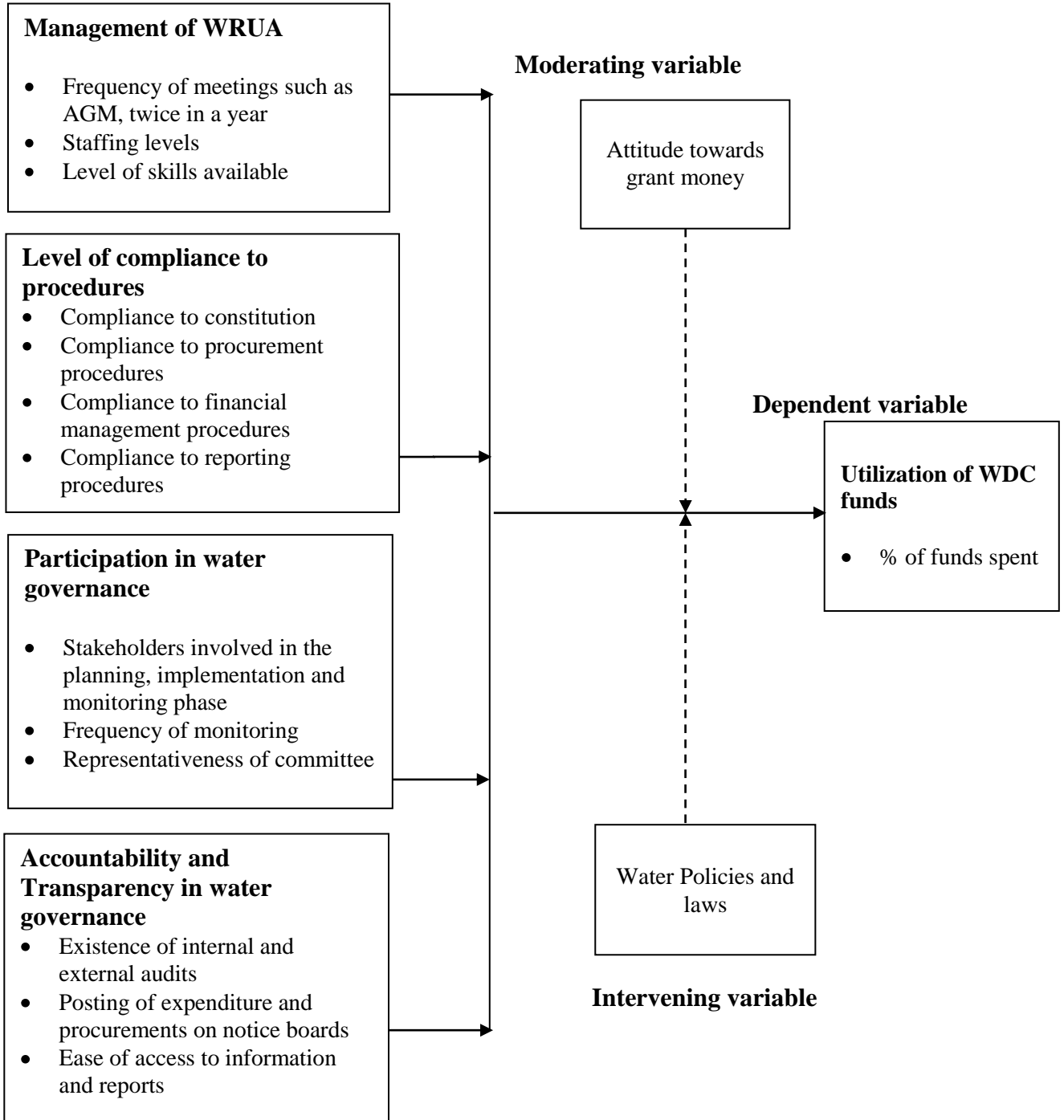
The study by Transparency International further found out that a lack of transparency by elected officials was prevalent among community based water management organizations. This was



reflected in the management of finances, irregular awarding of contracts, receiving kickbacks for tendering and free services, making secret decisions to their own advantage, failure to enforce standards, withholding information and collusion with politicians to fund poorly designed projects. Since the WRUAs are membership based and public bodies it means that the members should be aware of each and every decision made and reports, constitution, policies and the budgets accessible to all the members.

## 2.9 Conceptual Framework

### Independent variable



**Figure 1:** Conceptual framework showing interaction between the independent, dependent, intervening and moderating variables

The conceptual framework has four independent variables and one dependent variable. The independent variables identified for the study are management, participation, compliance to procedures and accountability in community based water governance. The utilization of funds which is the dependent variable will be assessed by calculating the amount of funds received from WDC that have been fully utilized by the WRUA. The receipt and distribution of funds involves a chain such that the entity that receives the funds will relocate resources to the next stage down. A low capacity within the distributing authority in this case the Water Services Trust Fund can also result in delays in funds disbursements and in turn affect the utilization of funds by the WRUA. Due to time constraints these variable will not be studied. Funds channeled through the WDC framework are considered as grants and grants present moral hazards since the members view them as free money which they are rightfully entitled to. The “entitlement mentality” among the members can tie up funds and reduce the effectiveness.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter gives an outline of how the study was carried out. It describes the research design, the target population, the sample and sampling procedure, research instruments, validity and reliability of instruments, data collection and data analysis procedures that were used.

#### **3.2 Research Design**

The research used a descriptive survey design because descriptive research does not involve modifying the situation under study nor to determine the cause-effect relationship. It involves acquiring information about a certain segment of the population and getting information on the characteristics, opinions or attitudes (Selamat, 2010; Orodho, 2003). The research design was chosen for this study because it enabled the researcher to obtain the opinions of stakeholders involved in water governance in their natural setting which is important since the concept of governance varies over space and time. It was also useful in summarizing the data collected in a way that provides descriptive information. The study used both quantitative and qualitative methods of data collection which enabled the researcher to bring together different methodologies for the triangulation of data (Kress, 2011). The researcher preferred the design as it enabled the collection of data from different groups and generated numerical and descriptive data.

#### **3.2 Target Population**

The target population was the WRUAs in the Upper Ewaso Nyiro Sub-region that covers 15,200sqkm. The Upper Ewaso Nyiro Sub-region has a total of 15 WRUAs but the study targeted Sub-catchment 5BE which has 7 WRUAs that have received funds from WDC. Therefore the target population was the membership of the 7 WRUAs making a total population of 559 members as shown in table 3.1. The respondents comprised the management committee officials and the members from the 7 WRUAs. The officials from the Water Resource Management Authority (WRMA) on whom the mandate of water resources rest, Water Service Trust Fund officials and Support organizations were also targeted as respondents for the study.

### 3.3 Sampling procedure and sample size

#### 3.3.1 Sampling procedure

The study used probabilistic procedures of sampling. Stratified random sampling was used to identify respondents within each WRUA. Stratified random sampling was preferred because in stratified random sampling, the strata are formed based on members' shared attributes or characteristics. The strata were thus based on the categories of membership which include commercial users, small scale farmers, riparian farmers, individuals and community water project. The proportionate stratification formula by Strattek, 2012 was then used to calculate the appropriate sample for each stratum.

#### 3.3.2 Sample size

7 WRUAs in the Upper Ewaso Nyiro Sub-region (Sub-catchment 5BE) and the 559 members provided the sample size. The formula by Yamane (1967) was then used to determine the appropriate sample size as follows:

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

Where:

n- sample size

N- Population size

e- level of precision at 95% confidence level

Thus sample size will be:

$$n = \frac{559}{1+559(0.1)^2} = 84.8$$

In order to obtain a sufficient sample for each WRUA stratum, the proportionate stratification formula by Strattek, 2012 was used:

$$n_h = (N_h/N)*n$$

Where:

$n_h$  - Sample size for stratum h

$N_h$ - Population size for stratum h

N- Total population size

n- Total sample size

The results of the formula are shown in Table 3.1 and the total sample size is 85. From using the formulas it was concluded that the sufficient sample size for the study was a total of 85 respondents.

**Table 3.1: Sample size by Strattek**

Name	Total Member ship	Management committee membership	Sample size $n_h=(N_h/N)*n$	Ordinary members membership	Sample size $n_h=(N_h/N)*n$
Likii	17	14	2.12	3	1
Nanyuki	80	13	1.97	67	10.18
Ngusishi	20	16	2.43	4	1
Teleswani	60	15	2.28	45	6.84
Ontulili	160	25	3.80	135	20.52
Sirimon	22	18	2.73	4	1
Timau	200	21	3.19	179	27.21
<b>Total</b>	<b>559</b>	<b>122</b>	<b>18.52</b>	<b>437</b>	<b>67.75</b>

*Source: Water Resource Management Authority data base*

### 3.4 Research Instruments

In this study close ended questionnaires and focus group guide were used. The questionnaire was distributed by the researcher to the WRUA, WRMA officers and Support organizations. The questionnaire was used to gather information because it is a typical method through which descriptive data can be collected (Orodho, 2003). It helped the researcher to gather both qualitative and quantitative data that provided information that was used to compare the level of water governance and funds utilization across the selected groups. The quantitative data was complimented by qualitative data gathered using the Focus group discussions. The questionnaire collected information based on a five point Likert response scale which measured the concept of good governance as follows: 1: Very High, 2: High, 3: Moderate, 4: Low, 5: Very low. The water governance criteria that were measured were 1) Participation, 2) Compliance to procedures, 3) Management capacity and 4) Accountability and transparency.

