

PARTICIPATION, EMPOWERMENT AND
DEVELOPMENT OUTCOMES
THE CASE OF BOREHOLES AND WATER KIOSKS IN MALAWI

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PARTICIPATION, EMPOWERMENT AND DEVELOPMENT OUTCOMES:

THE CASE OF BOREHOLES AND WATER KIOSKS IN MALAWI

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requirements for the degree of Doctor of Philosophy in Development Studies

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DEDICATION

*To my parents – Sydney (late) and NyaMogha, and my family – wife, son Kikolo Eugene
and daughter Ketabene Ella Gabriella*

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ABSTRACT

The work presented in this thesis was motivated by empirical evidence showing that 30 to 40 percent of communal water points in Malawi eventually become dysfunctional (Water Aid Malawi, 2010; Magalasi, 2010). The study set out to address the crucial question of why some communal water-points are a success and remain functional while others eventually fail and become non-functional. In this undertaking, the study was guided by selected theories of participation (Cohen & Uphoff, 1995; and Wilcox, 1994) and empowerment (Clark, 2005, and Rothman), and took a mixed methods research approach. This study has helped us to understand the extent of community stakeholders' participation in communal water projects in Malawi. It argues that these water interventions are largely exogenous, and a clear imposition on local communities. There is evidence of high levels of exclusion of community stakeholders, particularly during the formative stages, which are, however, crucial for sustainability. In limited areas in which community stakeholders are involved, functional water-points fare extremely well compared to the non-functional ones. Secondly, in relation to empowerment, the study argues that lack of skills and knowledge transfer, and limited levels of capacity building embedded in these water projects, except for few functional water-points, in part explains the undesirable results of high failure rates. Lastly, the study reveals that communities with functional water-points have reasonable to high levels of a sense of ownership and commitment to their water-points as opposed to those with non-functional water-points. The study, therefore, argues that the programmatic designs and approaches pursued by implementers directly influence outcomes in communal interventions.

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LIST OF ACRONYMS AND ABBREVIATIONS

ADMARC	Agricultural Development and Marketing Agency Cooperation
AU	African Union
BWB	Blantyre Water Board
CRWB	Central Region Water Board
CS-Pro	The Census and Survey Processing System
DANIDA	Danish International Development Agency
DWO	District Water Office
FAO	Food and Agriculture Organization (of the United Nations)
GoM	Government of Malawi
GVH	Group Village Head
IFAD	The International Fund for Agriculture Development
KII	Key Informant Interview
KII-LL	Key Informant Interview-Lilongwe
KII-KA	Key Informant Interview-Karonga
KII-KK	Key Informant Interview-Nkhotakota
KII-ZA	Key Informant Interview-Zomba
KMC	Kiosk Management Committee
KMU	Kiosk Management Unit
LWB	Lilongwe Water Board
MAIWD	Ministry of Agriculture, Irrigation and Water Development
MDGs	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy

MK	Malawi Kwacha
MWSIP	Malawi Water Sector Investment Plan (MWSIP)
NGO	Non-Governmental Organization
NRWB	Northern Region Water Board
NVivo	Qualitative Data Analysis Software
NWDP	National Water Development Programme
NWRA	National Water Resources Authority
NWRM	National Water Resources Masterplan
NSO	National Statistical Office
SADC	Southern Africa Development Community
SDGs	Sustainable Development Goals
SPSS	Statistical Package for the Social Science
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UN Water	United Nations Water
VLOM	Village Level Operating and Maintenance
WESN	Water, Environment and Sanitation Network
WMC	Water Management Committee
WRB	Water Resources Board
WUA	Water Users Associations
WUC	Water Users Committee

CHAPTER 1

INTRODUCTION

1.1 Background and Context

1.1.1 Debates of Participation, Empowerment and Development Outcomes

It must be underlined that participation and empowerment are essential in development interventions in order to attain positive outcomes and sustainability. Scholars such as Finsternbusch and Van Wicklin (1987, p.4) argue that there are economic justifications for public participation in development work, as they can mobilize greater resources and accomplish more, and utilize indigenous knowledge and local labour, which might be under-utilized. However, other scholars such as Khwanja (2004, pp.435-6) argue that participation is not always a good thing. The main concern is that with the community-driven development and decentralization of public services, there may be too large a burden placed on community participation as a cure-all (Khwanja, 2004, p.436). He goes on to caution that participation has both benefits and limitations. Thus, it is important to note that not in everything do you have to involve every stakeholder.

The discourse of participation also links arguments that regard the community as a resourceful place where everything is possible. However, it is a myth to regard communities as being capable of anything, and to think that the latent and unlimited capacities of the community will be unleashed in the interests of development (Cleaver,

1999, p.604). In fact, evidence shows that there are both structural and resource constraints that affect communities by impacting on their development agenda. For example, where a community seems to be well organized and motivated, the inadequacy of materials or resources would negatively limit its pursuit of the development agenda at hand (Cleaver, 1999, p.604). Thus, such limitations need to be borne in mind when making a decision to involve communities. Each community has to be looked at individually to see the kind of resources available that would add value to the intervention being introduced, rather than to think that all communities are equal and have all required resources for sustainability.

Furthermore, literature, and even practitioners, have been vague on what would actually motivate people to participate in development interventions at hand. While some often present arguments around economic and other benefits for why local people must participate, others have argued that participation is essentially dependent on the mobilization process and upon local people realizing that high levels of involvement are for their own good (Cleaver, 1999, pp.605-606). As such, clear motivations that would spur people's willingness to participate and own the development interventions have to be delineated and put forward by the implementers; rather than to assume that local people would always be interested to participate.

Related to the above is the issue of regarding participation with social responsibility, and effectively non-participation as irresponsible (Cleaver, 1999, pp.605-606). This argument, however, fails short of appreciating that people may fail to participate in a development intervention simply because they lack requisite skills and knowledge essential for one to

participate in this process. Thus, lack of empowerment to equip local people with such skills, already dis-empowers and prevents them from getting involved. As such, it is appropriate to label those that do not participate as being 'irresponsible'.

It is also important to mention that some problems arise when we critically analyze empowerment as in some cases clarity lacks. Sometimes it becomes unclear as to who is to be empowered – the individual, community or groups regarded as 'women', 'the poor' or 'socially excluded'; but also the mechanisms of empowering these groups can sometimes be either clear or even conveniently fuzzy (Cleaver, 1999, p.599). Thus, the empowerment process needs to be well thought out at each and every step, and being clear about whom to empower and the mechanisms of doing so. The scope of the empowerment question and potential limitations or challenges also needs to be taken into account.

Crossing over to communal water supply, one important aspect to look at concerns the finances with which to sustain these interventions. There are diverse view-points on how best to raise revenue for continued maintenance and sustainability of these interventions. The first issue concerns whether there needs to be user fees or people simply have to access the service(s) for free as part of a welfare intervention. The latter is based on the argument that when there is a fee to access the service, then the poor and other vulnerable groups in the community would be prevented from enjoying benefits from such interventions. In the case of water, then they would be forced to access unsafe water sources such as rivers, streams and unprotected wells, which eventually pose great health hazards to them as they can easily contract water-borne diseases. But those that support the idea of user fees base

their argument on the need for locally generated resources as the main source for sustaining such communal interventions. Of course, this greatly depends on the frequency or modalities of these payments e.g. pay-as-you-access the service, daily user fee, monthly fee, or pay as a contribution for maintenance and so on when the need arise.

Lastly, another issue concerns management of community based interventions and usage of funds by local committees. In some communities, lack of trust in committees that are in-charge makes members doubt whether the revenue collected as user fees or from well-wishers really go into operations and maintenance of their community intervention (e.g. a water-point). This comes against the backdrop of instances of those entrusted to collect revenue for uses such as maintenance, ending up squandering the funds. In this kind of situation, revenue collection is negatively affected.

1.1.2 Policy and Plans at Global, Continental and National Levels to Accelerate Progress towards Universal Access to Safe Water

The quest to improve people's access to safe drinking water has increasingly become one of the major areas of focus of governments in developing countries, local and international NGOs, and global and regional bodies such as the United Nations (UN), African Union (AU) and Southern Africa Development Community (SADC). This is the case because potable water is vital for reducing the global burden of disease, and improving the health, welfare and productivity of populations (UN Water, 2014:7). The foregoing makes water supply interventions, particularly for the developing world, to continue to attract special attention and consideration, alongside issues of sanitation and hygiene. This is why

development strategies at both global level (the Millennium Development Goals (MDGs) and its successor Sustainable Development Goals), and the continental level (the Africa Water Vision 2025) included water supply as one of the key areas on which to focus (Brian, 2004:24; African Union, 2015). The MDGs, for instance, had set the target of halving the proportion of people without access to safe drinking water by 2015. It has been argued that although this target was met as 90 percent of the global population now has access to safe drinking water, still a large number of people (768 million) lack access to the same (UN Water, 2014, p.10). It was on this basis that the successor Sustainable Development Goals dedicated Goal 6 to water. The target now is to attain “universal access to safe drinking water” by 2030. At the continental level, the African Union (AU) made a resolution to accelerate the achievement of the goal on access to water. In July, 2008 the AU Assembly made a declaration for actualizing the Africa Water Vision 2025 (African Union, 2015), through which Africa has to achieve: 1) sustainable access to a safe and adequate water supply and sanitation to meet the basic needs of all; 2) water that is financed and priced to promote equity, efficiency, and sustainability; 3) sustainable management of water resources; and 4) adequate number of highly skilled water professionals (UN Water/Africa, undated, p. 2).

In Malawi, the Malawi Growth and Development Strategy, both I from 2005 to 2010 and II from 2011 to 2016, which are the medium term strategies, placed water as one of the priority areas of government. The improvements in access to potable water is mainly made to take the form of communal water supply systems, more than private or individual points, as is being done elsewhere within the developing world. Communal water supply systems

are designed to essentially provide clean and safe water to community members in a shared fashion. Such interventions primarily target low income communities and individuals, where the majority cannot afford to have their own private water-points. Communal water supply systems include water-kiosks, boreholes and hand water pumps, but in this study focus is on the former two.

1.2 Statement of the Research Problem

Evidence shows that huge investments have been made and continues to be made in communal water sector in developing countries, including in Malawi. This has enabled the country to make significant progress in increasing access to potable water. For example, in 2004 about 45.2 percent of urban households and 7.4 percent of rural households accessed public tap water (water-kiosks), while 43.4 percent of rural households accessed water through public boreholes (GoM, 2005; GoM, 2016, p.10). Again, by 2015 about 72 percent of rural households relied on boreholes, while 33 percent of urban households relied on public tap (water-kiosks) and another 41 percent of urban households had piped water in their dwelling or yard (GoM, 2005; GoM, 2016, p. 10). This, therefore, means that the majority of people in the country access safe water from communal points. However, one of the major concerns pertains to outcomes and sustainability of these communal water systems, because evidence is showing that a significant number of them eventually become dysfunctional. In 2010, for instance, two different reports indicated that non-functionality rate of communal water-points in Malawi were in the range of 30 to 40 percent (Water Aid, 2010, p.12; and Magalasi, 2010, p. 28). Most recent records confirm and reinforce the same

percentage ranges of non-functionality of these water systems (GoM - District Water Offices records, 2015).

The question now is what is behind this high non-functionality rate of communal water-points in Malawi. Is this a resultant of lack of, or perhaps very limited, participation and empowerment of local people. As it has been argued earlier, participation and empowerment of community members is indispensable to the continued functionality and sustainability of communal interventions. It is also argued that where participation and empowerment of communities exist, programme success and positive outcomes results, but where these are unavailable and/ or there is top-down approaches, then negative outcomes result (Khwansa, 2004; Mansuri & Rao, 2003; and Finsterbusch & Van Wicklin, 1987). This participation and empowerment is not merely about bringing local people to gatherings or meetings. But, as argued earlier, it is about actual involvement, skills and knowledge transfer, developing a sense of ownership locally and mobilizing people to bring together resources and other aspects key to sustaining the intervention (Finsterbusch & Van Wicklin, 1987, p.4). Thus, deliberate action has to be taken to embed these in the programmatic design and implementation in-line with what participation and empowerment theories say that this is a process characterized by a series of steps from where there is no actual participation to where people take full control of the intervention, and are empowered to make independent decisions and run affairs of the same (Arnstein, 1969; Burns et al., 1994). The theoretical underpinnings of participation and empowerment have been supported by some empirical studies done elsewhere. It has been observed that when local people's participation and empowerment are further dissected, what emerges

to be among the critical aspects for the success and functionality, and indeed, for the failure and non-functionality of communal water-points, are things such as financial, managerial and technical capacity at various levels, stakeholders' involvement, community ownership, community's commitment, and beneficiary satisfaction (Mansuri & Rao, 2012; Mugumya, 2013; Tedasse et al., 2013). Thus, this is entailing that the programmatic design and approaches taken by implementers of communal water systems matter in this context as their full support and incorporation of these prerequisites (i.e. participation and empowerment of local people) in their programmes creates a pathway to functionality and sustainability, while their partial or full disregard leads to problems of failure and non-functionality.

Looking at the foregoing, therefore, what is puzzling is that *why and how do some communal water points in Malawi succeed and remain functional, while others fail and become non-functional beyond a period of external financial and technical assistance*. This opens room for critical questions such as whether this failure is due to low, or lack of participation and empowerment. Another fundamental question is whether there is lack of, or limited, technical, financial and management capacity locally to sustain these water systems. We can also raise the question of whether the failures are emanating from lack of, or limited, ownership and commitment by local people. These questions have not been fully addressed in the context of Malawi with respect to communal water systems. There has also not been any comprehensive study undertaking a comparison of these functional and non-functional water-points along the above delineated parameters, and in the context of both urban and rural areas. It was on this basis, therefore, that this research was

conceptualized to fill in this gap by way of assessing how participation and empowerment affect outcomes in borehole and water-kiosk programmes in Malawi.

1.3 Research Aim and Objectives

The main objective of the study is *to assess how participation and empowerment affect outcomes in borehole and water-kiosk programmes in Malawi*. The study focused on the following specific research objectives:

- i. To investigate the extent to which community stakeholders are involved in water-kiosk and borehole programmes at initiation, design/planning, implementation and maintenance stages;
- ii. To analyze the nature and levels of local people's empowerment in relation to the technical and financial capabilities for sustaining communal water-points; and
- iii. To examine the relationship of participation of community members with water programme outcomes in terms of their commitment to and ownership of communal water-points.

1.4 Motivation and Significance of the Research

This research was motivated by the need to have a clear understanding of why some communal water-points succeed and are functional while others fail and become non-functional. This was so because communal boreholes and water-kiosks continue to be the major source of safe drinking water in the country. Implementers in the sector also continue to roll out the same in the quest to meet their developmental targets on increasing access to potable water. Thus, it was imperative to investigate and unravel what is leading to

continued functionality as well as to high non-functionality rates, in order to get to the bottom of the matter and draw lessons that can assist to replicate approaches that lead to sustainability of interventions and avoid those that lead to unsustainability. The research also proposes solutions that government, development practitioners, development partners and other agencies might consider taking on board to address or minimize non-functionality in future implementations.

Secondly, this study makes key contributions to the analytical and empirical knowledge in the development field in general. It provides empirical evidence on how participation and empowerment of local communities affect outcomes of development interventions in resource limited settings such as Malawi. This informs scholars and practitioners in this development domain in terms of what works, what leads to sustainability and what does not work, which is responsible for unsustainable implementations. The underpinnings of sustainability, presented in this study, are applicable to the broader development field, and in particular, to those focusing on community development work in Malawi and beyond.