#### 3.4.1 Focus Group discussion

Focus group discussions (FGD) are an informal discussion comprising of a group of about 6-8 selected individuals on a particular topic and was used to collect information on governance

from the WRUA membership. The aim of the FGD was to describe meaning and interpretations of a select group of people to gain an understanding of a topic from the point of view of the participants (Wilkinson, 2004). The interaction among participants leads to more emphasis on the participant's point of view other than the researchers (Liamputtong, 2004). The strength of FGD is that it provides the researcher with an opportunity to appreciate the way the local people interpret their reality (Wilkinson, 2004). This is because the concept of governance is interpreted differently across various groups thus the FGD was used to collect information on the perceptions of all stakeholder groups. It was also used to qualify the information gathered using the close ended questionnaire method.

5 FGD's were carried out each with 7 participants drawn from the riparian, small scale irrigators, community water project, and individual membership categories of the WRUA. A WRMA official was also present in the FGD. Commercial farmer's categories were not able to participate and sent apologies. The FGD were held for Nanyuki, Likii, Timau, Ontulili and Ngusishi WRUA.

### **3.5 Pilot study**

Before the instruments were administered to respondents, they were tested using a pilot study. The pilot study tested whether the research instruments which include the focus group guide and questionnaires were accurate. This also enabled the researcher to test the research assistants who will administer the instruments. The information gathered in the pilot aided in identifying and correcting gaps in the instruments. The pilot was undertaken among colleagues and WRMA officers and WRUA members who were not included in the study.

### **3.6 Instrument Validity**

Content validity is the most important in Social Science research since the use of qualitative methods is to learn about the way subjects' view and measure concepts in a manner that accurately depicts the concepts and in this research, governance (Patric, 2011). Content validity is best ensured by subject matter experts or people who occupy a higher level than the concept being measured (Bollen, 1989) therefore for this research the researcher ensured content validity by consulting with the supervisor and related literature on governance.

### **3.7 Instrument Reliability**

The split half method was used by the researcher to ensure reliability of the instruments. The instruments were split into even and odd numbers which formed alternative forms. The forms were then administered to the respondents in the pilot study. The correlation coefficient between the odd and even number forms was then determined using Spearman's correlation coefficient and indicated the relative stability of the test. A score of 0.60 was considered sufficient (Bollen, 1989; Drost, 2009; Patric, 2011). Reliability was then improved by writing the items more clearly and giving clear instructions to the respondents (Patric, 2011).

### **3.8 Data Collection Procedure**

Data was collected using both primary and secondary sources of data. Questionnaires and FGD guide were used to collect primary data from the WRUA, Support Organizations, WRMA and WSTF officers. The questionnaires were distributed to the various respondents by the researcher and research assistants. They had guiding instructions so that respondents could understand the questions and stated a period of time within which the respondents should return the questionnaire to the researcher. The questions were phrased in a simple and clear language easily understood by the respondents.

Secondary data was collected from the records at the WRUA office, written reports, literature review and the relevant government offices. This contributed towards the formation of background information needed by the researcher in order to constructively build the project report.

### **3.9 Data Analysis**

After data collection, the data was organized and edited to remove any inconsistencies, repetitions or errors that would make analysis difficult. Descriptive statistics was used in presenting the frequency of the data gathered. It was also relevant in identifying the implication of these values (Mugenda and Mugenda, 2003). Analysis and presentation of the quantitative data was done using Statistical Package for Social Scientists version 20.0(SPSS). Correlation was also used to establish the relationship between the independent variables of management, participation, compliance to procedures, transparency and accountability against the dependent



variable of utilization of funds. Correlation was established using the Karl Pearson's coefficient of correlation.

Qualitative data generated from the FGD was taped during interviews with consent from the participants. The interviews from the various WRUAs were then transcribed and organized into categories which helped in the identification of any information relevant to the research questions and objectives.

### **3.10 Ethical Considerations**

The researcher ensured that authority was sought from the relevant authorities before commencement of the study. Authority was first sought from the University of Nairobi, then from the National Council of Science Technology and Innovation and finally from the Water Resource Management Authority under whom the Water Resource Users Associations fall. The respondents were also informed that the questionnaires were for research purpose only therefore the information given and the identity of the respondents would remain confidential. The researcher also ensured that the information gathered was beneficial and contributed to the existing body of knowledge on governance, to the WRUA and WRMA for the purpose of future decision making.

### 3.11 Operational Definition of Variables

**Table 3.2- Operational definition of variables**

Research objectives	Type of variable	Indicators	Measurement of indicator	Measurement scale	Research instruments	Data analysis
To assess how management capacity influences the utilization of funds	Independent	<ul style="list-style-type: none"> <li>• Level of satisfaction of members with the management capacity of the WRUA</li> <li>• Full time Staff employed by WRUA</li> <li>• Availability of Technical, financial and managerial skills available</li> </ul>	% satisfied  Number of staff  Types of skills available	Ordinal	Questionnaire  FGD	Descriptive statistics  (mean, mode and median)
To determine how the level of compliance to procedures influences the utilization of funds;	Independent	<ul style="list-style-type: none"> <li>• Compliance to WDC financial and record keeping guidelines</li> <li>• Compliance to WDC procurement procedures</li> <li>• Compliance to reporting procedures</li> <li>• Compliance to constitution</li> </ul>	Level of compliance  Frequency of updating procedures on notice board  Frequency of reporting  Level of compliance	Ordinal	Questionnaire  FGD	Descriptive statistics  (mean, mode and median)

<b>Research objectives</b>	<b>Type of variable</b>	<b>Indicators</b>	<b>Measurement of indicator</b>	<b>Measurement scale</b>	<b>Research instruments</b>	<b>Data analysis</b>
To establish how participation influences the utilization of funds;	Independent	<ul style="list-style-type: none"> <li>Stakeholders involved in the planning, implementation and monitoring phase</li> <li>Frequency of monitoring and evaluation of activities implementation</li> <li>Representation of stakeholder groups in the management</li> </ul>	No. involved at each phase  Frequency  Level of satisfaction	Interval	Questionnaire  FGD	Descriptive statistics (mean, mode and median)
To establish how accountability and transparency mechanisms influences the utilization of funds;	Independent	<ul style="list-style-type: none"> <li>Existence of external audits/internal audits</li> <li>Availability and access to information and reports by stakeholders</li> <li>Posting of WDC disbursements, expenditures and procurements on WRUA notice boards</li> <li>Downward accountability to members</li> </ul>	No. of audits  Level of satisfaction  No. of notices  % satisfied	Ratio	Questionnaire  FGD	Descriptive statistics (mean, mode and median)

<b>Research objectives</b>	<b>Type of variable</b>	<b>Indicators</b>	<b>Measurement of indicator</b>	<b>Measurement scale</b>	<b>Research instruments</b>	<b>Data analysis</b>
Utilization of funds	Dependent	<ul style="list-style-type: none"> <li>• Level of funds utilization</li> <li>• Duration taken</li> </ul>	% spent  No. of Months taken	Ratio	Content analysis	Descriptive statistics (mean, mode)

**CHAPTER FOUR**  
**DATA ANALYSIS, PRESENTATION AND INTERPRETATION**

**4.1 Introduction**

This chapter focused on data analysis, interpretation and presentation. The purpose of this study was to establish the importance of community based water governance on the utilization of Water Resource Users Associations Development Cycle funds within the Upper Ewaso Nyiro Sub-region, Laikipia County. The objectives of the study were to determine the importance of WRUA management in the utilization of WDC funds; assess the importance of compliance to procedures in the utilization of WDC funds; establish the importance of participation in the utilization of WDC funds and establish the importance of accountability and transparency mechanisms in the utilization of WDC funds.

**4.2 Response Rate**

**Table 4.1: Response Rate**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Returned questionnaires	77	90.6
Unreturned questionnaires	8	9.4
<b>Total</b>	<b>85</b>	<b>100</b>

Table 4.1 illustrates the response rate of the respondents who participated in the study. The study targeted 85 respondents. Out of 85 questionnaires distributed, 77 questionnaires which represents 90.6% response rate were completely filled in and returned. This complied with Mugenda and Mugenda (2003) who suggested that for generalization a response rate of 50% is adequate for analysis and reporting, 60% is good and a response rate of 70% and above is excellent. This response rate can be attributed to the data collection procedure, where the researcher personally administered questionnaires with the help of one research assistant and waited for respondents to fill in. The response rate demonstrates a willingness of the respondents' to participate in the survey that the study sought.