Lastly, this research provides a baseline upon which future researchers and practitioners in the development field are going to situate their research and programming that draws parallels with this study. This research also presents areas for further research, which could not be dealt with in this study but are essential to investigate and propose solutions for. These identified gaps in communal water supplies need to be studied further by other scholars, in order to make future improvements informed by the studies.

1.5 Structure of the Thesis

This thesis is organized into eight chapters. The next is chapter 2 which contextualizes the research by looking at the structure and policy environment of the water sector in Malawi. It looks at issue of access, policies and strategies by the Government of Malawi and key stakeholders; a brief history of water developments and access in Malawi from colonial era to present; reforms that have been implemented over the years and their outcomes; and challenges faced in this sector. Chapter 3 presents a review of literature, which begins with clarifying key concepts of participation, empowerment and outcomes. This is followed by a review of competing theories of participation and empowerment, and the adoption of those that guided the study, which were participation within the lens of a project life cycle by Cohen and Uphoff (1997) and the ladder of participation by Wilcox (1994); and Rothman's levels of empowerment and Clark (1995) model of community empowerment, respectively. The empirical literature also reviewed focused on linkages between participation and empowerment of local communities and outcomes of development interventions. It also looks at technical and financial aspects that underpin sustainability of interventions, as well as evidence pertaining to other essentials of participation and empowerment that explain positive and negative outcomes of development interventions.

In chapter 4, the methodology followed to collect primary and secondary data is presented. The study pursued a mixed methods approach, and random and purposive techniques were employed to select the sites and survey participants, and participants for the focus group discussions and key informants, respectively. The study used four tools (survey questionnaire, FGD guide, key informant interview guide and field checklist) to gather

data, which were analyzed in two different platforms – quantitative using SPSS and MS Excel packages, and qualitative using Nvivo package. In chapter 5, the nature and extent of community stakeholders' involvement in the water project is analyzed. The analysis shows very low levels of community based stakeholders' involvement, particularly during the initiation, design/ planning and implementation phases; but high levels of involvement for communities with functional water-points during maintenance while those with non-functionals show less involvement even during this phase. In general, exclusion of community stakeholders in critical aspects of the water project is very evident along the project life cycle. Chapter 6 analyses the nature and levels of empowerment in relation to the financial and technical capabilities of concerned communities to sustain communal water-points in question. Again, there is evidence of no and in some cases limited empowerment done for community members, local leaders and area mechanics, particularly in communities with non-functional water-points, but with some level of capacity building in those with functional water points. Chapter 7 examines participation of key stakeholders in relation to outcomes of the communal water programmes. In this chapter evidence is showing that some level of ownership and commitment exist in communities with functional water-points, as compared to those with non-functionals. Factors that underpin development of a sense of ownership and commitment of locals in communal water-points have been unraveled and discussed. Finally, chapter 8 summarizes key findings and draw conclusions accordingly. Suggestions for possible future research opportunities in areas not tackled in this research are also given.

CHAPTER 2

THE WATER SECTOR IN MALAWI

2.1 Introduction

In Chapter 1, we have shown communal water systems are the main sources of portable water, and that the failure rates of communal water points in Malawi ranges from 30 to 40 percent. It is therefore important to review the policy environment in the water sector as it may have implications on participation, empowerment and sustainability of communal water systems. The issue of water is essential as the provision of safe and portable water to the population has remained one of the social obligations of the Government of Malawi since independence. Even before independence, the colonial administration embarked on a series of programmes aimed at supplying water in both urban and rural parts of the country. Thus, both the colonial and post-colonial governments established institutions through which to deliver this social service. Enabling legislation, policies and strategies have also been introduced and these have undergone a series of changes over the years (Manda, 2009; Mulwafu et al., 2002) The water sector has witnessed shifts in policies and strategies as government and its partners seek to improve water supply delivery across the country. While some changes have paid dividends, others have not. The water sector still faces several challenges ranging from aging infrastructure, technological issues (e.g. use of inappropriate appliances), limited financial resources, organizational constraints to inadequate managerial and technical capacity, among others (Mulwafu et al., 2002).

The aim of this chapter is to give an understanding of how the water sector in Malawi has evolved. The next section provides a brief description of the institutional arrangements and how these have evolved since independence in 1964. Section 2.3 reviews strategies, policies and regulations that guide the sector operations. Section 2.4 discusses notable reforms that have been undertaken in the water sector. Thereafter, section 2.5 presents a brief history of water developments from the colonial era to present. These relate to changes in terms of access to safe and potable water over some years, nature of interventions promoted and financing for the water sector. Section 2.6 highlights major challenges facing the water sector in Malawi. In the end, concluding remarks have been presented.

2.2 Institutional Arrangements and Key Actors

2.2.1 Policy and Regulatory of the Water Sector

To begin with, the Ministry of Agriculture, Irrigation and Water Development is the overall in-charge of water resources matters in the country. It develops and implements national policies and strategies to guide the water sector. Besides this it also directly implements water supply programmes, including communal ones, which in many cases are by way of drilling boreholes and installing gravity water systems. The Ministry uses either its own technical staff or contractors in implementing these water supply programmes. Furthermore, since there are many players working in the water sector, the Ministry is expected to coordinate activities happening in the sector.

It must be noted that the Ministry responsible for water related matters has undergone a series of institutional changes over the years, among which are the names and responsibilities. For instance, at some point the moving of Irrigation Department from Ministry of Agriculture to Ministry of Water by creating what was then called Ministry of Water and Irrigation Development. Such changes are problematic because government combined an arm responsible for improving the development and supply of water for households' utility and productivity with that which is basically responsible for improving access to water for agricultural purposes. These are basically two different areas of focus. Such decisions lead to competition on the usually limited resources that government provides to its Ministries and departments. In addition to this, in August, 2015 the whole Ministry of Water and Irrigation Development was merged with Ministry of Agriculture to form what is called Ministry of Agriculture, Irrigation and Water Development (MAIWD). Thus, besides competition over limited resources, another major concern is that water supply might be compromised since irrigation may conflict with potable use (GoM, 1995a, p. 17).

In terms of general regulation and advisory, the responsibility was given to the National Water Resources Board (NWRB) which sits within the Ministry and was established based on the provision of the Water Resources Act of 1969. Although the Water Resources Act of 2013 provided for the establishment of the National Water Resources Authority (NWRA), this has not yet happened and WRB is still functional. Thus, the implication of having a body with overall responsibility for regulating water resources sitting and operating within a Ministry which is mandated to supply water, obviously points to some

compromises due to lack of full independence. It is hoped that the NWRA would operate outside of the Ministry responsible for water and exercise its independence in executing its duties as a regulator.

2.2.2 Provision of Water Services

Prior to 1995 piped water supply in districts was the responsibility of District Water Offices, which were under Ministry of Water. But Blantyre and Lilongwe cities had the Blantyre Water Board and Lilongwe Water Board created to serve the urban and peri-urban areas. In 1995, under the Water Works Act No. 17, the Government created regional water boards – Southern Region Water Board, Central Region Water Board and Northern Region Water Board – in order to improve on the efficiency and effectiveness of water supply services in districts (GoM, 1995b, p.5). This came in against a backdrop of serious challenges noted when the services were rendered by District Water Offices. However, rural water supply, primarily through boreholes and piped gravity water systems still remain the responsibility of the Ministry and District Water Offices and government agencies such as Local Development Fund (LDF), which formerly was called Malawi Social Action Fund (MASAF), which works with district assemblies across the country in implementing community programmes that include rural water supply. With respect to participation and empowerment, it must be recognized that the National Water Policy of 2005, as well as LDF water programmes for communities require involvement and empowerment of local communities in these initiatives (Kishindo, 2000). Section 2.6 sheds more light in the description of the communal water project life cycle.

It must be underscored that some NGOs and development partners are also playing a critical role in the provision of communal water supply in the country. Some of the prominent NGOs and partners are Water Aid, Pump Aid, GIZ, United Nations Children Education Fund (UNICEF), Plan International, Malawi Red Cross and Water for People. They supplement government's efforts in the provision of portable water by implementing water programmes directly in communities or through partnerships with Ministry of Water and/ or the Water Boards. Records show that the NGOs implement water programmes directly using their staff or by way of contracting private companies. It must be noted that the implementer can originate the water project idea or can be contracted by the donor agency or Government to implement the project. This is an organization that stirs the processes from the initiation through the design and planning phase to implementation, and in some cases, maintenance of the water points for a certain period during the project or for certain maintenance issues beyond the capability of beneficiary communities.

Furthermore, since the sector has many players that are operating, coordination is very important. This role is played by the Sector Wide Approach, as well as the Water, Environment and Sanitation Network (WESN). These were introduced to promote a spirit of information sharing and avoidance of duplication of efforts. However, even though these forums are available, it has been observed that some stakeholders are not fully involved in the same. In addition, there is lack of sector wide standards, as well as their institutionalization and enforcement on key issues, including the nature and types of communal water points' installations.

2.2.3 Community Based Actors

With regard to community based actors, there are a number of them who are closely involved in matters concerning communal water-points. First, there is the general population of the area who are the primary beneficiaries of communal water systems. This group is commonly referred to as *water users*, and this is the term that will be used when referring to them throughout this thesis. This is a group that is expected to be key participant in the various stages of the communal water solutions. Their participation can be in deciding a water solution for their area, providing required materials and labour during the implementation phase, and maintaining and sustaining the water-point once they have been handed over to the community. The second group is that of *local leaders*, who are the gate keepers and entry points into communities. This group consists of block leaders in urban areas, chiefs or village heads in rural areas, and any influential individuals within the community such as religious, business or local political leaders. This groups' main function is to act as a link between the community and implementers of communal water systems. They also play a leading role in ensuring that the community is doing the needful, as expected, at the different stages of the water project being implemented in their areas. Local leaders are also expected to work closely and collaboratively with a third group known as *Water Management Committees (WMC)*. This is basically a committee that is nominated by members of the community to manage all affairs pertaining to their communal water-point (Tadesse et al., 2013; Water Aid Tanzania, 2009). This committee, in most cases, has up to 10 members and is responsible for ensuring that the water point is well managed and maintained for its sustainability. The committee, therefore, handles issues such as collection of user fees (where applicable), resource mobilization (e.g.

material and monetary contributions), management of funds, procuring spare parts, and hiring and managing technicians who repair the water-point. Some members of the committee that acquired some training in basic repairs also perform maintenance works within their capabilities. Further, there is *Water Users Associations (WUA)*, which is above the WMCs (GoM, 2010). The WUA is responsible for a particular cluster or area and therefore all WMCs within this cluster are under the WUA, to which they are responsible and accountable. The WUAs do interface with implementers of communal water supplies, government agencies and development partners. The last group, which is very crucial in maintenance of communal water-points, is that of *Local or Area Mechanics*. This is a group that undertakes required maintenance which is beyond the level of members of the WMC (Water Aid Malawi, 2013; Engineers without Borders, 2009).

2.3 Reforms and Strategies in the Water Sector in Malawi

2.3.1 Highlight of Selected Reforms in the Water Sector

The water sector in Malawi has undergone some reforms over the years. As shown in the foregoing during the colonial era up to early years into independence, part of the water supply interventions, especially for rural areas, was installation of dug wells. Due to problems observed such as siltation and pollution from human waste that increased the spread water-borne diseases (Ng'ong'ola, 1999), there was a shift to emphasizing boreholes drilling as more reliable and durable source of water.

Despite all the efforts on provision of portable water during the early years into independence, a large number of the Malawi population still lacked access to clean water.

Therefore, against a background of water borne infections causing deaths in the country, the National Water Resources Masterplan was launched and it set targets for the period 1987 to 1996 to address the problem (GoM, 1995a, p.15). Its focus was to provide good quality drinking water to the villages. This was basically part of the poverty alleviation programme.

In 1995, in an attempt to address some inefficiency, the government came up with the Water Works Act No. 17, which changed the mandate of Ministry of Water and District Water Departments to provide “piped water supply” services in districts in addition to other communal water systems – boreholes and gravity-fed systems. Later on this mandate was given to regional Water Boards, which were to be established as provided for in this particular Act. Following this, the country saw the establishment and consolidation of the Southern Region Water Board, Central Region Water Board and Northern Region Water Board to deliver piped water supply in their respective regions.

Furthermore, in 1994 the Government, through the Water Resources Management Policy and Strategies, called for the establishment of the National Water Development Programme (NWDP) under Ministry of Water (GoM, 1995a, p.15). This initiative was presented to Parliament in 1995 for approval and it was to use loans from the World Bank for its operations. NWDP was created to assist in improving the management of water resources in the country, as well as to assist in the delivery of water supply in Malawi in an efficient and sustainable manner. The NWDP was mandated to work with Water Boards in increasing access to water in urban areas, and the Ministry proper in rural water supply. It

was also required to focus on water sector management and reforms that would bring expected positive outcomes.

Lastly, Water Boards sometimes face financial challenges, which in part arise from non-payment of bills by the customers. In a bid to put this to an end, Northern Region Water Board commenced a pilot of pre-paid water meters in 2013. As of 2016 the system has been rolled out to some residential areas in Mzuzu city. While this is ensuring upfront receipt of revenue by NRW for its operations and investments, some critics have argued that the new system, if expanded, will deny people, particularly the poor, access to water which is crucial for everyone's life. As for the other Water Boards, it must be noted that it was not until 2017 when they began to consider and/ or act on this new initiative. For example, Southern Region Water Board began a pilot of pre-paid water meters in selected parts of Zomba around April, 2017; whereas Lilongwe Water Board introduced the same in Lilongwe city around September, 2017. At the moment, full roll out of the installation of pre-paid meters are yet to be undertaken. However, both Blantyre Water Board and Central Region Water Board are yet to embark on this initiative, but they have expressed their plans to eventually do so just like the other Water Boards.

2.3.2 Strategies and Policies that have guided the Water Sector in Malawi

2.3.2.1 Global and Country Level Strategies

The sector is guided by strategies and policies designed to ensure achievement of targets set locally and internationally, and within the existing laws. National plans on water are designed in-line with global targets as stipulated, for example, in the Millennium

Development Goals (2000 – 2015) and its successor Sustainable Development Goals (2015 – 2030) as stated earlier. The MGDs' target on water, for instance, was 'to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation' (UNDP, 2003: x). The majority of countries globally met this target by 2010. According to the MGDs report (GoM, 2015, p.7), by 2015 records indicated that 91 percent (4.2 billion) of the world population gained access to safe drinking water compared to about 76 percent (2.3 billion) of the world population in 1990. This is the strategy, and indeed water target, that guided UN member states, including Malawi, in their country level efforts to improve access to potable water.

In case of Malawi, the national development strategy papers have directly featured water supplies as one of the key areas on which to intervene, in-line with the foregoing global strategy. The Malawi Poverty Reduction Strategy Paper (GoM, 2002, p.41), for instance, recognized that access to potable water is beneficial to the citizens for both health reasons and increasing productivity. It there set out to increase access to potable water from 65.6 percent in 2002 to 84 percent by 2005 GoM, (2002, p.43). Promotion of potable water supply in the country remained a priority even in the successor Malawi Growth and Development Strategy I and II documents. During MGDS I and MGDS II, the country's goal on water was to improve access to clean water and sanitation in line with the MDGs, and to improve access to water through integrated water management system, respectively (GoM, 2007, p.6; GoM, 2012a, p.102). A review of the MGDS II, for example, indicate that Malawi managed to beat the target in MDGs of 67 percent, as well as the country level target of 75 percent (GoM, 2016b, p. xxv).