### 4.3 Demographic Data of the Respondents

The researcher found it crucial to ascertain the broad information of the respondents since it provides basis under which the study can fairly produce relevant information. The analysis relied on this information so as to classify the different results according to their knowledge and responses. This section looked at the respondents' gender, age, positions they hold in WRUA and the duration they held the positions.

**Table 4.2: Demographic Data of the Respondents (n=77)**

Category	Frequency	Percentage
<b>Age of the respondents</b>		
18 to 30 years	9	11.7
31 to 40 years	28	36.4
41 to 50 years	21	27.3
Over 51 years	19	24.7
<b>Total</b>	<b>77</b>	<b>100</b>

36.4% of respondents were aged between 31 to 40 years, 27.3% of the respondents were aged between 41 to 50 years, 24.7% of the respondents were aged over 51 years and 11.7% of the respondents were aged 18 to 30 years.

**Table 4.3: Position held by respondents**

Category	Frequency	Percent
<b>Positions held by respondents</b>		
Chairman	6	7.8
Vice chairman	4	5.2
Secretary	3	3.9
Treasurer	12	15.6
Member	42	54.5
Stakeholder	6	7.8
Others	4	5.2
<b>Total</b>	<b>77</b>	<b>100</b>

Majority of the respondents (54.5%) indicated that they were ordinary WRUA members with the rest of the respondents being WRUA chairmen (7.8%), treasurers (15.6%) as from Table 4.3. This showed that the research collected views from a cross section of stakeholders within the sub-catchment. Further 94% of the respondents had held their position in the WRUA for more than 2 years. This implies that all the respondents were in a position to comprehend the importance of community based water governance in the utilization of Water Resource Users Association Development Cycle (WDC) funds in Laikipia County.

#### **4.4 Management of WRUA**

This section looked at the capacity of the WRUA in terms of skills, staffing levels and effectiveness of coordination with external agencies all of which are discussed in the following sub-sections.

##### **4.4.1 Responsibility for Management of WDC Funds at WRUA**

The managing entity has a great influence in the performance of any institution. Thus the researcher asked the respondents to indicate who is responsible for the management of WDC funds in the WRUA. Their responses are highlighted in Table 4.4.

**Table 4.4: Responsibility for Management of WDC Funds at WRUA (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Executive manager	13	16.9
Management committee	59	76.6
Office bearer	1	1.3
Sub-committee	2	2.6
Government officials	2	2.6
<b>Total</b>	<b>77</b>	<b>100</b>

From the Table 4.4, 76.6% of the respondents indicated that the management committee was mandated with the responsibility of managing WDC funds in WRUA. This shows that the management committee of the WRUA has the sole responsibility of managing WDC funds.

#### 4.4.2 Role awareness in the management of WDC funds

According to the WDC manual 2008, the management committee works with three task committees of finance, procurement and monitoring. The majority of respondents at 90.5% were of the opinion that the three WRUA sub-committees were aware of their roles as far as assisting the management committee in implementing WDC activities. The FGD respondents further stated that the sub-committees performed their roles adequately in the area of procurements, financial reporting, monitoring activities and presenting independent reports to members during the annual general meeting.

**Table 4.5: Management Role Pertaining to Fund Management (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Fully aware	50	64.9
Mostly aware	22	28.6
Partly aware	3	3.9
Hardly aware	0	.0
Not aware	2	2.6
<b>Total</b>	<b>77</b>	<b>100</b>

Further from Table 4.5, 93.5% of the respondents indicated that the management committee on whom the mandate of utilizing WDC funds rests, was fully aware of their role as pertains to funds management. 3.9% of the respondents indicated that management was partly aware and 2.6% of the respondents noted that management was not aware of their role as pertains to funds management. This means that the management committee, on whom the sole mandate of managing WDC funds rests, is fully aware of their roles which include planning, coordinating, book keeping and reporting to donors and stakeholders.

The awareness of roles by the various Sub-Committees and the main Management Committee is important since it implies that role conflict is avoided which the World Bank, 2004 study identified as one area that affects the performance of public institutions.



#### 4.4.3 Technical, financial and managerial Skills Management has to Utilize WDC Funds

Paulais, 2010 and JICA, 2003 studies found out that technical, financial and managerial skill are necessary for the effective management of water based institutions and a lack of this key skills result in low absorptive capacity. Thus in this section the researcher sought to know how equipped the WRUA management was with this skills in the utilization of WDC funds. 92.3% of the respondents were of the opinion that the management had sufficient technical skills, while 71.5% thought the management had sufficient financial management skills. Only 66.3% of the respondents thought that the management had sufficient managerial skills to manage the WDC funds. The high opinion on the availability of financial and technical skills can be attributed to the consistent support and training provided by WRMA and WSTF in those areas to enable the WRUA implement activities on time. The WDC framework and in response the training program places little emphasis on equipping the committees with managerial skills which are important in the planning, coordinating, organizing, directing and controlling for effective activities implementation.

#### 4.4.4 Importance of Training in Enhancing Skills in the Management of Funds

Training is an important component and consists of developing knowledge, skills and operational capacity so that individuals and groups may achieve their purposes (Okello, 2008). The respondent's views on the importance of training in enhancing skills in the management of funds are highlighted in Table 4.6.

**Table 4.6: Importance of Training in Enhancing Skills (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
No response	1	1.3
Very important	59	76.6
Highly important	15	19.5
Moderately important	2	2.6
Lowly important	0	.0
Not important	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From the table 4.6, 96.1% of the respondents rated training as important in enhancing skills in the management of funds. This is in line with LWF, 2012 which showed that increased and targeted training of the management committee increased their ability to manage their resources.

#### 4.4.5 Adequacy of WRUA Staffing Levels

In this section the researcher asked the respondents to indicate how adequate the WRUA's staffing levels were in effectively managing the activities. Their responses are highlighted in Table 4.7.

**Table 4.7: Adequacy of WRUA Staffing Levels (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
No response	1	1.3
Very adequate	16	20.8
Highly adequate	30	39.0
Moderately adequate	28	36.4
Lowly adequate	2	2.6
Not adequate	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From the table 4.7, 59.8% of the respondents felt that there was adequate WRUA staffing levels to effectively manage activities, 36.4% of the respondents felt that the staffing levels were moderate and 2.6% of the respondents felt that the staffing levels were not sufficient to effectively manage activities.

However Szabo, 2011 study identified a mix of adequate staffing levels coupled with skills in relevant areas and motivation as important ingredients in increasing absorption of funds. The findings from Table 4.8 document analysis of WRUA, WSTF and WRMA records agree with this as it shows the importance of a mix of skills and staffing level. The results show that the WRUAs who have engaged full time staff with technical and financial training backgrounds have a higher rate of funds utilization than those who do not have full time staff.

**Table 4.8: Documents analysis of WRUA, WRMA and WSTF records**

<b>Name of WRUA</b>	<b>Contract Amount</b>	<b>Contract validity period</b>	<b>Amount utilized</b>	<b>Percentage utilized</b>
Sirimon	1,989,600	Dec 2009 to May 2011	770,600	38.7%
Ngusishi	9,255,900	June 2009 to April 2011	9,255,900	100%
Teleswani	998,500	July 2010 to March 2011	468,500	46%
Likii	1,990,500	June 2011 to June 2012	1,990,500	100%
Timau	1,000,000	July 2010 to Dec 2010	747,000	74.7%
Ontulili	964,000	Nov 2010 to March 2011	534,000	55.4%

Ngusishi and Likii which have employed project managers and qualified accountants have a 100% funds utilization which is supported by previous studies that found that staffing levels and skills are a key factor in the rate of funds utilization by institutions.

#### **4.4.6 Effectiveness of Coordination between the Management and Stakeholders**

World Bank, 2004 study found that effectiveness of coordination between the WRUA and other key stakeholders like WRMA affected the performance of the WRUA. Thus in this section the researcher sought to find how effective the coordination is between WRUA and stakeholders. Table 4.9 depicts the responses in terms of coordination with stakeholders.

**Table 4.9: Effectiveness of Coordination between the Management and Stakeholders (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
No response	1	1.3
Very effective	30	39.0
Highly effective	29	37.7
Moderately effective	14	18.2
Lowly effective	3	3.9
Not effective	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From the table 4.9, 76.7% of the respondents rated the coordination between management and stakeholders as either very effective or highly effective, 18.2% of the respondents rated the coordination as moderately effective and 3.9% of the respondents rated the coordination between management and stakeholders as not so effective. WDC framework promotes an Integrated approach to Water Resources Management which means that the WRUA management has to deal with multiple stakeholders, institutions and multiple and competing demands for water. Therefore it is necessary if the WRUA can be able to coordinate all this competing demands and achieve the objectives of IWRM.