Although there seems to be significant strides achieved over the years, many parts of the world are experiencing scarcity of water due to climate change, which then greatly affects communities, including those that are connected to a safe source of drinking water. Evidence shows that 40 percent of the people around the world are experiencing water scarcity and this number is projected to continue increasing due to climate change effects (UNDP, 2015, p.9). Besides water scarcity, the water supply programmes have not yet reached other needy communities in the world, including in some parts of Malawi. This is why the SDG goal for 2030 is to have everyone on earth with access to safe and affordable drinking water (UNDP, p. 2015, 9). On its part, the Malawi Growth and Development Strategy III, which was launched in August, 2017, has a goal on water fused together with agriculture, climate change and ecosystems. The goal is to achieve sustainable agricultural transformation and water development that is adaptive to climate change and enhances ecosystem services (GoM, 2017, p.57). But specific expected outcomes under water are increased access to water resources, and enhanced integrated water resources management at all levels. This is in a way similar to outcomes stipulated in the previous two national strategies, representing continuity in the country's quest to improve access to clean water. However, the fusion of water with agriculture and climate change sectors, which in themselves are big and complex, needs to be problematized. The combining of two or more different sectors into one leads to competition for resources and attention. Thus, in this case water might suffer as usually government pays more attention to the agriculture sector.

2.3.2.2 National Level Policies guiding the Sector

In addition to the foregoing strategies, there are also policies that have been developed over the years to address key policy issues and guide the sector. The National Water Policy of 2005, for example, was developed due to the need to “manage demand for water, which included user fees and other related charges” (GoM, 2005, p. 8). It also covered issues of community water supply and emphasized on the need for empowering communities, which is one of the underpinning factors for sustainability of the same. It recognized the need for promoting community owned and managed water systems.

In 2012 the Government released the Malawi Water Sector Investment Plan (MWSIP), which outlined new ways of expanding water supply in the country. The MWSIP noted that there is growing demand for water, which is estimated to be at 200 percent by 2035, or increasing by 8 percent annually (GoM, 201, p.89). The plan seeks to address water shortages and expand access to portable water in the country. On legislation, in 2013 the Government came up with the Water Resources Act (2013) which, among other things, provides for the control, conservation, apportionment and use of water resources in the country (GoM, 2013).

2.4 Brief History of Water Supply and Access in Malawi

Water supply for rural and urban areas was one of the areas of focus of the colonial regime. Water supply programmes in rural parts of the country were a mixture of dug wells, boreholes and piped gravity systems (GoM, 1995a, p. 6). Between 1931 and 1939 a deliberate programme for dug well construction was undertaken, which then yielded more

than 400 wells (GoM, 1995a, p. 6). Borehole drilling projects were also initiated in the 1930s to supplement on the dug wells. However, it was not until after independence that boreholes drilling intensified. For instance, from 1969 to 1972 government and private sector drilled about 500 boreholes annually. Still in the 1970s expansion of water supply in rural areas was initiated as a deliberate programme under Ministry of Community Development and Social Welfare. It focused on drilling of boreholes, construction of shallow wells with hand pumps and installation of small gravity piped systems targeting needy communities in rural and urban areas as provision of water became a feature of poverty alleviation (GoM, 1995a, p. 6-7). This continued from the 1970s to 1990s guided by the National Water Resources Master Plan and the International Water Supply and Sanitation Decade (1980 – 91).

As of 1995 about 62 percent of Malawians had access to portable and clean water (GoM, 1995a, p.8). In case of rural areas, only 58 percent had access to clean water. Clearly, therefore, a large number of citizens still lacked access to portable water. This could be attributed to inadequacy of resources and limited efforts at reducing this gap since independence. However, progress on access to water was enhanced from the 1990s to the 2000s amid growing population and demand. For example, by 2010, piped water coverage at national level increased to 15.9 percent, while boreholes coverage increased substantially to covering 51.2 percent of households in the country (GoM, 2011, p.18).

On the financial front, records show that the Government spending on water sector is one of the least. According to Magalasi (2010, p.4), out of the National budget of MK 1.01

trillion spent from 2004/05 to 2009/10, only 1.34% went towards water and sanitation. In 2014/15 and 2015/16 National budgets only about 7 percent and an estimated 4 percent, respectively, went to water development and greenbelt irrigation. Obviously, with these low levels of funding by the Government, coupled with the unpredictability of funding from development partners, it might be difficult to attain the target of “universal access” which is stipulated in the Sustainable Development Goals (2030). On their part, development partners’ contribution to water is ranked fifth in terms of total donor funding to Malawi. The water sector gets about 6.4 percent and those topping the list are health, economic governance, education and agriculture (Magalasi, 2010, p.13).

2.5 Major Challenges

The water sector in Malawi continues to experience some major challenges. Firstly, the sector receives inadequate funding from the government and even development partners for expanding water supply and maintaining existing water-points (Mulwafu et al., 2002). There is also the existence of weak financial, managerial and technical capacity at various levels in the sector (USAID, undated, p.1); the consequence of which is difficulties to maintain and sustain already deployed communal water-points.

It has been observed that the water infrastructure is very old and therefore poses problems of maintenance. Mulwafu et al. (2002, p.34), for instance, state that Regional Water Boards (which took over responsibility of supplying water from District Water Offices) inherited very old and inefficient water supply facilities. As a result it was difficult for the system to cope with increasing demand for water due to the soaring of population in urban areas in the districts. Moreover, with such infrastructure the maintenance costs are usually high.

As the population of Malawi is growing, in urban, peri-urban and rural areas, there is increased demand for water. Existence of old and limited infrastructure, as well as limited resources are making this issue worse. Lately, effects of climate change are also being felt in relation to water reservoir levels and water tables in general, as the country experiences shortages of rainfall during some years. Finally, evidence shows that there is widespread of high levels of iron across the country, which poses a threat to borehole implementations. Some reports have blamed existence of iron for the corrosion of borehole linings (GoM, 2013).

2.6 Communal Water Supplies Project Life Cycle

At this point it is important to explain the life cycle of communal water supply projects in question. A review of their implementations, the inner workings of each stage, and some slight differences in the naming of stages that exist, enabled the study to understand and put forward the following phases through which all these projects undergo. The phases are *initiation, design and planning, implementation, and maintenance*.

2.6.1 Initiation Phase

This is the foremost stage in any project. This phase is known for origination of the idea or concept of the project, needs assessment, feasibility study and preliminary consultations with prospective beneficiaries and other key stakeholders at various levels. This is where the prospective project's goal(s), objectives and the overall concept are defined, consultations or buy-in meetings undertaken, and securing of commitments by

stakeholders is done (Belassi & Tukel, 1996, p.143). It also involves the sourcing of financial, material and other resources that will be required to implement the project. With respect to Malawi guidelines for community involvement in water projects, the National Water Policy (2005, p.8) has guiding principles on water, one of which directly supports community participation and it reads as follows: "*water development programmes shall be based on demand responsive and demand driven approaches, beneficiary participation and empowerment*". Again, the Local Development Fund (LDF), which is a government agency that finances community development work, supports directly community-driven initiatives (under the Community Sub-Project component) based on proposals submitted by communities themselves after they identified a problem(s), as one way of encouraging local people's participation from the beginning of the project (Kishindo, 2000). Once a proposal is approved for funding, LDF requires local communities to make a 20 percent contribution in form of cash, labour, materials or a combination of these (Kutengule, 1997 in Kishindo, 2000, p.9).

2.6.2 Design and Planning Phase

In this phase, information from the Initiation Phase is translated into the detailed and technical design of the intervention or solution. This is where the technical aspects of the project are clearly defined; the different technologies available are reviewed and the best is chosen; institutional and operational aspects and plans are made; and the social, environmental and economic aspects are analyzed and taken into account. Planning is also a component of this phase. In general, this phase is characterized by scheduling, planning and control techniques, allocation of resources and involvement of stakeholders (Belassi

& Tukul, 1996, p.143). The product of this phase is a project design and planning or blue-print document.

Even during this phase, government guidelines are seen to support involvement of community members. Whether in national centrally planned projects, local communities are supposed to participate and contribute; and similarly in community initiated development projects, where locals take a centre stage in activities including planning, external assistance from government or other agencies is required (Kishindo, 2000, p.9). This balance is an important strategy of ensuring success of these interventions.

2.6.3 Implementation Phase

This is a very critical phase in a project life cycle, during which the concept and plans of the water project are turned into reality. This phase entails putting into effect the project blue print as defined in the previous two phases. This phase encompasses undertaking various project activities, use and management of resources (financial, material and manpower), problem solving, decision making, and community engagement and relations. It also involves a series of control systems and responsibilities, as well as on-going monitoring and feedback, which ensure the project remains on course (Belassi & Tukul, 1996, p.143). Depending on project plans and exist strategy, which differ among implementers, some projects include a component on capacity building for the community to prepare them for continued maintenance of the water-points.

2.6.4 Maintenance Phase

This is the last phase, which entails sustenance of the intervention which was implemented. The implementer effects the exit strategy and hands-over the water-point to the community, if this was in-built in their plan, or simply exists the community without any formal hand-overs. Then the community, through its members and institutions, is expected to continue sustaining the water-point. This is where outcomes differ among different water supply implementations, with some being maintained as expected, while others are not and eventually become dysfunctional.

2.7 Conclusion

This chapter has reviewed the institutional arrangements and policy context of the water supply sector in Malawi. It has shown different interventions and shifts in the provision of water supplies in the country since the colonial era. This is critical to our understanding of the current state of affairs. It also helps us to know what has worked and what has failed in the provision of water supply services in the country. It has been observed that the merging or moving of the Ministry responsible for water with other Ministries or Departments, which continues up to today, leads to some compromise more than the good. In addition, although some reforms and other interventions have been undertaken since independence, some population in urban and rural parts of the country, still lack access to clean water. A look at Government's annual budgets and even overall donor support shows that the water sector is yet to become a priority. This entails a slow pace in the expansion of access to clean water and challenges to maintain existing water infrastructure. The issue of funding together with other major challenges that are evident in this sector need to be resolved if

the country is to make headway in relation to targets set in both the SDGs and national plans.

On top of the institutional and policy context, this chapter has also informed this research in terms of how policies of government require participation and empowerment of local people during implementation of communal water supply systems in the country. This has been made clear with reference to the National Water Policy of 2005, the LDF Operational Manual (2009) and the analysis of MASAF/ LDF interventions by Kishindo (2000). These two aspects are emphasized by government because of their critical role in ensuring development of a sense of ownership and commitment by communities, and the acquisition of necessary managerial and financial capabilities for managing such water systems in order to sustain them. These are some of the critical issues and areas on which this research concentrates. The next chapter focuses on the theoretical underpinnings and empirical issues which are at the centre of this research. This is essential to situate this research within a body of existing theories, ideas and knowledge.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

In Chapter 2, we have reviewed the institutional arrangement, policy reforms and the policy environment in the water sector in Malawi. The MAIWD remains the key organization for setting policy goals and guidelines in the water sector. We have also noted that there have been changes in strategies and policies largely informed by global strategies such as MGDs and SDGs. Although policy reforms have resulted in creation of regional Boards as independent state enterprises for provision of water services, the Ministry, through the District Water Offices, remains the main provider of the communal water supply system. The policy environment also recognizes the roles that the community stakeholders and water users play in the design, implementation and operation of communal water supply systems. The key elements highlighted in the policies are active participation and empowerment of communities in the project cycle to ensure sustainable management of these resources. In this chapter, we review the literature and debates on participation and empowerment, and on how these influence development outcomes.

This review analyzes and links competing theories of participation and empowerment to the sustainability (i.e. functionality) or unsustainability (i.e. non-functionality) of community development interventions. The theories of participation identified here are Arnstein's ladder of participation, Burn's ladder of participation and Wilcox's levels of

participation. These theories state that participation happens incrementally starting from the lowest to the highest level or step. Thus, prerequisites have to be in place in order for people to move across the participation ladder. Although some similarities can be drawn from what these theories propose, they have some differentials in some aspects of their levels and stages of participation. With regard to empowerment theories, the review focuses on the two models of community empowerment by Clark (1995) and Rothman's levels of empowerment. But what precedes this participation and empowerment theoretical review is the clarifying on key concepts by way of giving their precise meaning as used in this study, as well as giving a brief account of the origins of participation and empowerment as central concepts in this study. Then after reviewing the theories, the chapter highlights, theoretically, major factors that enhance, and those that undermine, participation, empowerment and development outcomes. This is linked to critical success and failure factors in development interventions within the lens of the sustainability discourse.

What follows this is an attempt to bring out relevant empirics on participation and empowerment in similar development interventions and draw out relationships that explains the two phenomena in question. This evidence from the ground also provides clear linkages between participation and empowerment of local community members in communal water systems and the eventual outcomes. The first part of this empirical section focuses on participation's influence on development outcomes. This is followed by evidence on how communal water systems are managed elsewhere in the world to ensure their sustainability. Thereafter, a review of the technical capacities for sustaining communal water systems is presented by focusing on evidence from elsewhere in Africa

and Asia. This is followed by issues of user fees and revenue generation for sustaining water systems in question. In the end, a discussion on the choice of water solution and decision made on the choosing of appropriate technology to be used and how that affects water system's functionality and sustainability is presented.

3.2 Theoretical Literature

3.2.1 Definition and Measurement of Participation, Empowerment and Programme Outcomes

It must be stated that in scholarship there is divergent conception and understanding of key terminologies. These terminologies can also be context specific. Thus, this section serves the purpose of giving the precise meaning, within this context, of the key concepts of participation, empowerment, programme or development outcomes, sustainability, functional and non-functional water-points, ownership and commitment of community members.

3.2.1.1 Participation

Participation has been defined different by many scholars, but four definitions are presented here. First, Mejos (2007, p.81) defines participation as a constant readiness to accept and to realize one's share in the community because of one's membership within that particular community. The second one is by Mukandala (2005) in Mukundane (2011, p.1) who defines 'participation' as the maximization of people's involvement in the spheres or stages of development. This relates to the definition Paul (1987) that participation is actually an active process whereby beneficiaries influence the direction and execution of

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development projects rather than merely receive a share of project benefits. Lastly, Holcombe (1995, p.17) in Claridge (2004, p.25) defines participation as basically representing action, or being part of an action such as a decision-making process. In this study, we adopt the definition proposed by Paul (1987).

Practically, participation can be measured, for example, by looking at the degree (or absence) of involvement of stakeholders throughout a project life cycle. The measure focuses on key indicators of participation, which in this context include, but not limited to representativeness of members and leaders, number and types of events attended, amount of time spent in and outside planned activities, satisfaction with the work or the process of participation, balance of power and leadership, opportunities and levels of decision making, and degree of local ownership perceived and/ or achieved (Butterfoss, 2006, p.331). This can be done, for instance, by looking at percentage levels of involvement or by ratings on a Likert scale, depending on how a data collection tool is designed for this purpose.

3.2.1.2 Empowerment

Holcombe (1995, p.17) in Claridge (2004, p.25) defines empowerment as sharing control, the entitlement and the ability to influence decisions, as on the allocation of resources. On his part, Wilcox (1994) simply defined empowerment as participation. In agreement, Pettit (2012, p.2) states that empowerment is a multidimensional and interdependent process which involved changes that will eventually permit the poor and marginalized to participate profoundly in determining their future. According to Plummer (2005), community

empowerment involves giving people knowledge and skills with which they can take control of their lives, make own decisions, and operate independently. An empowered community is the one, which is confident, resilient, independent and energetic; which has the capacity to identify problems and design solutions at the local level; and which is inclusive and voluntary (RSE, 2014). The underlying meaning and issue here is that when communities or programme beneficiaries are empowered, they play a central role in development work, and get actively involved in making policy decisions and control operations of the development interventions, as opposed to involvement through just provision of free labour and material contributions.

Based on the above, the definitions are highlighting that an empowered person or community is that which is equipped with essential knowledge and skills with which to operate independently, make own decisions and determine their future, without depending on external agents. Thus, for purposes of this study the definition by Plummer (2005) is adopted.

With regard to measuring empowerment, the focus is on evidence, or absence, of capacities and skills in certain prescribed areas of interest, whether resources are available or the capacity to generate and/ or mobilize the same exist, power and control dynamics, leadership and decision making, and individual or community competence (Butterfoss, 2006, p.227).

3.2.1.3 Programme Outcomes

Basically, '*outcomes*' can be understood as changes, benefits or effects resulting from an

intervention. Programme or project outcomes can be positive, negative or a mixture of both. The outcomes can also be intended or unintended (UNDP, 2011, p.56). There are two types of outcomes – soft outcomes and hard outcomes. The soft outcomes are those that are not tangible and not so easy to measure. For instance, soft outcomes may involve change inside people such as attitude and interpersonal skills, which result from a training; while hard outcomes are the ones that are very clear and obvious, such as external change, which is very noticeable (Dewson et al., 2000).

Outcomes which are applicable to communal water systems and are at the centre of this study are: functionality, community ownership, community commitment and sustainability. These terms would be defined as follows:

i) Functionality

A water-point is regarded as functional if it is working and being used by the community at a particular point in time (Shaw, 2012, pp.12-13). Whereas a non-functional water-point is that which is in an unusable state due to some form of a fault, or still technically works but the community has decided not to use it.

There are both technical sustainability issues and software or management related aspects that underpin functionality of communal water systems. Thus, the community needs to be given a central role to champion the operational and maintenance of its communal water systems, rather than to make it depend on external agencies, which is not viable.

ii) Community Ownership of an Intervention

Ownership means community members regard a development intervention in their area to be theirs. As such, they get involved in it in ways that demonstrate high levels of dedication to the process and outcomes (Mamburi, 2014, p.8). According to Fielmua (2011, p.117), community ownership does not mean that the community will not receive support from external sources, as in actuality it may receive support from government or other partners in form of technical assistance, funding or other forms of assistance. However, it is the community that still demonstrates actual ownership of the intervention by makes decisions and exercises control over access to the same, as well as take responsibility to repair their boreholes (or water systems) when they break down (Fielmua, 2011, p.117). It has been argued that where a sense of community ownership exists, there is continued functionality of the development initiative (Manikutty, 1997; Whittington et al., 2009; Marks & Davis, 2012).

Mamburi (2014, p.10) cites a study by Boru (2012) which was undertaken in Kenya by looking at the determinants of community ownership of water projects. The results showed that key to creating this sense of ownership among community members are community involvement in the site selection for the water facilities, design and installation, provision of labour, cash contribution, locally available materials and so on. It is further pointed out that one of the reasons for lack of sustainability is lack of community participation and ownership (Mamburi, 2014, p.10).

iii) Community's Commitment to an Intervention

Commitment should be understood as the act of being devoted and willing to offer time and/ or resources towards a water supply system for its sustainability (Tadesse, 2012; Mugumya, 2013; Carter & Rwamwanja, 2006). Just like in the case of ownership, scholars also argue that commitment of community members on a development initiative also leads to its continued functionality (Manikutty, 1997; Whittington et. al., 2009; Marks & Davis, 2012).

There are certain important aspects that can be analyzed to measure commitment of community members towards their water supply systems. One area is to check community members' commitment to bear associated contribution to the capital costs or maintenance, which is an important indicator of commitment to the project (Breslin, 2003 in Tadesse, 2012, pp.9-10). Further there is need to have willingness by community members to commit resources and maintain their water supply system and benefits continually (Tadesse, 2012). The community must also show commitment to upgrade its local skills and technical capacity to be able to undertake some maintenance and repair works on their water systems, as well as managerial and financial knowledge and skills with which to make informed decisions when managing such water-points.

iv) Sustainability

The United Nations Commission on Sustainable Development defines 'sustainability' as meeting the needs of the present without compromising the needs of future generations to

meet their own needs (Brundtland, 1987). This definition is mainly applicable in the field of environment or conservation. But contextual definitions which are adopted for this research include that by Stevens and Peikes (2006, p.156) who state that sustainability of social service projects is whether projects can survive the loss of original foundation funding and continue to provide the social services they have developed. Another appropriate definition for this research is provided by Carter and Rwamwanja (2006, p.8) who state that sustainability means that the service is being used, it is being maintained, its maintenance is paid for as otherwise it would deteriorate, and over time means it is permanent.

Sustainability of water supply systems is defined as 'whether or not water services continue to work overtime' (Len Abrams, 1998 in Tadesse, 2012, p.8). Although it is a challenge to measure sustainability in water systems, there are important elements that can be assessed in this measurement and these are: functionality or non-functionality; breakdowns of the water-point and how long it takes to repair; quality of water in terms of clean supply, salinity and taste; and quantity of water or yield (adequacy and reliability or not) (Tadesse, 2012, p.4; Zelalem, 2005).

3.2.2 The Origins of Participation and Empowerment in Development

According to Armah et al. (2009, p.75), participation as an ideology traces its roots to Third World development, following many failures of the top-down approaches to development which took place mainly in the 1950s and 1960s. A new approach that development practitioners began to advocate for and encourage was that which includes local population

in development activities. Streeten (1995) in Jimu (2008, p.24) states that contemporary thinking is influenced by the participatory paradigm, which rests on devolution of decision-making power, and that failure of externally driven projects, lack of project sustainability and resource constraints have led to the popularization of development thinking towards community or participatory approaches. On their part, Flecknoe and McLellan (1994) in Jimu (2008, p.25) maintain that a 'community' comprises of the web of personal relationships, group networks, as well as traditions and patterns of behaviour that develop against the backdrop of the physical locality and its social, economic and political situations. Then it is advocated that the residents or members of a community in which development activities are planned to take place must be involved in key processes and should be principal stakeholders. When this happens, there will be commitment from the community on the development work and this ensures positive outcomes and future maintenance of the initiatives introduced.

Similarly, it must be noted that the history of empowerment in development is similar to that of participation, as both are said to have originated from social movements and liberation struggles, and were advanced by civic and political actors who sought to see collective to deeply entrenched structures (Pettit, 2012, p.6). This issue became prominent from the 1990s all the way to the 2000s. It has been demonstrated that along the way the concept of social capital began to be regarded as part of this empowerment and development discourse.

3.2.3 Theories of Participation

We identify three theories of participation: Arnstein (1969) ladder of participation, Burns et al. (1994) ladder of participation and Wilcox (1994) levels of participation. The ladder of participation by Arnstein (1969) recognizes that participation is characterized by a series of steps (eight) that one moves through, starting from the lowest three levels, where actual participation is absent to the highest level where real participation takes place and local people are delegated power or given full control (Figure 3.1). Each of these levels denotes certain experiences and achievements that have to be met before transitioning to the next higher level. According to the theory, this ladder of participation begins with lowest level of 'manipulation' where local people are simply informed but there is no any involvement of them to contribute ideas and so on, through 'consultation' under which local people are consulted and make some contributions, to the highest and last level which is 'citizen control', in which citizens are fully involved and take charge of the development process.

Figure 3.1: Ladder of Participation by Arnstein (1969)

8. Citizen Control It is about the degree to which local people exercise control or power over an intervention. It entails that they are in full charge of policy and managerial aspects and are able to negotiate the conditions under which external agencies can change them.
7. Delegate Power It entails the level of decision making given to the community or citizens after negotiations with public officials (or programme implementers). Locals hold dominant or significant delegated powers to ensure accountability of the programme.
6. Partnership In this stage power is shared or redistributed between citizens or community members and the power holders (e.g. implementers of an intervention) through a negotiation process. They serve together in all existing structures of power.
5. Placation It is a point where local people would begin to be given some degree of influence over

something. Few of them are selected to sit on existing or established structures of power. In majority of programmes citizens' participation is at this level or below.

4. Consultation

It involves informing citizens (e.g. through meetings), and it is a legitimate step towards full participation. However, if consulting them does not combine other essentials forms of participation, then this stage ends up to be a sham.

3. Informing

This is when citizens are informed of their rights and responsibilities, and it is often an important step towards legitimate citizen participation. One major shortcoming, however, is that in many cases it ends up to be a one-way flow of information i.e. from officials to citizens

2. Therapy

At this point some group therapy is masked as citizen participation, which is basically said to be dishonest and arrogant. Those with power or implementers of a programme would masquerade as if they are involving citizens, yet they simply use them in order to achieve their programmatic goals.

1. Manipulation

Citizens here are manipulated by way of putting them in committees or structure where they would simply rubberstamp things. This is said to be one of the distortions of participation as this is done for public relations purposes to the advantage of those with power.

Source: Adopted from Arnstein (1969)

This theory, however, has not given detailed requisites that need to be available to enable transition of those involved to the next step on the ladder. Furthermore, a closer look at each of these levels in the ladder clearly demonstrates that these are too broad categories in themselves. There was lack of specificity at the theory's conception and in how it is presented so that it is clear to whoever is reading it, or seeks to use it. Otherwise, it is left to the reader to interpret it in their own way and context, unlike the subsequent ones which are somehow detailed.

The second one is by Burns et. al. (1994), which is said to have been conceptualized based on previous works around participation, including that of Arnstein. However, Burns et al. (1994) moved a step further by looking at participation from an empowerment perspective. The theory centres on empowerment of individuals as it regards that making them independent and able to make decisions on their own is imperative in the development process. Just like Arnsten, it also presented a ladder of participation, which is divided into three broad categories, beginning with *citizen non-participation* then to *citizen participation* and end with *citizen control*. The first category of *citizen non-participation* primarily involves, among other things, giving people information through publicity; holding meetings which are seemingly, but not necessarily, for consultations; and provision of poorly packaged or inadequate information. This is followed by a category where there is *citizen participation*. In this category high quality information is provided, genuine consultations are conducted and there is some empowerment which enables people participating to exercise some level of control. The last one is *citizen control* which is basically the top most level in this framework. It entails people having full control and making independent decisions. It must be underscored that this happens when people have been empowered along the way to be able to take full responsibility and authority. Figure 3.2 presents this ladder of participation by Burns et al. (1994).

Figure 3.2: A Ladder of Participation by Burns et. al. (1994)

Citizen Control This is the highest stage, under which there are two levels, with the lower being “entrusted control” where citizens are given the opportunity to control the course of a programme or intervention as trusted and with limited control; and the higher one being “independent” control where citizens gain full control of the intervention and make all decisions.
12. Independent Control
11. Entrusted Control
Citizen Participation This is a stage where there is actual citizen participation. It has six levels as outlined below, each of which is entailing what happens at that level.
10. Delegated Control
9. Partnership
8. Limited Decentralized Decision-making
7. Effective Advisory Boards
6. Genuine Consultation
5. High Quality Information
Citizen Non-Participation This is the lowest stage where there is absence of true citizen participation. What happens here is simply information giving or participation as a sham.
4. Customer Care
3. Poor Information
2. Cynical Consultation
1. Civic Hype

The third theory is by Wilcox (1994) which regards participation as a continuum process. Thus, participation is seen to be a range or series of processes in which people are involved or excluded. According to Wilcox (1994, p.1), participation happens in five levels. The first one is simply about giving people *Information* on what is planned and it ends there. This is followed by step two of *Consultation*, which deals with provision of options available and getting people's views and comments. The third step is *Deciding together*, which encourages people to share ideas and do joint decision making. Then the fourth step involves *Acting together* on what has been decided as the best option to pursue. The last one is *Supporting individual community initiatives*, which basically involves local groups or organizations offered funding, advice or other support to develop their own agendas within guidelines.

Figure 3.3: Levels of Participation by Wilcox (1994)

5. Supporting Individual Community Initiatives At this highest point, community members or organizations are given financial support, advice or other forms of support in order for them to pursue their plans but within certain guidelines.
4. Acting Together At this point, power holders and citizens or community members make decisions together, as well as partner to undertake work together.
3. Deciding Together Community members are encouraged to offer additional ideas and are given an opportunity for joint decision making.
2. Consultation Citizens are given information and feedback is solicited from them. But new ideas are not allowed at this point.
1. Information This is the lowest level at which citizens are simply told what is planned for them or their community

Lastly, the work of Cohen and Uphoff (1997) in Finsterbusch and Wicklin (1987, p.5) is also very relevant to this study, as it focuses on four areas of participation in-line with a project life cycle. This speaks directly to communal water project life cycle, which has four generic stages of initiation, design and planning, implementation and maintenance. According to Cohen and Uphoff (1997), the four phases of the project cycle they made reference are decision making, implementation, benefits and evaluation. These four areas comprise of the 'what' of participation, which helps to understand the kind of areas in which participation took place or not. It also looks at the 'who' of participation, which is essentially the kinds of people that are involved in project tasks, such as local residents, local leaders, government officials and foreign personnel (Finsterbusch & Wicklin, 1987, p.5). It is important to know who participated in order to understand whether or not participation actually took place. Finsterbusch and Wicklin (1987, p.5) further looks at the 'how' which simply refers to the mechanisms of participation: 1) where does the initiative come from? 2) what inducements are involved? 3) what is the structure? And 4) what are the channels? This is also critical in determining how stakeholders were engaged and to what levels. Lastly, the theory includes the 'when' and 'where' which are contextual factors including many project characteristics and aspects of the task environment that have effects on participation and its likelihood of contributing positively to the project (Finsterbusch & Wicklin, 1987, p.5).

3.2.4 A Review of Selected Empowerment Theories

There are many empowerment theories and models, and the understanding of the construct varies depending on the field or perspective from which they are used. With respect to communal water points, empowering communities or its members has been recognized as

key in order to ensure their effective participation in development interventions. Empowerment is basically the process of gaining influence over events and outcomes of importance (Fawcett et al., 1995; Rappaport, 1981). This unfolds at multiple and interconnected levels such as the individual, group, organization and community level. In empowered communities there are empowered organizations and the level of organization empowerment depends on the empowerment level of its members (Robertson & Minkler, 1994; Wallerstein & Bernstein, 1988). According to Israel et al. (1994), empowerment must be understood as the ability of people to gain understanding and control over personal, social, economic and political forces in order to take action to improve their life situations.

There are many theoretical models that explain the processes of community empowerment in the context of communal water supply systems. First, Rothman came up with a dominant model in the 1970s with three levels of empowerment, from which other scholars drew elements for their own proposed models (Clark, 1995, p.300). The first level is *locality development* which involves development of a sense of community and a group identity; followed by *social planning* which centres on the resolution of problems in the community; and lastly, *social action* which is basically focusing on increasing the ability of the community to resolve its problems.

Second, Clark (1995, pp.301-302) puts forward two models of community empowerment which were deemed relevant and applicable to development interventions in community water supply. Table 3.1 gives a summary of aspects under each stage in this model.