#### **4.5 Compliance to Procedures**

Compliance to procedures provides the foundation for governance the lack of which promotes corruption and lack of accountability which results in donors losing confidence and reducing investment (Miguel and Jouravlev, 2006). To address issues as regard to compliance procedures, the researcher asked the respondents if they were aware of rules that WRUA uses in the management of WDC funds, level of compliance to the WRUA constitution, level of compliance to procurement procedures at the WRUA, level of compliance to financial management procedures at WRUA and the level of compliance to progress reporting procedures. These issues are discussed in the following sub-sections.

##### **4.5.1 Rules WRUA Uses in the Management of WDC Funds**

The respondents were asked if they were aware of the rules that WRUA uses in management of WDC funds. The respondents indicated that they were aware of procurement rules, WRUA constitution, WDC contract procedures, monitoring accounts and expenditure. They were also aware that the constitution is the main rule that governs the WRUA and outlines issues on participation of all members, management and conservation of water resources, disconnection of illegal abstractors, management of water catchment areas, issuing of water licenses, facilitating stakeholders meetings and payment of membership fees.

#### 4.5.2 Level of Compliance to the WRUA Constitution

The respondents indicated the level of compliance to the WRUA constitution as shown in table 4.10.

**Table 4.10: Level of Compliance to the WRUA Constitution (n=77)**

Category	Frequency	Percentage
Very high	17	22.1
High	42	54.5
Moderate	17	22.1
Low	1	1.3
Very low	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From Table 4.10, 76.6% of the respondents rated the level of compliance to the WRUA constitution as high, 22.1% of the respondents rated the level of compliance to the WRUA constitution as moderate and 1.3% of the respondents rated the level of compliance to the WRUA constitution as very low.

#### 4.5.3 Repercussions to WRUA Officials if they fail to follow the Constitution

The WRUA constitution forms the foundation of the WRUA and failure to comply shows poor compliance to basic rules of governance of community based institutions. The responses to repercussions if WRUA officials fail to follow constitution are depicted in Table 4.11.

**Table 4.11: Repercussions to WRUA Officials if they fail to follow the Constitution (n=77)**

Category	Frequency	Percentage
Expelled from WRUA	10	13.0
Dismissed	19	24.7
Suspended	18	23.4
Reported to WRMA	30	39.0
No action taken	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

The majority (39.0%) of respondents as from Table 4.11 stated that cases are reported to WRMA to deal with which shows that the groups do not have sufficient internal capacities and have to turn to external persons to handle contravention of their own constitutions. This is in line with LWF, 2012 that found that most of the WRUA constitutions were weak in terms of conflict resolution and need to be strengthened in order to improve governance.

#### 4.5.3 Level of Compliance to Procurement, Financial and Reporting procedures

In this section the researcher asked the respondents to indicate the level of compliance to the procurement, financial and WDC reporting procedures. Their responses are shown in Table 4.12.

**Table 4.12: Level of Compliance to Procurement Procedures at WRUA (n=77)**

Category	Frequency	Percentage
Very high	2	2.6
High	21	27.3
Moderate	38	49.4
Low	16	20.8
Very low	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From the table 4.12, 70% of the respondents rated the level of compliance to procurement procedures as moderate to low. This was also emphasized by the FGD where the participants felt that procurements were done without due diligence and contracts awarded to sitting committee members resulting in issues of transparency. This is in contravention of WDC contract rules that state no sitting members of the committee should be awarded WDC tenders.

79.3% of the respondents were of the opinion that the WRUAs compliance to WDC financial management guidelines was very high while only 20.8% said the level of compliance was low. From table 4.13, 72.1% of the respondents stated that the compliance also to progress reporting procedures was very high. WDC guidelines, 2013 provide for the formats and frequency of

both financial and progress reporting procedures. WRMA also puts an emphasis and is constantly training the WRUAs in this area. The RUA submit a report to WRMA and WSTF on a quarterly basis highlighting the status of activities and a summary of expenditures and account balances.

**Table 4.13: Level of Compliance to Progress Reporting Procedures (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Very high	21	25.3
High	36	46.8
Moderate	18	23.4
Low	2	2.6
Very low	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

#### **4.6 Participation in Water Governance**

The researcher sought to address issues regarding participation in water governance and asked the respondents to indicate the frequency of the management committee meetings, proportion of management members involved in the meetings to plan for funds utilization, how adequate management committee represent all stakeholder groups in the sub-catchment, level of participation of stakeholders in the utilization of WDC funds, frequency of monitoring implemented activities done, extent to which stakeholders are involved in the monitoring of funded activities and how aware ordinary members are about their roles and responsibilities in providing checks to the management. These issues are addressed in the following sub-sections.

##### **4.6.1 Meetings held to Plan for Funds Utilization**

Meetings are important in governance since it is through meetings that key decisions affecting resources allocation, which activities to implement and where to implement them are made. Thus the researcher sought to know the regularity of meetings held and the proportion of members who participate in the meetings. The responses are depicted in table 4.14.

**Table 4.14: Regularity of Meetings to Plan for Funds Utilization (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
No response	2	2.6
Twice a month	23	29.9
Once in two months	33	42.9
Quarterly	18	23.4
Twice a year	1	1.3
Never	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

The WRUA constitutions state that management meetings should be held at least once in three months. However due to planning for WDC funds which have a specific timeline to implement, results in WRUAs having meetings more frequently. The increased frequency is highlighted in Table 4.14 with 72.8% of respondents stating that the WRUA held meetings at least once a month to plan for funds utilization. 29.9% of the respondents indicated that the committee meetings were held twice a month, 23.4% of the respondents indicated that the committee meetings were held quarterly.

**Table 4.15: Proportion of Management Members Involved in Meetings to Plan for Fund Utilization (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
No response	2	2.6
All	30	39.0
Two thirds	39	50.6
One thirds	2	2.6
A few	3	3.9
Only the office bearers	1	1.3
<b>Total</b>	<b>77</b>	<b>100</b>



In addition, Table 4.15 indicates that 89.6% of respondents were of the opinion that at least more than two thirds of the members participate in meetings to plan for how funds will be utilized. This reflects compliance to the WRUA constitution which states that the quorum for any meeting of the WRUA should be two thirds of the elected representatives. Since the management meetings are the main forum for decision making and stakeholder representation, then the views of the stakeholders are captured

### 4.6.3 Management Representation of Stakeholder Groups

Water resources management involves multiple stakeholders with multiple interests and uses for water. Therefore the views of all these stakeholders have to be incorporated and this is best achieved by their representation in the management committee. Table 4.16 depicts the respondent's views on how adequately the stakeholder groups are represented in the WRUA management.

**Table 4.16: Management Committee Representation of all Stakeholder Groups in the Sub-catchment (n=77)**

Category	Frequency	Percentage
No response	3	3.9
Very adequate	43	55.8
Mostly adequate	28	36.4
Partly adequate	1	1.3
Hardly adequate	2	2.6
Not adequate	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From the Table 4.16, 92.2% of the respondents indicated that the stakeholder groups were either very adequate or mostly adequate represented in the sub-catchment. The study by Wangombe, 2013; Ndeti, 2013 agrees with these findings where the users were of the opinion that the management adequately represents all stakeholder groups within the Sub-Catchment. This implies that the views of all key stakeholders are adequately represented in meetings for proper decision making.

The reason stated for this view is that the WRUA is divided into zones and each zone elects representatives from the stakeholder groups identified within the sub-catchment. Community water projects and commercial farmers also send representatives to the WRUA. Thus none of the stakeholder groups feel left out in the management. Participation in the management is important since the management has the sole responsibility of overseeing and making decisions on the use of funds allocated.

#### 4.6.5 Frequency of Monitoring Implemented Activities

In this section the researcher asked the respondents to indicate the frequency in monitoring of implementation activities done. Their responses are depicted in Table 4.17.

**Table 4.17: Frequency of Monitoring Implemented Activities (n=77)**

Category	Frequency	Percentage
Twice a month	20	26.0
Once in two months	31	40.3
Quarterly	22	28.6
Twice a year	2	2.6
Never	2	2.6
<b>Total</b>	<b>77</b>	<b>100</b>

Table 4.17 indicates that 40.3% of the respondents stated that monitoring activities were done once in two months while 26% indicated that it was done once in two months. Therefore the majority at 66.3% of the respondents was of the opinion that monitoring was done on a regular basis. This can be attributed to the monitoring sub-committee whose main role is to monitor the implementation of activities and provide an independent report to members during the AGM. However from the FGD the ordinary members stated that they are not involved in the monitoring and as Omollo 2009 states involvement of the community is important for broad based support of the project and ensuring that funds are used for the intended purposes.

#### 4.6.7 Awareness of the Ordinary Members about their Roles and Responsibilities

Odhiambo and Taifa, 2009 states that for ordinary members of a group to meaningfully participate in group activities they need to be aware of what their roles and responsibilities are. In this section the researcher asked the respondents to indicate the awareness of ordinary members of their roles and responsibilities in providing checks and balances to the management. Their responses are highlighted in Table 4.18.

**Table 4.18: Awareness of the Ordinary Members about their Roles and Responsibilities (n=77)**

Category	Frequency	Percentage
Fully aware	26	33.8
Mostly aware	41	53.2
Partly aware	7	9.1
Hardly aware	3	3.9
Not aware	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

From the Table 4.18, 87.0% of the respondents indicated that ordinary members were either mostly aware about their roles and responsibilities in providing checks to management. This implies that the members have the ability and capacities to not only check the excesses of the management committee but also to provide adequate support to the management in project implementation and monitoring.

#### 4.7 Accountability and Transparency in Water Governance

The researcher sought to address issues in regard to accountability and transparency in water governance and asked the respondents to indicate where WRUA records were kept, rate accessibility of the records by WRUA members, frequency of updating information on procurement and expenditure on WRUA notice board, WRUA's conduct of independent external audit and avenues available to members to report irregular practices to an appropriate authority.

#### 4.7.1 Storage of WRUA Records and accessibility

In this section the researcher asked the respondents to indicate where WRUA records were kept. Their responses are depicted in table 4.19.

**Table 4.19: Storage of WRUA Records (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
WRUA offices	74	96.0
WRMA offices	1	1.3
Provincial administration offices	0	.0
WRUA official homes	1	1.3
No particular place	1	1.3
<b>Total</b>	<b>77</b>	<b>100</b>

The location where records are stored is important because it determines the ease of access to documents which enhances transparency. The location has to be in a public place and in close proximity to group activities. From Table 4.19, a majority (96.0%) of the respondents indicated that the records were kept in WRUA offices and 1.3% of the respondents indicated that WRUA records were kept in either WRMA offices or WRUA officials homes.

From Table 4.20, 92.2% of the respondents were of the view that the location where the records are stored, which is the WRUA office was very accessible to the members within the sub-catchment. Accessibility implies that the WRUA members can go to the office during working hours, access any document and confirm how the money is being spent and for what purpose. Accessibility to information is a good indicator of transparency within a group.

**Table 4.20: Accessibility of Records by WRUA Members (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Very accessible	44	57.1
Highly accessible	27	35.1
Moderately accessible	6	7.8
Low accessibility	0	.0
Not accessible	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

#### **4.7.3 Frequency of Updating Information on the WRUA Notice board**

Transparency involves doing things on the table as opposed to under the table which makes information and access to that information a key determinant of transparency in a group. Respondents were thus asked to indicate how frequent the information on procurement and expenditure is updated/ posted on the WRUA notice board. Their responses are illustrated in Table 4.21.

**Table 4.21: Frequency of Updating Procurement and Expenditures Information (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Monthly	27	35.1
Quarterly	34	44.2
Twice a year	2	2.6
Once a year	13	16.9
Never	0	1.3
<b>Total</b>	<b>77</b>	<b>100</b>

WDC guidelines 2013 require that the procurement and monitoring sub-committee post information on expenditure and procurements on a monthly basis however from table 4.21, only 35.1% of the respondents stated that the WRUA was posting and updating information on the WRUA notice board on a monthly basis. Majority of the respondents, 44.2% stated that the

common procedure of WRUAs is to update the information on a quarterly basis while 16.9% stated it was updated once a year. During the FGD it was noted that most of the members did not have up to date information on the status of WDC funds which can be attributed to the frequency of updating this information.

#### **4.7.5 WRUA Undertakings of Independent External Audits and Findings**

In this section the researcher asked the respondents if WRUA undertakes an independent external annual audit and findings are shared with members. Their findings are highlighted in Table 4.22.

**Table 4.22: WRUA Undertakings of Independent External Audits and Findings (n=77)**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
No response	2	2.6
Annually	35	45.5
Once in 2 years	34	44.2
After 3 years	5	6.5
Hardly	1	1.3
Never	0	.0
<b>Total</b>	<b>77</b>	<b>100</b>

WSTF and WRMA under the WDC framework conduct an audit for their own personal use and the findings are rarely shared with members. Therefore an independent annual audit conducted by the WRUA is an important report that the members can use to verify how funds have been spent by the WRUA management. From the findings in Table 4.22 a majority (89.7%) of the respondents indicated that an audit was done almost every year and that they were satisfied with the findings. This shows that the transparency mechanisms put in place by WRUA are effective and that WRUA makes an effort to report to its members on funds usage.

#### 4.7.8 Avenues Available to Members to Report Irregular Practices

In this section the researcher asked the respondents to indicate the avenues available to the members of WRUA to report irregular practices to an appropriate authority. The results are shown in Table 4.23.

**Table 4.23: Avenues Available to WRUA Members to Report Irregular Practices (n=77)**

Category	Frequency	Percentage
Anonymous box at WRUA	4	5.2
Zonal committee official	37	48.1
Government officials	33	42.9
Public meetings	2	2.6
None	1	1.3
<b>Total</b>	<b>77</b>	<b>100</b>

From the Table 4.23, 48.1% of the respondents indicated that the avenues available to the members of WRUA to report irregular practices to an appropriate authority was through zonal committee officials, 42.9% of the respondents indicated that they used government officials, 5.2% of the respondents used anonymous box at WRUA, 2.6% of the respondents used public meetings and 1.3% of the respondents did nothing.

Participants in the FGD indicated that reporting to the zonal representative was also the most accessible since they took immediate action and reported to the relevant government offices for action. This concurs with Ayoo, 2007 study that also found out that having accessible avenues for members to report grievances improved the group's performance and dynamics.

#### 4.8 Correlation analysis

The purpose of this study was to establish the importance of Community based water governance on the utilization of WDC funds within the Upper Ewaso Nyiro Sub-region, Laikipia County. To achieve this, the researcher carried out correlation analysis between the independent and dependent variables of WDC funds utilization. The analysis was carried out with the help of SPSS version 20.0 at a confidence level of 95%. The findings are presented in Table 4.24.

**Table 4.24: Correlation output**

<b>Variable</b>	<b>r</b>	<b>df</b>	<b>p</b>
Management of WRUA	0.641	75	0.007***
Compliance to procedures	0.854	75	0.033***
Participation	0.118	75	0.62
Transparency and accountability	0.210	75	0.66

\*\*\*Significant at 95%, r=Pearson product moment- correlation coefficient, df= Degrees of freedom, p= P -value

The findings in Table 4.24 indicate that the WRUA management capacity had a strong positive ( $r=0.641$ ,  $df=75$ ,  $p<0.05$ ) correlation with the utilization of WDC funds. Similarly compliance to procedures had a strong positive ( $r=0,854$ ,  $df=75$ ,  $p<0.05$ ) correlation with utilization of WDC funds. Participation in water resource management had a weak positive correlation with utilization of WDC funds. Similarly, accountability and transparency had a weak positive ( $r=0.210$ ,  $df=75$ ,  $p<0.05$ ) correlation with utilization of WDC funds.

The findings show that compliance to procedures and the management capacity of WRUA were the most important determinants of utilization of WDC funds. This can be attributed to the fact that WDC puts a strong emphasis on compliance to procedures even trainings conducted are targeted at improving the compliance of WDC procedures. This implies that failure to comply to procedures will almost certainly result in the failure of projects. The findings are in agreement with Watson, 2007 who indicated that compliance to procedures is an important aspect without which there can be no respect for the procedures no matter how well the procedures are formulated. The findings further agree with Miguel and Jouravlev, 2006 who also observed that compliance to procedures provides the foundation for governance, the lack of which promotes corruption and lack of accountability which results in donors losing confidence and reducing investments. The management capacity also in terms of skills and staffing levels is also very critical to the success of projects and this agrees with other findings by Paulais, 2010: JICA, 2003 and Szabo 2011. The studies found that adequate staffing levels together with the right and sufficient skills improved the rate of funds utilization.



## **CHAPTER FIVE**

### **SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presented the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made. The conclusions and recommendations drawn were focused on addressing the purpose of the study which was to establish the importance of community based water governance on the utilization of Water Resource Users Associations Development Cycle funds within the Upper Ewaso Nyiro Sub-region, Laikipia County.

#### **5.2 Summary of Findings**

The summary of the findings are based on the objectives of the study.