Table 3.1: Models of Community Empowerment

Model I: Community Organization	Model II: Nursing Model of Community Organization for Change
Community Analysis – involves an assessment to understand the community better, including its capacity, potential barriers to action and its readiness for change.	Assessment/ Re-assessment – undertaking a needs assessment with the involvement of the community itself.
Design Initiation – all preliminary processes essential for project take-off. e.g. defining goals, planning and mobilizing resources.	Planning/ Design - establishing goals and developing the interventions.
Implementation – involves all processes in the execution of an intervention or project.	Implementation – putting into actions the design in order to achieve the identified goals.
Maintenance/ Consolidation – deals with the sustenance of the intervention.	Evaluation/ Dissemination – undertaking an evaluation to identify successful and unsuccessful elements of the intervention.
Dissemination/ Assessment – to establish and then publicize whether the intervention was effect and achieved intended outcomes.	

Source: Clark (1995) and Author's modification

3.2.5 Notable Flaws in Participation and Empowerment Theories

The first key shortcoming worth noting is the linearity in some of the theories and model when they state that one step has to be fulfilled prior to advancing to the next step. This is a serious simplification of what in actuality is a complex process. In reality, the

participation and empowerment processes are multifaceted in nature, and there is some sort of mix in the series, which needed to have been recognized.

The second shortcoming is that as participation involves people, the aforesaid levels of participation seem to suggest that when you are engaging people then you move with them from one level to another. In reality, however, some people may lag behind in some ways, but the participation process would still continue. Moreover, these frameworks have not provided clear and detailed measures of what constitutes attainment of each level as a requirement to move to the subsequent one.

Furthermore, a critical look at the above has revealed that there are some categories which are broad. This presents the difficult to unpack them, as each person is bound to make their own interpretations of what the details of each category are. Thus, there was need to provide specifics, together with clear conditions and demonstration of movement to the subsequent level, as stated earlier.

It is essential to recognize that people can participate in development work as mere participants who do not influence anything. In cases where people are involved in actual discussions, the key question is that does that really shape the project design and implementation. When people participate in discussions, does this form part of the strategic direction or the strategy is decided elsewhere between the implementer and funder(s)? All these realities ought to have been reflected or stated in the above frameworks.

Lastly, it seems that some of the participation and empowerment theories are making idealistic or naïve assumptions that community participation automatically leads to empowerment (Rebien, 1996 in Lennie, 2005, pp.1-2). However, this is not always the case. There must be concerted and deliberate efforts to ensure that the community and stakeholders that participate in the intervention are empowered by the end of the process.

3.2.6 Linking Participation, Empowerment and Development Outcomes

3.2.6.1 Factors that Enhance and those that Undermine Participation and Empowerment in Development Programmes

It is critical to also look at factors which development scholars and practitioners have put forward as those which increase levels and extent of participation and empowerment in order to attain positive development outcomes. The first one is democracy, which is said to be a pre-requisite for broad-based participation and empowerment. As Weaver and Cousins (2004) in Nkwake et. al. (2013) state, from a *fairness* or democratic perspective, participation ensures that views of many stakeholder groups are represented in the development process. It has been argued that when there is democracy in development interventions, democratic principles are visible especially in aspects that require participation of community members. Democracy is regarded as a precursor for fair and equal opportunities to societal members; for example, in terms of filling leadership positions in a project, and enjoying benefits from the same. This is said to motivate people to participate and accept the intervention as their own, which is crucial in relation to sustainability.

Presence and promotion of clear and credible accountability system is another key factor.

It has been maintained that in development interventions that require formation of management committees there has to be a democratic framework with which to select committee members, and in turn the framework itself must make them accountable to the community as a whole. The same applies to management of finances in projects that generate revenue. Community members would want to see transparency and accountability in the management of the finances. Once these are in place and functioning as desired, community members would be motivated to participate and make the necessary contributions for maintenance or sustenance of the same.

The third factor is existence, or creation of a conducive environment for participation and empowerment to thrive. People will tend to participate and get empowered in a development intervention when they see that the process is inclusive, as opposed to that which it is selective and just targets preferred groups. Inclusivity attracts all groups of people in the community to be involved, such as women, youth, people with disabilities and so on. But for this to happen there is need to have supporting structures and mechanisms. IFAD (2009, p.27) states that in many of their CDD projects they use non-exclusion principles, in an attempt to mobilize the dominant elite's potentially positive role in the community (in addition to having other groups represented). This fosters cohesion in the society and overall a sense of ownership among its members, which is important for the sustenance of the intervention with local resources. Local communities are also empowered in ways that will ensure their ability to support and maintain the intervention moving forward.

On the other hand, there are also some constraints that affect participation, empowerment and ultimately attainment of development outcomes. As stated by Lennie (1995, p.6), these constraints include time limitation, people's level of familiarity with participatory and empowerment processes, lack of access to (or familiarity with) technologies of the initiative, costs involved, different agendas and power relations among various stakeholder groups. Other scholars such as MacFarlane (2000), and Harvey (2010) have also recognized the same, and state that it is crucial to do an assessment of potential barriers to participation and empowerment prior to and during project implementation, so that effective ways of overcoming them can be devised in time. Table 3.2 outlines some of the key barriers to participation in a development project.

Table 3.2: Barriers to Participation

Cultural	Social
Lack of education	Social segregation
Lack of appropriate skills	Lack of time and money
Lack of interest	Low social capital
Lack of trust	Marginalization
Lack of experience in negotiating	Alienation from government
Lack of confidence	

Source: Harvey (2010, p.10)

As per the foregoing, lack of time and interest impinges on participation and empowerment. Time availability, it must be noted, is critical for people to participate in development programmes. This becomes a constraint when people are busy with other personal and/ or business engagements. In addition to this, interest in an intervention for which people's participation is sought is another important aspect. When there is lack of interest, people

cannot get involved or even get empowered to sustain the intervention.

As it is well known, some development programmes require communities to make contributions as co-financing of the intervention, which is viewed to be that which will influence greater community involvement and attainment of 'ownership' of the project by the community. When this approach is taken, however, the poorest communities may under-participate or self-select out of programmes that require them to foot part of the bill for private benefits or local public goods (Ravallion, 2009 in Mansuri & Rao, 2012, p.171). Adding to this, Chase (2002) in Mansuri and Rao (2012:171) points out that mandatory community contribution in the case of the Armenia Social Fund led to a selection bias against the poorest communities, which are often unwilling or unable to contribute.

Furthermore, in development work it is obvious that there are moments when local and foreign ideas clash. This is more so and inevitable when local communities are engaged in the project from the initiation phase. For instance, in a case study of famine relief efforts in Southern Sudan, the local ideas of how food should be distributed differed from the ideas of aid workers, resulting in a poorly designed project (Harragin, 2004 in Mansuri & Rao, 2012, p.167). When local ideas are ignored and foreign ones taken on board in the design of a programme or project, it is unlikely that the intervention can be sustained by locals in the future.

Lastly, where there is insufficient participation, or when technical issues are decided by non-technical people as part of the participation process, the outcomes are often

undesirable. In such cases the result might be the making of wrong choices of solutions and technologies, which could be inappropriate, non-durable, and expensive and/or difficult to maintain locally. Another challenge is the tendency to be preoccupied with achievement of major outputs of a project or programme, while neglecting undertakings with community stakeholders to foster sustainable processes; and under-investing in institutional strengthening and capacity development (IFAD, 2009, pp.43-44). That is, project implementers failing to empower community members or local organizations, so that they can be ready to take over operations and maintenance of the intervention when the project closes. IFAD (2009, pp.45-46) also mentions other shortcomings sometimes observed which are lack of systematic approach to arranging or providing incentives and ongoing technical support for governmental and non-governmental partners responsible for sustaining activities (e.g. infrastructure), and limited capacity building for enabling communities to acquire the ongoing financing needed to sustain programme improvements.

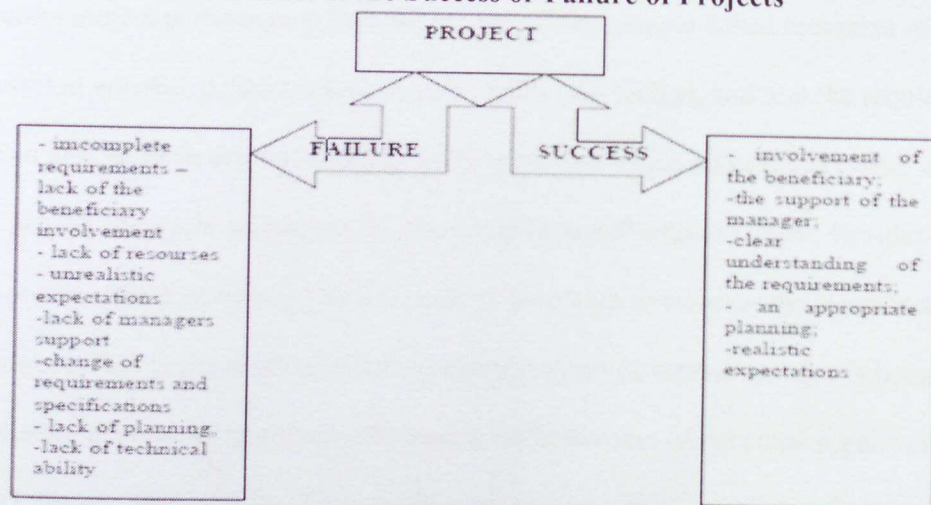
3.2.7 Development Outcomes and Participation Contextualized: Factors behind Success and Failure

It is important to contextualize the meanings of the words 'success' and 'failure', so that there is a common understanding in how they are used in this research. To start with, the success of a project and/ or programme is when the set objectives have been met within the defined timeframe and in-line with the expectations of beneficiaries, implementers and donors. On the other hand, failure of a project or programme can be understood as a situation when it has not met the expectations of stakeholders; the impact of which includes frustrations by intended beneficiaries and negative publicity/ news about the implementer.

However, success or failure can generally be looked at from different perspectives and interpretation can differ – beneficiary, implementer and funding agency. This is well articulated by Toader et al. (2010, p.450) who state that the word success or failure, as the words good or bad, are differently perceived by the project participants; for example, a project which exceeded the costs and the planned objectives but which offers the results expected by the beneficiary, can be considered a success, but a contractor which registered some loss working on the project can consider it as a failure. On his part Harvey (2004:339) gives a definition focusing on the water sector (borehole) by stating that borehole failure refers to a situation in which a borehole which is deemed ‘successful’ at the time of drilling subsequently fails to deliver a sufficient yield of safe water throughout the year.

There are certain factors which account for the success or failure of a project. Emphasis must be made at the outset that these factors simply give an indication of whether there is a high or low probability of a project to succeed or fail. Toader et al. (2010, p.451) give a summary of these success and failure factors in Figure 3.4.

Figure 3.4: The Main Causes of the Success or Failure of Projects



Source: Toader et al. (2010, p.451)

In addition, for a project to succeed it needs to have adequate resources, and where there is inadequate resources (e.g. people), no right skills in the team and no commitment to the project, this leads to tasks taking longer than expected to be completed, deadlines and milestones get missed, and there is more workload (CSI, 2004, p.13). Further, project failures are evident when requirements have been poorly defined and/ or not agreed upon with beneficiaries, and the implementer imposes their ideas. This is obviously linked to poorly defined deliverables, which together result in customers being unhappy and complaining about the final product (CSI, 2004, p.15-21).

Measuring a project or programme to gauge whether it is a success or failure is critical. In this undertaking the focus is on what is supposed to be measured, which can be the process or the outcome (i.e. product). This assessment is supposed to be done scientifically by following an evaluation protocol that is appropriate for what is to be assessed. According to Nelson (2005, p.361), a retrospective (i.e. a post-mortem) is a formal method for evaluating project performance, which considers three process-based measures of success that looks at whether it came in on schedule, within the budget, and met the requirements. This can also be extended by focusing on the extent to which stakeholders were involved in the project life cycle and the levels of participation and empowerment. Besides looking at the process, the post-mortem also focuses on outcomes to measure the success or failure of a project. This looks at whether the resulting product or service was (or is being) used, and whether the project improved efficiency or effectiveness of the client organization (i.e. value) (Nelson, 2005, p.361). The outcome assessment can also include a look at whether

the beneficiary is satisfied or not; if there is a sense of ownership or not; and if the community has the capability to sustain the intervention, among other things.

3.3 Empirical Literature

3.3.1 *Evidence on Participation's Influence on Development Outcomes*

Since theory has informed us on the relationship between participation, empowerment and outcomes of the development intervention, the chapter now turns to evidence on the same. As stated by Bonye et al. (2013, p.88) effectiveness, efficiency and equity are attained once community members participate in all stages of a development project – conception, planning, implementation, monitoring and evaluation. It is further argued that as community members participate in the project, they get empowered and become self-reliant people who can take charge of their development activities (Bonye et al., 2013, p. 88). This empowerment process enables people to be in control, own and ultimately sustain development. The empowerment in question, according to the World Bank (2002), has four key elements, which are access to information, inclusion and participation, accountability, and local organizational capacity development. This speaks to the review done earlier on what scholars have theorized about the key features and focus of empowerment process in development work.

As it has been shown earlier, when local people are empowered then they effectively participate in development, and the participation of locals in a project brings benefits to the development intervention. Israel et. al. (2006, p.1031) state that when partners experience personal, organizational and community benefits and see value in a development

programme they stay engaged. This helps to attain broad-based support from a cross-section of the community constituencies, which then influences outcomes (of an intervention) positively (Altman, 1995, p.529). For instance, based on a review of World Bank water supply projects, Regt (2005, p.1) noted that involvement of the local community in decision making is linked to greater beneficiary satisfaction with the services, and thus a greater willingness to pay (for the service). It has been argued that there is a direct link between significant involvement of local stakeholders and sustainability in terms of outcomes and impacts (Regt, 2005, p.1). On the other hand, a review of World Bank funded projects in India revealed that a top-down approach, practiced under the Uttar Pradesh Jal Nigam (UPJN) which was very centralized, rarely took into account the preferences and views of targeted water users, the result of which was failure to recover capital as well as operations and maintenance costs (Regt, 2005, p.5).

Furthermore, Isham and Kahkonen (2002) state that communities often require considerable support to understand technical aspects of projects. It is unimaginable to expect community members to actively participate, beyond mere presence but in actual discussions, when they do not have an idea of some technical aspects of the project. Actually, these have to be explained to participants so that they can meaningfully participate and make sound contributions; otherwise they would shun project meetings. This understanding is also critical for the future sustainability of the intervention when the project funding period ends. In case of the Bolivian Social Fund, Mansuri and Rao (2012) state that the water projects improved water quality only when community-level trainings were provided. Provision of training to selected local members is essential to equip them

with both management and technical skills, which they can use to run the affairs of the intervention and/or perform basic repairs.

3.3.2 Technical Capabilities Essential for Sustaining Communal Water Supply Systems

3.3.2.1 Community Based Technical Capacity for Sustaining Water Supply Systems

Technical capacity within both the community and the district is critical to sustaining communal water supply systems. In relation to this, Rautanen et al. (2014, p.161) state that the importance of decentralization, participation and empowerment in the general global thinking on roles of communities, governments, NGOs and donors in sustainable service delivery, is equally valid for water service delivery. Following a study of water supply systems in Nepal, Rautanen et al (2014, p.168) observed that Operations and Maintenance (O&M) issues remain a hot topic in Nepal, which accounted for poor functionality of water supply systems country-wide. This is why experience has shown that it is essential to equip some locals with skills with which they can perform first-line basic maintenance of their water-points.