##### **5.2.1 Importance of WRUA management capacity in funds utilization**

The researcher started by looking at the importance of WRUA management capacity in the utilization of WDC funds. The findings from the study showed that 76.6% of the respondents indicated that the management committee was mandated with the responsibility of managing WDC funds in WRUA, 93.5% of the respondents indicated that the management was either fully or mostly aware of their role as pertaining funds management, 90.9% of the respondents indicated that the sub-committee members were either fully or mostly aware of their roles in the utilization of the WDC funds, 70.2% of the respondents indicated that management was either very equipped or highly equipped with technical skills to utilize the WDC funds, 66.3% of the respondents indicated that management was equipped with managerial skills to utilize WDC funds, 71.5% of the respondents indicated that management was either very equipped or highly equipped with financial skills to utilize WDC funds, 96.1% of the respondents rated training as either very important or highly important in enhancing skills in the management of funds. 59.8% of the respondents felt that there was adequate WRUA staffing levels to effectively manage activities.

### **5.2.2 Importance of compliance procedures in utilization of WDC funds**

The second objective assessed the importance of compliance to procedures in the utilization of WDC funds and the findings from the study showed that 76.6% of the respondents rated the level of compliance to the WRUA constitution as high, 49.4% of the respondents rated the level of compliance to procurement procedures as moderate, 79.3% of the respondents rated the level of compliance to financial management procedures as high and 72.1% of the respondents rated the level of compliance to progress reporting procedures as high. 39.0% of the respondents indicated that WRUA officials were reported to WRMA if they failed to follow the constitution, 24.7% of the respondents pointed out WRUA officials were dismissed if they failed to follow the constitution, 23.4% of the respondents indicated that WRUA officials were suspended if they failed to follow the constitution and 13.0% of the respondents pointed out that WRUA officials were expelled from WRUA if they failed to follow the constitution.

### **5.2.3 Importance of participation in utilization of WDC funds**

The third objective addressed the importance of participation in the utilization of WDC funds and the findings showed that 42.9% of the respondents indicated that the committee meetings were held once in two months, 50.6% of the respondents indicated that two thirds of the members were involved in the meetings to plan for funds utilization, 92.2% of the respondents indicated that the stakeholder groups were either very adequate or mostly adequate represented in the sub-catchment, 88.4% of the respondents specified that the level of participation of stakeholders in the utilization of WDC funds was high, 40.3% of the respondents indicated that monitoring activities were done once in two months, 80.5% of the respondents indicated that there was a high involvement of stakeholders in the monitoring of funded activities. 87.0% of the respondents indicated that ordinary members were either fully or mostly aware about their roles and responsibilities in providing checks to management.

### **5.2.4 Importance of accountability in utilization of WDC funds**

The last objective assessed the importance of accountability and transparency mechanisms in the utilization of WDC funds and the findings showed that 96.0% of the respondents indicated that the records were kept in WRUA offices and 1.3% of the respondents indicated that WRUA records were kept in either WRMA offices, WRUA official homes and some respondents

indicated they were kept in no particular place. 92.2% of the respondents indicated that the records were either very accessible or highly accessible by WRUA members, 44.2% of the respondents indicated that information on procurement and expenditure was updated/posted on the WRUA notice board quarterly, 35.1% of the respondents indicated it was posted monthly, 16.9% of the respondents indicated it was posted once a year, 2.6% of the respondents indicated that they posted information twice a year and 1.3% of the respondents indicated that information on procurement and expenditure was never updated/posted on the WRUA notice board. 48.1% of the respondents indicated that the avenues available to the members of WRUA to report irregular practices to an appropriate authority was through zonal committee officials, 42.9% of the respondents indicated that they used government officials, 5.2% of the respondents used anonymous box at WRUA, 2.6% of the respondents used public meetings and 1.3% of the respondents did nothing.

### **5.3 Discussion**

The study sought to discuss the research findings based on the four objectives and subjecting the findings to literature and further concluded on each of them.

#### **5.3.1 Management capacity in the utilization of funds**

The study found that it was the management committee that was mandated with the management of WDC funds in WRUA and they were aware of their roles as pertains to funds management. The sub-committee members were also aware of their roles in the utilization of the WDC funds. However, it was not established if they performed their roles as deemed necessary. The management was adequately equipped with technical skills, managerial skills and financial management skills to utilize WDC funds. This could be attributed to the continuous trainings carried out by WSTF and WRMA to equip the management with sufficient skills. Therefore training was seen being important in enhancing skills in the management of funds coupled with adequate staffing levels to effectively manage the WRUA activities. Document analysis further confirmed that WRUAs with full time staff had a higher utilization rate. It was also noted that there was good coordination between the management and stakeholders in the utilization of WRUA WDC funds. This is in agreement with studies by

Sumpikova 2011; Lopez, 2010; Serie, 2009; Szabo, 2011) who found out that a lack of skills and poor coordination with stakeholders resulted in low funds uptake by institutions.

### **5.3.2 Influence of the Level of compliance to procedures in utilization of funds**

The second research question looked at the whether the level of compliance to procedures influenced the utilization of funds. The results showed that indeed the respondents were aware of some of the rules WRUA uses in the management of WDC funds that range from procurement rules, WDC contract procedures, monitoring of accounts and expenditure, management and conservation of water resources and so on. The level of compliance to the WRUA constitution was high with procurement procedures, financial management and progress report procedures being adhered to in varying levels. Overall there was compliance to most of the laid out procedures that governed the use and management of WDC funds. This is in agreement with other studies (KWAHO, 2009; Miguel and Jouravlev, 2006) which found that compliance to the procedures was the foundation for governance the lack of which promotes corruption and lack of accountability which results in donors losing confidence and reducing investment. The Rio Earth summit (1992) recognized this and established an international mandate to build compliance capacity as an important aspect of integrated water resources management. Analysis of WSTF, WRUA and WRMA records showed that compliance to procedures was very important in funds utilization. This can be attributed to the WDC structure which emphasizes procedures and record keeping and rarely follows up on the impacts of activities on livelihoods. FGD participants stated procedures were too complex for community based organizations.

### **5.3.3 Extent of participation in utilization of funds**

The third research question addressed the extent to which participation influence the utilization of funds. The outcomes of the study showed that to enhance participation of the members and stakeholders, committee meetings were held at least once in two months with at least two thirds of the members in attendance to plan for funds utilization. Respondents strongly felt that the management committee did represent all the stakeholders in the sub-catchment adequately and the stakeholders did actively participate in the utilization of WDC funds. With participation comes with active monitoring of the implemented activities and the stakeholders were very involved in the monitoring of funded activities. This ensures that the funds are used as intended

and little misappropriation. It was also noted that it is important to involve the ordinary members in providing checks to the management as this minimizes wastage and increases accountability. This is consistent with the findings of Wangombe, 2013; Ndeti, 2013 studies on WRUAs where users felt WRUA management adequately represented all stakeholders in the catchment. However from the FGD it was discovered that the stakeholder involvement was mainly confined at the implementation stage due to WDC requirements of community contribution. This is in agreement with studies by Omollo 2009; Odhiambo and Taifa 2009; Kabaaya 2007 where they found that involvement of members at all stages of the project cycle positively influenced the rate of using the funds.

#### **5.3.4 Level of accountability and transparency in the usage of WDC funds**

Lastly, the researcher asked if accountability and transparency mechanisms influence the utilization of funds. The findings from the study showed that accountability starts with proper record keeping which WRUA did at their offices; there was also increased accessibility of the records by the members ensuring that indeed transparency was present. Information mainly on procurement and expenditure was posted on the WRUA notice board at least quarterly which should have been done more frequently. There was transparency in regard to WRUA issuing procurement/awarding contracts and independent external annual audits and findings were shared with the members always. Responsibility comes with accountability and it was noted that WRUA officials were held accountable of their actions if they failed to follow the constitution by mainly being reported to WRMA for further action, being dismissed from duty and at times suspended. The avenues provided to report irregularities included was mainly through zonal committee officials and government officials. Overall, it was noted that the respondents were satisfied with the actions being taken by management in regard to issues of transparency and accountability. However during the FGD it was found out that accountability was more upwards to WRMA and WSTF than downwards to the general public which resulted in many not being aware of progress/status of funding. Information a key part of accountability was also confined to the management committee. These results in the organization defining performance based on the donor criteria and not the members (Ayoo, 2007). For the membership organization, this re-orientation of accountability from the members and the

grassroots is a threat as its members turn into customers (Desai and Howes, Shah and Shah, Gariyo in Hulme and Edwards, 1995).

#### **5.4 Conclusion**

Based on the above findings, the researcher concludes that management of funds should encompass all stakeholders, the management and government who should be equipped with technical, managerial and financial management skills and it was noted WRUA had been equipped with some of this skills to deal with the management of funds. WRUAs with full time employed staff with a mix of skills in financial, management and technical fields performed much better in funds usage than those without. On the other hand procurement procedures, financial management procedures and progress reporting procedures need to be stipulated and adhered to in the management of WDC funds which apparently it was noted they were there but they were not always followed to the letter. It is important to also involve all stakeholders in planning for fund utilization, in the actual utilization of the funds, monitoring of implemented activities, monitoring of funded activities and in checking management activities and this seems to have been provided for in varying levels. This would ensure that there is investor confidence, transparency and accountability. Also involvement of stakeholders should start from the project identification to monitoring stage and not only at the implementation stage to fulfill community contribution requirements. There is need to keep clean records that can be accessed by all members which is not so all the time. Transparency in procurement/awarding contracts was somehow provided for; external audit findings were shared with the members as was indicated by most respondents. Lastly, WRUA officials need to be held accountable for their actions especially if they fail to follow the constitution and adequate channels should be provided for so as to report irregular practices which apparently were practiced at WRUA according to the respondents.

#### **5.5 Recommendations**

In light of the above findings, the researcher recommends:

That there is need for capacity building of the members to know their role in the management of funds and provide more training to the management committee in procurement procedures and in management of community based institutions. The study also recommends WSTF,

WRMA and WRUA should come up with mechanisms to support full time employees of the WRUA as this improved absorption rate.

That the WRUA enhance downward accountability to its members by sharing reports on progress through the AGM/SGM, notice boards, barazas and zonal committee members who can easily disseminate the information. This will ensure the members are kept in the loop of WRUA activities and ensure continuity if committee member resigns and is replaced by an ordinary member.

It is also important to involve all members from the grassroots in the budgeting, planning, implementation and monitoring of activities. This will build broad based support required for project implementation.

WSTF should also work on developing much more simplified procedures for procurement and accounting that are friendly to communities who are not necessarily trained in these areas. Training should also be enhanced to ensure that the management committee and members are familiar with procurement and accounting procedures of WDC. The WRUA should also be supported in developing constitutions that are more responsive to governance issues like role conflicts faced in utilizing large sums of money.

The WSTF should also speed up disbursement of funds in order to reduce funding gaps. Some of the WRUAs like Timau, Sirimon and Ontulili have stayed for close to two years without receiving the second tranche of funding.

## **5.6 Areas for Further Research**

The study addressed itself to the participation, transparency mechanisms, management capacity and compliance to procedures as variables that influence the utilization of WDC funds. It was therefore not exhaustive of the factors that influence the utilization of WDC funds and would recommend further research in this area. The study also recommends research into the following areas:

1. Role of the community in monitoring the utilization of funds allocated to WRUAs for catchment management and conservation
2. Impact of governance structures on the management and conservation of water resources



## REFERENCES

- Aarts, J. (2012). *Will community based water management solve Africa's water problems? The performance of Water Resource Users Associations in the Upper Ewaso Ngiro river basin, Kenya*. Nijmegen: Radbound University.
- Arunatilake, N. (2007). Will formula based funding and decentralised management improve school level resources in Srilanka? *6th PEP research network general meeting*, (pp. 20-25). Lima, Peru.
- Ayoo, C. (2007). Community Based Natural Resource Management in Kenya, Management of Environmental quality. *An International Journal* , 18 (5), 531-541.
- Bellamy J. A, McDonald J. T, Syme G. J and Buttleworth J .E. (1999). Evaluating Integrated Resource Management. *Society and natural resource management journal* , 337-353.
- Bollen, A. K. (1989). *Structural equations with latent variables*. New York: John Wiley and Sons.
- Cace, C., Nicolescu, P. (2011). Absorption of structural funds in Romania. *Romanian Journal of Economic forecasting* , 5 - 10.
- Caldwell, B. (1998). *Self managing schools and improved learning outcomes, department of employment education, training and youth affairs*. Canberra: Sage publishers.
- DeGrauwe, A. (2005). Improving the quality of education through school based funding and decentralised management: Learning from International experiences. *Review of Education of Journal* , (51), 269-287.
- Devas, N. (2005). *The challenges of decentralisation*. England: University of Birmingham.
- Franks, T. (2004). *What GOvernance: What is the consensus?* Bradford University: Bradford Centre for International development.
- Hirsch, P. (2013). Water governance reform and catchment management in the Mekong region. *Journal of environment and development* , (15)2, 184-201.
- Hulme, D and Edwards, M. (Eds). (1995). *Non-Governmental organisation accountability: Beyond the magic bullet*. UK: Save the Children Fund.
- Huther, J and Shah, A.,. (1998). *Applying a simple measure of good governance to the debate on fiscal decentralisation*. Washington: World Bank Policy Research working paper 1894.
- Ivanyana, M and Shah, A. (2010). *Citizen centric governance indicators: Measuring and Monitoring governance by listening to the people*. Washington: World Bank Policy Research working Paper 5181.

- Kaufmann, D., Kraay, A., and Mastruzzi, M. (2009). *Governance matters VIII: Aggregate and Individual governance indicators 1996 - 2008*. Washington: World Bank Policy research working paper No. 4978.
- Kenya Human Rights Commission. (December 2010). *Harmonisation of decentralised development in Kenya: Towards alignment, citizen engagement and enhanced accountability*. Nairobi.
- Kothari, C. (2003). *Research Methodology: Methods and Techniques*. New Delhi: New age International publishers ltd.
- Laikipia Wildlife Forum. (2012). *Report in Water Resources Management in the Laikipia Ecosystem*.
- Lopez, L. (2010). *Absorptive capacity to finance HIV/AIDS treatment in South Africa: Where are the bottlenecks*. South Africa: University of Capetown.
- Manal, E. (2010). *Capacity building seminar on incorporation of socio-economic dimensions in IWRM: Role of Water Users Associations in planning and managing water resources*. Cairo: J.W Mariott.
- Mugenda, O., Mugenda, A., (2003). *Research Methods: Quantitative and Qualitative approaches*. Nairobi: African centre for technology studies.
- Mumma, A. (2007). Kenya's new water laws: An analysis of the implications of Kenya's water Act for the rural poor. *Community based water law and water resource management journal* , (158) 120 - 130.
- Orodho, A. J. (2003). *Essentials of Educational and Social Science research methods*. Nairobi: Mazola Publishers.
- Patric, J. M. (2011). *Validity in Empirical Social Science research: A brief examination of validity types*. New York: Wordpress.
- Paulais, T. (2010). *Financing Africa's Cities: The imperative of local investment*. USA: World Bank.
- Phokharel, K. (2008). Measuring good governance in community forestry in mid-hills districts of Nepal. *Political theory and policy analysis mini-conference*. Nepal.
- Rees, J., Winpenny, J. and Hall, A. (2008). *Global Water Partnership technical committee background paper No. 12*. Retrieved July 23, 2013, from Global water partnership: [www.globalwaterpartnership.com](http://www.globalwaterpartnership.com)
- Rural Focus Ltd. (2008). *Strengthening community based water resource management within*

*the Laikipia ecosystem: Needs assessment report.*

Serie, A., Ayiro, L., Crouch, L., . (2009). *Absorptive capacity: From donor perspectives to recipients and professional views.* Nairobi: UNESCO.

Shackleton, S., Campbell, B., Wollenberg, E. and Edmunds, D. (2002). Devolution and community based natural resource management: Creating space for local people to participate and benefit. *Overseas development institute and natural resource journal* , 76(1), 10 -13.

Stattek, R. (2012). *Sample size: Stratified samples.* Retrieved May 31, 2013, from Stattek: <http://stattrek.com/sample-size/stratifiedsample>

Sumpikova, M., Pavel, J., Kazav, S. (2010). EU funds: Absorption capacity and effectiveness of their use with focus on the regional level of the Czech republic. *European economic journal* , 402(03), 1 - 10.

Svensson, J. (2006). Financing development: what are the challenges. *3rd AFD-EUDN Conference.*

Szabo, I. (2011). *Addressing structural funds absorption challenge: The case of Romania.* Romania: Central European University.

Teismann, G., Buuren, A., Edelenbos, J., Warner, J. (2013). Water Governance: Facing the limits of managerialism, determinism, water centrality and technocratic problem solving. *International journal of water governance* , DOI: 10.7564/12-IJWG4.

Transparency International. (2011). *Kenya National water integrity study report.* Retrieved May 30, 2013, from Tisda Kenya: [www.tisdakenyawordpress.com](http://www.tisdakenyawordpress.com)

Wangombe, S. (2013). *Influence of Water Resource Users Associations in water conflict resolution among communities of subcatchment 5BE in Meru-Laikipia Counties.* Nairobi: University of Nairobi.

*Water Resource Users Association Development Cycle manual.* (2008). Nairobi: Water Resource Management Authority and Water Services Trust Fund.

Watson, R. (2007). *Water Resource Users Associations around Mt. Kenya: Establishment, operations and potential for conflict.* Kenya: Dispute resolution centre.

Weismann, U., Kiteme, B., . (2005). *Water Resource Users Associations as triggers for knowledge based basin management.* Kenya: CETRAD.

Yamane, T. (1967). *Statistics an introductory analysis, 2nd Ed.* New York: Harper and Row.

## APPENDICES

### Appendix 1: Letter of Introduction

Date:.....

Christine Mwendwa Muuthia  
P.O. Box 1011- 10400  
Nanyuki.