Furthermore, it was also realized in Nepal that participation entails risks of corruption, self-interests and downright criminal activities, particularly in relation to procurement involved in the project and decisions concerning financial transactions; for example, there was evidence of Water Users Committee (WUC) members abusing funds regardless of public audits and calls for transparency (Rautanen et al., 2014, p.168). According to Rautanen et al. (2014, p.168), a study by Nepal's Department of Water Supply and Sewerage of 2011

revealed that while the coverage for piped drinking water was high at 80 percent, only about 18 percent of the water system were functioning well and delivering expected benefits. This emanates from technical and institutional issues such as the ones stated in the foregoing. In order to deal with this proactively, it was realized that empowerment and continued capacity building would help to mitigate these risks; for example, through public audits prepared by the WUCs to enable the community see income and expenditure, follow procurement done, and hold public hearings at community level (Rautenan et al., 2014, pp. 168 – 169).

Similarly, as stated by Bannon (2011, p.2) based on surveys conducted in Mozambique, Uganda and Ethiopia, training community members on how to fix a water pump shows to be associated with increased sustainability. This simply means that there is a direct association between provision of maintenance training and the prospects of having a well-functioning water-point. In agreement, Fielmua (2011, p.178) highlights the example of Nadowli district in Ghana where outcomes of water supply projects (boreholes, hand-dug wells and small town pipe systems) were enhanced through capacity building at community and district levels. The training programmes targeted contractors, area mechanics and water-point caretakers. It has also been stated that beyond this capacity building, the District Assembly was provided with essential equipment such as computers, motorbikes and office supplies, in order to improve on their service delivery in the sector (Fielmua, 2011, p.178).

3.3.2.2 Literacy as a Prerequisite for Capacity Development to Sustain

Interventions

It has been argued that considerable literacy levels among some members of the community and the ability to be trained in certain skills for future maintenance of an intervention are critical. But where all this is not possible, sustenance of an intervention is usually a challenge. The reviews of the Tanzania Social Action Fund and Zambia Social Fund by Mansuri and Rao (2012, pp.171-72) supports this position as it was revealed that weak community capacity appears to be a deterrent to participation and empowerment. In the case of study projects in Pakistan, Mansuri and Rao (2012, p.186) observed that projects were far better maintained in communities with above average levels of schooling.

3.3.2.3 Management of Communal Water Systems for Sustainability

The value of institutionalizing, and having vibrant community committees overseeing the affairs of communal water-points has been underscored elsewhere. For instance, Regt (2005, p.5) looked at 1,206 villages which were targeted for the rural water supply in India with funding from World Bank in 1996. It was discovered that out of the total there were 1,112 villages with water supply committees which remained functional and more than 90 percent of water infrastructure in these villages were well maintained. Similarly, in Nepal community institutions (e.g. Village Development Committee-wide Water Resources Management Committee, and Water Users Committee) were established to ensure local people's involvement and decision-making in the planning, implementation and management of communal water supply systems (Rautenan et al., 2014, p.166). These institutions were registered under the Water Resources Act as legal entities (formal user

groups), which enable locals to manage budgets and make decisions at lower levels pertaining to their water supply systems. This essentially underscored the principles of good governance and financial transparency and accountability (Rautenan et al., 2014, p.167). Another lesson which Ratenan et al. (2014, p.168) put across is the need to link and closely engage with the existing structure of Village Development Committees in order to ensure a sense of ownership locally. However, presence of such agencies or committees at local level is in itself not a guarantee that things are going to run smoothly. There are other additional factors that underpin the success. One of them is the satisfaction of water users with the water supply source, which would motivate them to be actively engaged, make contributions and ensure that their water source remains functional. According to Fielmua (2014, p.179), this satisfaction is attained when there are prime indicators, which include water sufficiency, reliability of water supply, trustworthiness of management committees, prompt repairs of the water facility and cleanliness of the water source.

3.3.3 Financial Capabilities for Communal Water-Points' Maintenance

The sources of financing for communal water supply systems are usually from government, donor agencies, NGOs and communities (beneficiaries) themselves. But how the 'water fund' is structured, managed and administered differs from place to place. The point of departure, according to Seager (1987, p. 335), is to discuss and agree with users of communal water-point a suitable revenue generation model. In order for this to happen a partnership is essential between the implementing agency and users of the water facility. Seager (1987, p.335) gives an example from Malawi, where low-income user groups in urban areas are brought into the water supply system through neighborhood standpoints

(water-kiosk) that are metred and the group is responsible for checking proper usage, operations and revenue generation; while the implementer (Water Boards) are responsible for maintenance, whose cost is embedded in the water bills. In case of rural water systems, where Water Boards do not exist, the Water Users Committees are the ones that raise funds through 'user fees' and/ or contributions by community members. These funds are used when they require spare parts and the services of Area Mechanics for maintenance of their water-points. In some cases the WUCs seek assistance from the Department responsible for Water at the District Assembly when the repair requires significant resources and expertise.

With reference to user fees, it is important to appreciate the fact that there those that argue in support of this as well as those that argue against user fees. Araoyinbo and Ataguba (2008, p.1) state that 'user fees' are simply amounts levied on consumers of government goods and services in relation to their consumption. Duff (2004) in Araoyinbo and Ataguba (2008, p.1) defines user fees as the amounts which are levied on individuals for the use of goods and services from which they receive 'special benefits'. Some of the arguments in support of user fees hinge on the need for cost recovery and fairness in terms of everybody pays for what they use, while opponents of user fees argue that this basically imposes a heavier burden on the poor who are most likely to face a higher burden of disease (Araoyinbo & Ataguba, 2008, p.1). Arguments for user fees are also premised on the need to achieve the self-reliance and sustainability objective with resources that are generated from within the community.

There are some good examples of user fees and implications in various sectors. In the health sector, for example, studies conducted in Africa shows that user fees in public health facilities are not viable as the poor are very sensitive to small changes in the prices even for goods that are necessities, including health care (Vogel, 1991 in Araoyinbo & Ataguba, 2008, p.1). The user fees basically prevent them from accessing healthcare (and public services) as they cannot afford it. According to Booth et al. (1995, p.ix), in Gilson (1997, p.277), user fees in Zambia's health care system forced people to stay home and in some case to die just because they cannot afford to pay for the service. In general, studies have shown that user fees increases inequalities, and it was against this backdrop that this was abolished in some African countries, such as Zambia, Uganda, Rwanda and Burundi during the transition to democracy in the 1990s (Araoyinbo & Ataguba, 2008, p.1). Universal or free service is what increased people's access, particularly the poor.

Similar issues are prevalent in the water sector, particularly communal ones which embed the element of user fees as one way of generating income for operations and maintenance of the water-point. Mathew (2003, p.38) argues that the financial costs which communities are expected to raise, as a contribution to capital or recurrent expenses, may be unacceptable, unaffordable, or impracticable. He gave the example of monthly or quarterly cash contributions which may be impossible for households which only receive income at harvest (which is once a year). Therefore, in communities where people earn income once a year and are poor, the explicit objective of attaining sustainability through locally generated funds is difficult.

3.3.4 Evidence on Decision, Choice of Solution and Technology to Use, and Implications on Water Systems' Functionality

The appropriateness of technology for water systems together with the easiness to use and repair constitute an integral part of what underlines the functionality of communal water supplies. For instance, Cohen (2010, p.12) laments that some of the modern technologies used in rural water development projects in Sub-Saharan Africa have resulted in many water points falling into disrepair shortly after their installation. He goes on to state that on average 35 percent of hand pumps are non-functioning in sub-Saharan Africa because the most commonly used technology in rural water development in this region is a drilled bore-hole fitted with an expensive hand pump, and where modern hand pumps have been designed for communities to maintain on their own, the mechanics of the pumps are too difficult to understand for non-engineers (Cohen, 2010, pp.12-13).

Similarly, Shaw (2012, p.52) studied water supply systems in Monze district in Zambia and concluded that members of the community were unable to repair windlasses for the hand-pump water systems (which protect wells from contamination) as those provided by the implementing agency were heavy and hard to use; but also the community was not involved in decisions leading to the settling for such technology. Another technology related issue which Shaw (2012, p.54) highlights relate to the 'rope pump' mechanism, which the RuralNet Study indicated that 40 percent of them were not used in Zambia. This was simply a design and construction flaw, which available evidence points to the drawing board (of the implementer), and not based on experience such as from detailed

specifications available from the Rural Water Supply Network with experience in developing the technology (Shaw, 2012, p.54).

Lastly, another critical aspect related to technology and sustainability of water systems in question is the availability and sourcing of spare parts. Hankin (2001, p.121) states that one of the greatest limitations of modern hand pumps known as Village Level Operating and Maintenance (VLOM) is that they are manufactured abroad and therefore, spare parts are hard to access. As such, key questions that should be asked include what technologies are appropriate for the local setting or developing nation such as Malawi; are the technologies affordable and easy to maintain locally; and are spare parts easily accessible or manufactured locally. Missen (1990, p.9) reminds us that in fact there are traditional, simple and small-scale technologies available (such as a rope pump) that are much more economically and technically suitable, thus sustainable. These simple solutions are easy to maintain by local communities, and require just short trainings to equip skills and knowledge to members designated to carry out the maintenance work. In support, Bebea-Gonzalez et al. (2011, p.157) state that the surrounding community infrastructure such as electricity, roads and so on, also have an influence on sustainability of community development interventions.

3.4 Conclusion

In this chapter, we have reviewed the key concepts and the central theories and models of participation and empowerment, which posit how to involve people in development work and build their capacity to sustain interventions. In this study, we have adopted a definition

by Paul (1987) who defines participation as the active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of the project benefits. The study also adopted the definition of empowerment by Plummer (2005), who states that empowerment involves giving people knowledge and skills with which they can take control of their lives, make own decisions, and operate independently. With regard to outcomes in this study, we are saying these can be intended and unintended, as well as positive, negative or a mixture of both. The focus here is on the following outcomes: functionality, community ownership of the water points, community's commitment to the water points and sustainability.

With regard to the theories, the study adopted two to guide the research. The first one is by Cohen and Uphoff (1997) in Finsterbusch and Wicklin (1987, p.5) which looks at participation within the lens of a project life cycle. It looks at the four stages of a project, which are decision making, implementation, benefits and evaluation, and these corresponds to communal water projects' initiation, and design and planning phases (i.e. decision making), implementation phase, and maintenance phase (i.e. benefits and evaluation). Under each phase critical questions are asked, which have been highlighted in the foregoing. The second one is by Wilcox (1994), which regards participation as a continuum process, and presents a five-rung ladder of participation. This ladder has a series of steps, beginning with *information* at the bottom through *consultation*, *deciding together*, and *acting together* to the highest step of *supporting independent community interest* (Wilcox, 1994, p.1). The theory by Wilcox (1994, p.1-3) further presents additional key ideas about participation, which are *initiation and process*, *control*, *power and purpose*,

role of the practitioner, commitment, ownership of ideas, and confidence and capacity (Wilcox, 1994, p.2-3). These are useful in the assessment and analysis of participation of community based stakeholders in this study.

These theories outline key steps that have to be undertaken to demonstrate achievement of deficiencies in or lack of participation and empowerment. These theories indicate that there is a direct link between participation and empowerment and development outcomes. The premise is that when there is adequate participation and empowerment of stakeholders, development intervention is essentially poised to realize positive outcomes. The opposite is true for circumstances where there is a top-down approach and flimsy or no stakeholder involvement and empowerment. Thus, the empowerment and participation steps as outlined in the foregoing guides in terms of levels that people targeted have to go through in order to attain real empowerment and participation, which is then desired in order for development projects to thrive and be sustained. All this has also been made clear by the empirics reviewed, including that of Mansuri and Rao (2012) on Bolivia and Armenia, and Tedasse et al. (2013) on communal water supply in Ethiopia.

Both the theoretical and empirical literature show the importance of financial and technical capacity at different levels, particularly in the community, as one of the essential and major ingredients for sustaining implementations such as the ones in question. In this regard, some mechanisms for attaining financial and resource self-sufficiency have been looked at. The 'user fees', for example, is one of the prominent one. It has been shown that while it worked in some places, elsewhere it did not and was abandoned due to its exclusion of

the poor and needy people from having access to vital services, such as health-care and clean water. It has also been demonstrated that transparency and accountability in the handling of finances and overall management of the water-point affairs is a very critical component. It enables water users and community members to gain trust in the leadership and support efforts to sustain their water-points.

With regard to development of technical capacity, it is now evident that this is important at local, district and national levels. Presence of some local experts is essential for provision of immediate and first-line support, while expertise at district or national level is for critical and highly technical aspects of the water supply system. Furthermore, issues pertaining to the technology chosen, quality of installations and availability of spare parts have also been discussed. Both the theoretical and empirical review shows that sustainability can be achieved if the technology is appropriate, durable and maintainable; spare parts are easily accessible and at reasonable cost; and installations done are of high quality and standard. The opposite is true, as even where all empowerment, participation and institutional underpinnings can be in order, technology on its own can fail and crumble everything if bad choices were made, spare parts are not accessible and the installation was done poorly.

Lastly, the next chapter is the methodology. It explains the methods pursued in undertaking this study. The crafting of this subsequent chapter takes into account key issues which have been unraveled and highlighted in this comprehensive review of literature.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

The previous chapter (3) situated the study in the theoretical debates and foundations, as well as empirical evidence about participation, empowerment, programme outcomes and sustainability. Both theory and empirics demonstrate that participation and empowerment of key stakeholders has a direct effect on the sustainability, or unsustainability, of communal development interventions. The purpose of this chapter is to describe and explain the research design and methodology used in this study. The approach adopted for the study was a mixed methods one, which was chosen in order to sufficiently address both the primary and specific research objectives, as they both contain qualitative and quantitative elements. As stated in the foregoing chapters, the focus is specifically delineated to boreholes and water-kiosks interventions, as the two constitute major sources of clean and safe drinking water in Malawi (GoM, 2011; GoM, 2016). The main techniques through which data were collected were key informant interviews, survey questionnaires, focus group discussions and analysis of documents from secondary sources.

This chapter has been organized in a number of sections, with the next section presenting a description of the research approach. It describes both the quantitative and qualitative components of this study. Section 4.3 provides a description of the setting where the study was undertaken. This covers targeted institutions and both rural and urban areas where

communal water systems are found. Then the sampling techniques are described and the sample for this study is drawn step by step – districts, implementing agencies, and study participants, together with justifications. In terms of the latter, the sample consisted of policy makers, implementers, water associations, local leaders and beneficiaries, who were selected purposively for key informant interviews, while in case of the field survey the selection of water users and community members was done randomly. The next section focuses on hypotheses tested, instrumentation and data collection. The section focuses more on explaining the main data collection techniques used – review of literature, key informant interviews, survey and focus group discussion. This is followed by an explanation of the procedures taken in analyzing and interpreting data. Other critical aspects such as data reliability and validity are also discussed herein. Thereafter, the chapter gives details of ethical considerations and precautions taken in undertaking this study. It then ends with concluding remarks.

4.2 Methodological Approach

This research took a mixed methods approach, which is simply an integration of qualitative and quantitative methods, which are explained and justified below. This methodological approach was chosen as the best to provide insights into the key issues that the study needed to understand. In fact, such issues involved multiple stakeholders. The quantitative part, for instance, was key and suitable for gauging the extent of stakeholder involvement, as well as levels of empowerment and participation in the water points' projects. This also enabled comparisons between functional and non-functional water points to be undertaken and attach relevant statistics to the similarities and differences emerging, as one way of

making sure that appropriate conclusions are drawn. On its part, the qualitative part was essential for explaining the phenomena and meaning behind statistics given, and for capturing experiences and stories from the point of view of community stakeholders, implementing agencies, government officials and donor agencies in issues pertaining to nature of empowerment in relation to sustainability, and participation of community stakeholders in relation to the outcomes. In a nutshell, therefore, this mixed methods approach enabled the acquisition of a variety of data and get in-depth into key aspects, which were essential for answering the underpinning research questions. Furthermore, the approach gave a basis for triangulation of data (Spratt et al., 2004, p.8), and more importantly, enabled complementarity on data acquired for analysis.

4.2.1 Quantitative Approach

The study took a quantitative approach to address mainly the first objective, which focused on the extent to which stakeholders are involved, and parts of the second and third objectives which centred on levels of empowerment and participation of stakeholders in relation to programme outcomes, respectively. The approach helped the study to generate evidence which is crucial for enriching the discussion of findings, and drawing of conclusions in this research. With quantitatIVES, it is easy to compare functional and non-functional water-points across the water project life cycle.

As Booth et al. (2003, p.241) state, quantitatIVES enable readers to assess a claim by the strength of the argument supporting it and the quality of its evidence. This study, therefore, endeavored to make sure that the statistical evidence given are clear and accessible through

better presentation – whether through tables or figures. In this regard, it is reckoned that *tables* do seem precise and better way of presenting some statistics; that even though *bar charts* may not be very exact, they are able to give visually the gist of the point instantly; and that a *line graph* may give a more compelling image of the story or trend (Booth et al, 2003, p.243). These are explained in the data analysis section, under which they fit suitably.

4.2.2 Qualitative Approach

The study also pursued, in part, a qualitative approach due to its nature. The qualitative approach was adopted as it helps to describe aspects of a phenomenon, with a view to explaining the subject of study (Cormack, 1991). In this research, this approach assisted in understanding how participation and empowerment of key stakeholders help to explain the successes and failures of communal water implementations in Malawi. Its major strength was in allowing targeted study participants to share their experiences, views and issues through the interviews, survey and focus group discussions. These techniques will be discussed in detail in subsequent sub-sections.

A further justification for the qualitative approach is given by Duffy (1986), who state that this approach allows for flexibility and the attainment of a deeper, more valid understanding of the subject than could be achieved through a more rigid approach. That is, if a purely quantitative approach were taken in this kind of research, it would not have afforded subjects a chance to raise the critical issues and experiences beyond what was in the data collection tool and the hard data. In agreement, Kaplan and Maxwell (1994) argue that the goal of understanding a phenomenon from the point of view of the participants and

its particular social and institutional context is largely lost when textual data are quantified. Underscoring this is Merriam (1998, p.20) who state that “the key philosophical assumption, upon which all types of qualitative research is based, is the view that reality is constructed by individuals interacting with their social worlds.” As such, to understand better the issues in question, and to address the research objectives adequately, a qualitative method was also pursued to complement the quantitative one.

4.3 The Setting

4.3.1 Description of the Study Sites

The water-kiosks are primarily an urban phenomenon, whereas boreholes are rural, although some would also be found in some urban areas. The former, then, entailed focusing on the work of governmental agencies – water boards – which are the only ones mandated to provide safe drinking water from the tap in urban areas; while the latter entailed focusing on the work of government and several non-governmental organizations (NGOs) involved in the provision of water through boreholes.

The water points under discussion are primarily in high density areas in urban areas, and rural areas of the country. The communities that host such water-points have the majority of people with low incomes and poverty is pervasive. This is why most of them access safe drinking water from a communal point.

In both water-kiosks and borehole implementations, there are those that are still functional since the time they were installed. Of course, cases of breakdowns or requirements for

repairs emerge, but communities are able to sustain their communal water-points. However, within the same locations there are also non-functional water-points, which no longer provide the expected benefits to community members. The study, therefore, focused on both in order to understand what is behind continued functionality as well as non-functionality by focusing on participation and empowerment as aspects which can help explain this status quo.

Another criterion considered and applied in the selection of the sites was the duration from the time of deployment to the period when the study was conducted. The study focused on communal water points that have been in existence during the last three to five years. This was done deliberately to make sure that only those with people who have historical information or knowledge about them are targeted in the study. It was going to be problematic to include very old installations, as data collection could have been difficult as those that witnessed their installation and post-installation experiences might have moved out of the area or died.

4.3.2 Geographical Focus and Justification

To start with, the decision on the coverage of the research was made as different districts provide variability in the environment and different implementers of the communal water supply systems on which the study focused. This is unlike when focus of the study is on one single locality, where things can be understood but generalization of the same can be challenged. This is why the study ended up focusing on five districts in the country, which is about 18 percent of all districts in the country.

Another critical point that the study considered was to make sure that knowledge generated by the study could be applicable in the field of development in general. This is why it was important to broaden the focus and include various communities in studying the issues in question. As it will be shown later, the study targeted 50 water-points, which entail again 50 different communities. Thus, evidence from the study can now be applied by other scholars and development practitioners in their respective areas of work.

4.4 Sampling Technique

The main sampling techniques used in the study were purposive and random sampling. The sub-sections below include justification for the choice of each technique at every stage of the process undertaken by the study.

4.4.1 Selection of the Districts, Cities and Organizations

The first step was to create a better understanding and ensure that the study should unravel what is behind the functionality and non-functionality of communal water points in both urban and rural areas. Thus, the study undertook a mapping and listing exercise to have a fair understanding of the major players in communal water supply in the country. The exercise also linked implementers to specific districts where they are operating, but others remained at national level, depending on their scope and extent of work.

This was followed by a review of available data in relation to the concentration levels of communal water points under discussion. Thus, focus was made on districts where stakeholders in the water sector, particular with support from Water Aid, UNICEF and

The selection of districts from the list that provided databases of mapped communal water points was purposive taking into account the need for regional representation. In the northern and southern regions only Karonga and Zomba provided the database of mapped communal water points and were therefore included in the study, respectively. While in the central region, three districts - Nkhotakota, Salima and Ntcheu – provided the databases of mapped communal water points. However, there were a series of communications and reminders made to the districts for them to share the needed detailed information, to the extent that this led to unnecessary delays for data collection to commence in the region. In the end, only Nkhotakota provided required details in excel sheets with list of boreholes and their locations; and therefore, the study proceeded with this district to represent central region.

The same was done with the water boards in the three cities of Malawi i.e. Lilongwe Water Board, Northern Region Water Board and Blantyre Water Board. The other two water boards (Central Region Water Board and Southern Region Water Board) were excluded due to their low levels of concentration of water-kiosks per district where they work in comparison to those found in each of the three cities – Lilongwe, Mzuzu and Blantyre. As was the case with boreholes, here too one of the exclusion criteria was non-responsiveness of the targeted governmental institutions to provide the database and accept to participate in the study. Out of the three water boards, Blantyre Water Board never responded to several letters and phone calls for participation in the study. As such, it was excluded and the study proceeded with Northern Region Water Board and Lilongwe Water Board, who cooperated and showed keen interest to participate in the study.

Below is Table 4.2 which summarizes the unit of analysis, and cities and districts selected. It also includes names of implementing and donor agencies targeted due to the concentration of their work in selected districts.

Table 4.2: Summary of Selected Districts, Cities and Organizations

	Type of Water Service	Location	Implementing Organization
1.	Water-kiosks	• Lilongwe • Mzuzu	• Lilongwe Water Board • Northern Region Water Board
2.	Boreholes	• Karonga • Nkhotakota • Zomba	• NGOs with major implementations in selected districts are Red Cross, World Vision, Water Missions and Concern Universal; • Ministry of Agriculture, Irrigation and Water Development; and • Donor agencies are mainly UNICEF, Plan International and Water Aid.

4.4.2 Selection of Key Informants

The first component of primary research targets key informants with specialized knowledge due to their positions within targeted implementer organizations and other stakeholder agencies listed below. These were purposively selected as stated earlier. Participants were directly involved in making leadership and/or technical decisions, as well as those involved in steering implementation on the ground.

Table 4.3: List of Key Informant Interview Subjects

No.	Institution	Interviewee Designation	Total
I. Policy, Leadership and Borehole Implementer			
1.	Ministry of Agriculture, Water and Irrigation Development	- Leadership/ Policy Personnel	1
		- Technical Leader	1
		- Implementing/ project staff	2
2.	Department of Water and Irrigation Development – Lilongwe, Mzuzu, Nkhotakota, Zomba, Karonga.	- Leadership & Technical staff (1 per district office)	5
II. Borehole Implementer			
3.	Concern Universal	- Borehole Project Manager	1
4.	Red Cross Malawi	- Borehole Project Manager	1
5.	World Vision	- Borehole Project Manager	1
6.	Water Missions	- Borehole Project Manager	1
III. Water-kiosks Implementer			
7.	Lilongwe Water Board	- Water-Kiosk Manager	1
		- Implementing/ project staff	1
	Water Users Association (WUA)	- Chair/ Deputy	2
8.	Northern Region Water Board	- Water-Kiosk Manager	1
		- Implementing/ project staff	1
	Water Users Association (WUA)	- Chair/ Deputy	2
IV. Donor Agencies			
9.	UNICEF	- Water Programmes Specialist	1
10.	Plan International	- Water Programmes Specialist	1
11.	Water Aid	- Head of Programmes	1
TOTAL			24

4.4.3 Selection of Locations for the Water Users Survey

In each targeted district, villages or areas were randomly selected for participation in this study. In each selected area or village, at least one functional water-point and/ or one non-functional water-point were targeted and their selection was done randomly. Below is a table that was utilized as a starting point for each targeted district.

Table 4.4: Total Numbers of Functional and Non-Functional Kiosks and Boreholes in Selected Districts

#	District	Functional Boreholes/ Kiosks	Non-Functional Boreholes/ Kiosks	Totals
1	Lilongwe	420	180	600
2	Mzuzu	200	105	305
3	Karonga	627	115	742
4	Zomba	399	171	570
5	Nkhotakota	719	255	974

Source: District Water Office (Karonga, Nkhotakota and Zomba), Northern Region Water Board and Lilongwe Water Board.

Within each district a database was reviewed to extract a list of Traditional Authorities (TAs) and villages with functional and non-functional water-points. This list was used to undertake a random sampling to pick a TA and village to target in the study. Microsoft Excel package was used to undertake this random selection of the sites. Three steps were involved in this selection of communal water points for the study. First, one TA was randomly selected. Secondly, in each selected TA, four to five villages were selected depending on their total numbers. Thirdly, in each selected village, water points were grouped into functional and non-functional and in each group one water point was randomly selected, or two water points depending on the totals allocated to the TA level for the district in order to reach the overall planned target.

In cities, two steps were involved in the selection of water points. First, from a list of areas (locations) four to five areas were randomly selected in Mzuzu and Lilongwe city, respectively, using random numbers generated by MS Excel. Secondly, in each selected area, water-points were grouped into functional and non-functional, and in each group one

to two water-points were randomly selected based on the totals available and the target set for the district totals as required for this study.

Table 4.5: Selected Locations per Targeted City/ District: Water-Kiosks Implementations

City	Location and Water-Points Status	Location and Water-Points Status
Lilongwe	<i>Functional Water-kiosks</i>	<i>Non-Functional Water-kiosks</i>
	Area 23 1	Area 23 1
	Area 24 1	Area 24 1
	Centi 2	Centi 2
	Chinsapo 2	Chinsapo 2
	Mtsiliza 1	Mtsiliza 1
	<u>TOTAL 7</u>	<u>TOTAL 7</u>
Mzuzu	<i>Functional Water-kiosks</i>	<i>Non-Functional Water-kiosks</i>
	Chibavi 1	Chibavi 1
	Masasa 1	Masasa 2
	Zolozolo 1	Zolozolo 1
	Sozibele line 2	Sozibele line 1
	<u>TOTAL 5</u>	<u>TOTAL 5</u>
TOTAL	12	12

Table 4.6 shows areas and water-points which were selected and participated in the study on the part of borehole implementations.

Table 4.6: Selected Locations per Targeted District: Borehole Implementations

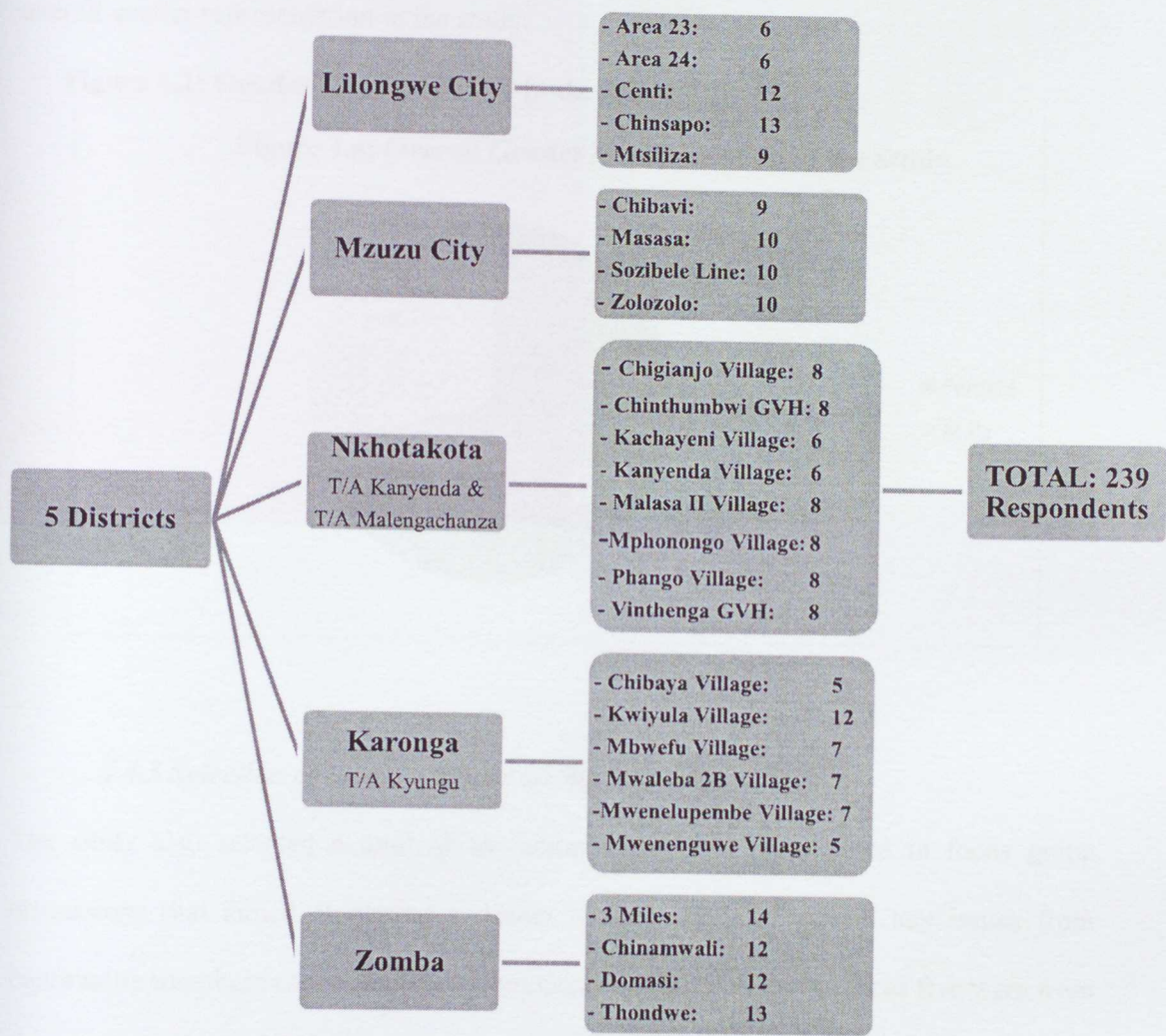
District	Location and Water-Points	Location and Water-Points
Karonga	<i>Functional Boreholes</i>	<i>Non-Functional Boreholes</i>
	Mwenenguwe Village in T/A Kyungu 1	Mwaleba 2B Village in T/A Kyungu 1
	Kwiwula Village in T/A Kyungu 1	Chibaya Village in T/A Kyungu 1
	Mwenelupembe Village in T/A Kyungu 1	Kwiwula Village in T/A Kyungu 1
	Mbwefu Village in T/A Kyungu 1	
	<u>TOTAL 4</u>	<u>TOTAL 3</u>
Nkhotakota	<i>Functional Boreholes</i>	<i>Non-Functional Boreholes</i>
	Mphonongo Village in T/A Malengachanza: 1	Malasa II Village in T/A Malengachanza 1
	Group Village Vinthenga in T/A Malengachanza 1	Phango Village in T/A Malengachanza 1
	Group Village Chinthumbwa 1	Chigianjo Village in T/A Malengachanza 1
	Kachayeni Village in T/A Kanyenda 1	Kanyenda Village in T/A Kanyenda 1
	<u>TOTAL 4</u>	<u>TOTAL 4</u>
Zomba	<i>Functional Boreholes</i>	<i>Non-Functional Boreholes</i>
	Chinamwali 2	Chinamwali 1
	Domasi 1	Domasi 1
	Thondwe 1	Thondwe 2
	3 Miles 1	3 Miles 2
	<u>TOTAL 5</u>	<u>TOTAL 6</u>
TOTAL	13	13

In total the study looked at 25 functional water-points and 25 non-functional water-points.