Dear respondent,

I am a Postgraduate student at the University of Nairobi, pursuing a Masters degree in Project Planning and Management. As partial fulfillment for the degree I am conducting a research study on the importance of Community based water governance in the utilization of Water Resource users Association development Cycle funds in the Upper Ewaso Nyiro Sub-region Laikipia County.

Therefore I would appreciate if you could spare a few minutes of your time to answer the following questions. The information provided will be treated with confidentiality and will not be used for any other purpose other than this research. Your assistance will be highly appreciated and thank you in advance.

Yours faithfully,

Christine Muuthia  
L50/74541/2012

## Appendix 2: Questionnaire for WRUA Officials and Stakeholders

### Introduction

I am a Postgraduate student at the University of Nairobi, pursuing a Masters degree in project Planning and Management. The purpose of this questionnaire is to collect data on the importance of community based water governance in the utilization of Water Resource Users Association Development Cycle (WDC) funds in Laikipia County. The information provided through the questionnaire will be exclusively for academic purpose and will be treated with confidentiality.

### SECTION ONE: BACKGROUND INFORMATION

1. Gender: Male  Female
  
2. What is your Age: i)18- 30years  ii) 31-40 years  iii) 41 – 50years   
iv) Over 51 years
  
3. Which position do you hold?
  - i) Chairman
  - ii) Vice Chairman
  - iii) Secretary
  - iv) Treasurer
  - v) Member
  - vi) Other (Specify)\_\_\_\_\_
  
4. For how long have you held the position
  - i) Less than 1 year
  - ii) 2 years
  - iii) 3 years
  - iv) More than 5 years

### SECTION TWO

For the following section please circle the code that closely reflects you're your opinion on the question asked. Code 1 represents very high opinion, 2 High, 3 moderate, 4 low and 5 very low.

No	Question	Responses	Code
	<b>Management of WRUA</b>		
1.	In your view, who is responsible for the management of WDC funds in the WRUA?	Executive Manager Management committee Office bearers Sub-committees Government officials	1 2 3 4 5
2.	How aware is the management of its role as pertains to funds management?	Fully aware Mostly aware Partly aware Hardly aware Not aware	1 2 3 4 5
3.	How aware are the sub-committees of their roles in the utilization of WDC funds?	Fully aware Mostly aware Partly aware Hardly aware Not aware	1 2 3 4 5
4.	In your opinion, how equipped is the management with technical skills to utilize WDC funds	Very equipped Highly equipped Moderately equipped Low Not equipped	1 2 3 4 5

5.	In your opinion, how equipped is the management with managerial skills to utilize WDC funds	Very equipped	1
		Highly equipped	2
		Moderately equipped	3
		Low	4
		Not equipped	5
6.	In your opinion, how equipped is the management with financial management skills to utilize WDC funds	Very equipped	1
		Highly equipped	2
		Moderately equipped	3
		Low	4
		Not equipped	5
7.	How would you rate the importance of training in enhancing skills in the management of funds?	Very important	1
		Highly important	2
		Moderately important	3
		Low	4
		Not important	5
8.	In your opinion, how adequate are the WRUA staffing levels to effectively manage activities?	Very adequate	1
		Highly adequate	2
		Moderately adequate	3
		Low	4
		Not adequate	5
9.	How would you rate the effectiveness of coordination between the management and stakeholders?	Very effective	1
		Highly effective	2
		Moderately	3
		Low	4
		Not effective	5

10.	How satisfied are you with the performance of the management in the implementation of funded activities	Very satisfied Highly satisfied Moderately satisfied Low Not satisfied	1 2 3 4 5
<b>Compliance to procedures</b>			
11.	What rules are you aware of that the WRUA uses in the management of WDC funds? (Please list)		
12.	What is the level of compliance to the WRUA constitution?	Very high High Moderate Low Very low	1 2 3 4 5
13.	What is the level of compliance to procurement procedures at the WRUA?	Very high High Moderate Low Very low	1 2 3 4 5
14.	What is the level of compliance to financial management procedures at the WRUA?	Very high High Moderate Low Very low	1 2 3 4 5



15.	What is the level of compliance to progress reporting procedures?	Very high	1
		High	2
		Moderate	3
		Low	4
		Very low	5
<b>Participation in water governance</b>			
16.	What is the regularity of the management committee meetings held to plan for funds utilization?	Twice a month	1
		Once in two months	2
		Quarterly	3
		Twice a year	4
		Never	5
17.	What proportion of the management members are involved in the meetings to plan for funds utilization?	All	1
		Two thirds	2
		One third	3
		A few	4
		Only the office bearers	5
18.	In your opinion, how adequately does the management committee represent all stakeholder groups in the sub-catchment?	Very adequate	1
		Mostly adequate	2
		Partly	3
		Hardly adequate	4
		Not adequate	5

19.	How frequently is monitoring of implemented activities done?	Twice a month	1
		Once in two months	2
		Quarterly	3
		Twice a year	4
		Never	5
20.	How aware are the ordinary members about their roles and responsibilities in providing checks to the management?	Fully aware	1
		Mostly aware	2
		Partly aware	3
		Hardly aware	4
		Not aware	5
	<b>Accountability and transparency in water governance</b>		
21.	Where are WRUA records kept?	WRUA office	1
		WRMA office	2
		Provincial admin office	3
		WRUA officials home	4
		No particular place	5
22.	How would you rate the accessibility of the records by WRUA members?	Very accessible	1
		Highly accessible	2
		Moderately accessible	3
		Low	4
		Not accessible	5

23.	How frequently is the information on procurements and expenditures updated/ posted on the WRUA notice board?	Monthly	1
		Quarterly	2
		Twice a year	3
		Once a year	4
		Never	5
24.	The WRUA undertakes an independent external annual audit and findings shared with the members?	Always	1
		Most of the times	2
		Sometimes	3
		Hardly	4
		Never	5
25.	How satisfied are you with the actions taken by the management on the findings?	Very satisfied	1
		Highly satisfied	2
		Moderately satisfied	3
		Low	4
		Not satisfied	5
26.	How WRUA officials are held accountable if they fail to follow the constitution?	Expelled from WRUA	1
		Dismissed	2
		Suspended	3
		Reported to WRMA	4
		No action taken	5
27.	What avenues are available to members of the WRUA to report irregular practices to an appropriate authority?	Anonymous box at WRUA	1
		Zonal committee official	2
		Government official	3
		Public meetings	4
		None	5

**SECTION THREE: CONCLUSION**

28. What constraints do you think the WRUAs have met in the implementation of WDC funds?

.....

.....

.....

.....

29. What suggestions can you give to increase the rate of funds utilization in future by WRUA?

.....

.....

### **Appendix 3: Focus Group Guide**

1. Explain your understanding of the WDC funding framework?
2. In your opinion, have the activities implemented been targeted to the priority water resource problems facing the Sub-Catchment?
3. What is your opinion on how the funds have been managed at your WRUA?
4. What do you think influenced how the funds were managed?
5. How is information on funds usage communicated to you and how frequently?
6. What information is publicly available on the funds?
7. What reports are presented to the Members and other stakeholders on funds usage and how accessible are they to the public?
8. What channels are available to the water users to report/complain on funds usage?
9. How accessible are the channels and do members use them?
10. How are the water users involved in the budgeting, planning, implementation and monitoring of activities?
11. What has been the role of external stakeholders like the Laikipia Wildlife Forum in the utilization of WDC funds?
12. In your view, has political interference affected the management of the funds? Explain further?
13. What recommendations can you give to improve how WDC funds are managed at the WRUA level in future?

## Appendix 4: Introduction letter for research permit



UNIVERSITY OF NAIROBI  
COLLEGE OF EDUCATION AND EXTERNAL STUDIES  
SCHOOL OF CONTINUING AND DISTANCE EDUCATION  
DEPARTMENT OF EXTRA MURAL STUDIES  
P O Box 598 - NYERI : Tel : 061-2030460

10<sup>TH</sup> MAY 2014

TO WHOM IT MAY CONCERN

---

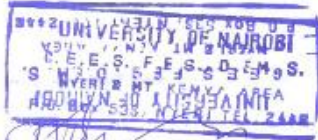
SUBJECT : INTRODUCTION LETTER  
CHRISTINE MWENDWA MUUTHIA - REG .NO. L50/74541/2012

This is to confirm that the above named is a bona fide student of University of Nairobi pursuing a **Master of Arts Degree in Project Planning and Management** - in the School of Continuing and Distance Education – Department of Extra Mural Studies.

She has completed course work and is currently writing the **Research Project** which is a requirement for the award of the **Masters Degree**.

Her topic is *"Importance of community based water governance in the utilization of water resource users association development cycle funds in the upper ewaso nyiro subregion laikipia county"*.

Any assistance accorded to her will be highly appreciated.



Dr. L. Otieno - Omutoko  
RESIDENT LECTURER  
NYERI & MT. KENYA REGION