4.4.4 Selection of Study Participants for the Survey

At each targeted location the respondents were stratified into water management committee members (known as Kiosk Management Committee in some urban areas) and general water users. The target sample for each water point was three to four people, with at least one from management committee and two to three from general water users. The committee members were randomly selected from the list of the committee members provided. The general water users were purposively sampled based on their availability during the time of the study. Random sampling could not be done for the latter due to difficulties to access a village register for targeted locations. Furthermore, key informants and focus groups participants were purposively selected in local areas that participated in this. Figure 4.1 presents details of total respondents that were selected and actually participated in the study from all sampled areas and villages from the 5 targeted districts and cities.

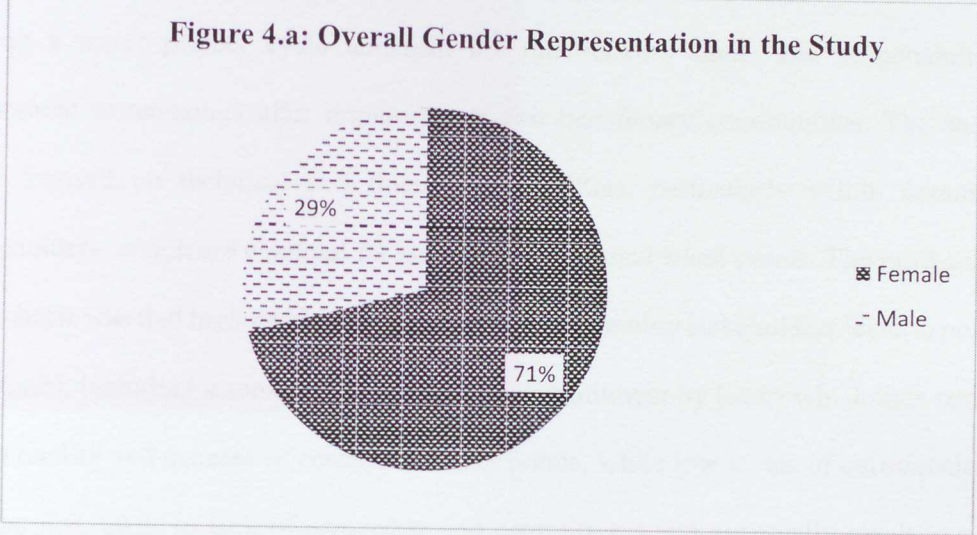
Figure 4.1: Summary of Study Participants in the Survey per Sampled District/ City and Location



In the end the study covered 239 respondents under the survey component. In terms of gender representation, the majority of respondents in this study were women (71 percent) than men (only 29 percent). This was the case because during the study period it was mostly women who had more knowledge about communal water-points in question and were readily available than men. This can be easily explained in terms of the fact that in many cultures and communities in the country, women take a leading role in fetching and using

water for various household chores and productive activities. Figure below shows the overall gender representation in the study.

Figure 4.2: Gender Representation in the Study



4.4.5 Selection of Sites for Focus Group Discussions

The study also selected a total of ten communities that participated in focus group discussions that aimed at getting a deeper understanding of certain key issues from community members concerning their communal water point. Out of these five were from functional while the other five from non-functional water points. These communities were selected randomly from the whole list of 50 communities that were targeted in this study.

4.5 Instrumentation and Data Collection Techniques

4.5.1 Hypotheses Tested and Instrumentation

The study tested three hypotheses. The first one was that high levels of involvement of community stakeholders , in part, why some communal water systems remain functional and successful while absence or low levels of involvement explains non-functionality and

failure of some communal water systems. In this investigation, a comparative analysis between functional and non-functional water points was undertaken. The second hypothesis test was that adequate levels of empowerment of community stakeholders during a water project cycle underpin the functionality status and sustainability of communal water-points after implementers exit beneficiary communities. The analysis here focused on technical and financial capabilities, particularly within community stakeholders, which are essential for sustaining communal water points. The third and last hypothesis was that high levels of participation of community stakeholders leads to positive outcomes, including a sense of ownership and commitment by locals which then result in functionality and success of communal water points, while low levels of participation, or its absence, leads to lack of ownership and commitment and eventually result in non—functionality and failure of communal water points. In the examination of the levels of participation of key stakeholders and outcomes, the study took a comparative approach centred on functional and non-functional water-points.

In order to adequately test the above hypotheses, the study mainly used four instruments which had qualitative and quantitative components, and this was complemented by documents analysis from the secondary sources. The instruments used were key informant interview guides specific for each group of key informants e.g. a tool for policy makers differed slightly from that of district and community level key informants. The second one was a household survey questionnaire, which was administered to general water users and management committee members in targeted villages and locations. The third tool was a focus group discussion guide, which was used to gather data from the focus groups that

were held in selected areas. The fourth tool was a checklist which was utilized in reviewing and analyzing technologies used in the water implementation, in order to remain focused on pre-defined key parameters.

All these tools were piloted prior to the study roll out in order to identify any flaws that needed to be rectified. Pilot of the Key Informant Interview guide was done at Ministry of Agriculture Irrigation and Water Development, and Northern Region Water Board. The survey tool was piloted in Lilongwe urban. In the end, confusing and unclear questions were simplified, repetitions were removed, and the total number of questions was reduced.

4.5.2 Primary Data Collection

4.5.2.1 Key Informant Interviews

Key Informant Interviews targeted the leadership and influential people in key organizations and Ministry of Agriculture, Irrigation and Water Development (MoAIWD) headquarters and district offices. Such interviews allowed the research to gather data from a rich source of complex and specialized knowledge and skills. It targeted senior policy and technical officials in the Ministry of Agriculture, Irrigation and Water Development; Heads of Water Programmes in implementing organizations; and officials responsible for Water Programmes in development partner agencies (details in Table 4.3).

The interviews were conducted on a face-to-face basis and on average the interview lasted for one and a half hours. An interview guide with semi-structured questions was used. The Key Informant Interview Guide covered all the three specific objectives. Under the first

one, which sought to investigate the extent of involvement of stakeholders, particularly community based ones; the focus was on finding out the degree of involvement of community members, local leaders and other stakeholders during each of the four phases of the water project, and reasons behind the apparent levels of involvement. Shortcomings in stakeholder involvement across the four phases of the water project were also looked at. Secondly, under the empowerment objective focus was on analyzing empowerment efforts in terms of whether they are undertaken or not, the level of adequacy, and nature of capacities that are built (technical and financial) among community based stakeholders, or not, that directly relate to operation and maintenance of communal water-points. The issue of exit strategy, whether available or not and in what form, was also investigated. Lastly, with regard to programme outcomes of community ownership, community commitment and sustainability of the water-points, the primary focus of the interview was on assessing actual levels of participation of the key stakeholders during each phase of the water project, a sense of ownership and commitment among them, and major shortcomings on community stakeholder participation, were looked at.

4.5.2.2 Household Questionnaire Survey

This tool was used to gather primarily quantitative data. This was done in a structured way, as a list with closed questions was used. The justification for choosing this technique was that the study needed to gather a lot of data from a large group of people. This method is relatively less consuming in terms of time and resources unlike observations or experimental methods which would require much more time and resources. Again, some information is historical in nature and it requires those who were involved in the water

project during inception and implementation to be targeted. The survey tool offered respondents with options for them to select, while few open questions gave them a chance to explain certain aspects and issues.

The survey gathered data for each of the three specific objectives. First, for objective one the study collected and analyzed the following: (a) general levels of involvement of each key stakeholder during the initiation, design and planning, implementation and maintenance phases; (b) detailed investigation of involvement levels in specific main activities under each of these four phases; (c) issues of inclusion and exclusion; and (d) exit strategy and whether the community stakeholders were involved or not, and if they were, to what degree were they prepared to assume full control of the water interventions. As for the second objective on nature and levels of empowerment of community stakeholders, the survey concentrated on analyzing whether capacity building happened, duration when this happened, the nature of empowerment, areas which were not tackled and why, and overall analyzing technical and financial capabilities among community based stakeholders. This section also undertook a comparative analysis of functional with non-functional water-points. Under the last objective focus was on participation levels of stakeholders in relation to major outcomes of ownership, commitment and sustainability of the water-points in question. The study gauged whether these exist and to what degree. A comparison between functional and non-functional water-points in all this was also carried out.

4.5.2.3 Focus Group Discussion

The research did utilize focus group discussions in selected locations for purposes of gathering additional qualitative data for the study. Some of the key areas covered included the general involvement and exclusion of each key stakeholder during each phase of the project; socio-cultural aspects and local knowledge included or excluded during the water project; and perception of communities on the relationship of the degree of involvement to acceptability and maintenance of the communal water interventions. The FGD also assessed empowerment in terms of what was done or not, and when during the project, as well as analyzing the specific technical and financial capabilities (available or absent) among community based stakeholders. The last part of the FGD looked at outcomes of communal water-points in relation to levels of participation of community stakeholders. On top of this, comparisons between communities with functional and those with non-functional water-points was undertaken.

4.5.2.4 Field Checklist

The research did utilize a field checklist to gather data to complement on what was collected through the other data collection techniques. The observations, review and analysis undertaken targeted water points and warehouses of sampled organizations. The primary purpose was to understand and document the technical aspects of the technologies/equipment used, environment around the water point and how repairs are done on water points, among other things. This technique helped to gather data that could not otherwise be collected by simply relying on the above techniques. During each field visit, field notes were made, sketches drawn, and important photos taken and compiled for inclusion in the

study findings and analysis.

4.6 Data Analysis and Interpretation

4.6.1 Quantitative Data

4.6.1.1 Data Cleaning

After completion of field work, the study team (Researcher and two Research Assistants) embarked on a process of data cleaning. This was done in order to remove any errors and/or address ambiguous and unclear elements. This was another level of quality assurance, on top of the continuous data reviews that were undertaken throughout field work. This was important prior to commencing data entry, as the errors or unclear elements would otherwise affect the analysis of results.

4.6.1.2 Coding Data

The second stage involved putting together categories under which data were to be organized. This was done at this point as it was essential for later stages of analysis to be undertaken in a structured and logical manner, as well as in-line with the three specific objectives. So numerals were assigned to responses which were then placed under their appropriate categories. The categories were created also in-line with the categorization that was done already in the study tools to ensure logical order and analysis (see *appendices 1 and 2* for details).

4.6.1.3 Data Entry and Review

The main dataset constituted quantitatatives which were collected mainly through the field survey. The data as collected using hard copy survey questionnaires. Thus, there was need to convert this data into electronic form. As such, CS-Pro software was used to create a template for data entry and the data-base. This master template had major thematic areas, under which sub-themes were created, and questions under each theme and sub-themes were placed accordingly. Data entry followed this pattern for each questionnaire that was entered. The data-set was then reviewed and cleaned in SPSS software.

4.6.1.4 Presentation of Data

After data entry and review or cleaning, then the database was migrated to the Statistical Package for Social Science (SPSS) software for generation of tables, frequency graphs and figures. These were developed following the earlier coding of data in relation to the various areas of interest and comparisons that the study needed to make in trying to answer the underlying question of why some communal water points remain functional while others eventually fail and become non-functional. It must also be stated that a selected number of tables were developed using MS Excel for easy presentation and appearance.

4.6.1.5 Data Interpretation and Discussion

With the data in tables and figures, then interpretation of the data commenced along-side empirical chapters' write up. The tables and figures were arranged in chronological order based on key areas of interest and comparisons that were to be made within each broader thematic area developed in-line with the three specific study objectives.

During this interpretation and discussion of data, cross references were made utilizing reviewed literature, and in particular the theories and empirics that centre on the data at hand.

4.6.2 Qualitative Data

The study also handled qualitative data from key informant interviews, focus group discussions and some from the survey. The study utilized NVivo software as a package through which to organize, manage and analyze this data. It was chosen because it is very easy to use, and is compatible with Microsoft Word, which enables importation of documents or texts. In this study, some word documents were sourced from target institutions and also most interview notes were typed in MS Word. This data was consolidating and placed in their relevant thematic and sub thematic areas with this software. Afterwards the data-set was reviewed to remove repetitions, any existing typos and so on, in order to have a clean data-set to work with. Then content analysis was done on each and every thematic and sub thematic area. Then analyzed data was taken to the appropriate slot within the empirical chapter write ups, and some were used to support results from quantitative component.

4.6.3 Data Validity and Reliability

4.6.3.1 Validity

This research ensured validity was enhanced by utilizing multiple sources of data or evidence (Yin, 1984). This was done by way of reviewing relevant documents in targeted institutions, interviewing people at different levels (HQs and district and in terms of ranks)

within targeted implementer organizations as Key Informants, and other key stakeholders, including targeted beneficiaries in communities through a survey. Second, establishing a 'chain of evidence' is another way of enhancing validity. This was addressed by taking notes for each key informant interview and ensuring that Key Informants at each level address all questions (technical, policy or programmatic ones) pertaining to their level and position in the sampled institution. Where gaps were observed while previewing the data, follow ups were made using contact details collected.

4.6.3.2 Reliability

It has been argued that qualitative research and its analysis need to be undertaken in a 'thorough' and 'transparent' manner (Crawford et al., 2000, Creswell, 1998, Sealem 1999, Miles & Huberman, 1994, in Welsh, 2002). With regard to reliability, Richards and Richards (1991) state that the use of software packages during data analysis adds rigour to qualitative research. With the search facility available in both SPSS and NVivo, interrogation of data or texts is possible. This is very different from a situation where this is done manually and all relevant pieces of texts have to be gathered together by depending on the researchers' memory, which cannot be as accurate as the computer packages in retrieval of data. Again, reliability was basically augmented by the use of a tight research protocol. This was done consistently throughout the research. The research also ensured credibility or accuracy of the data, as well as data completeness and sound analysis was done, as advocated by Reigeluth and Frick (1999, p.647). The foregoing has already explained in detail how data were collected and managed before the analysis.

4.7 Ethical Considerations

This research was subjected to the approval by the Faculty of Social Science, University of Malawi (see *appendices 5 and 6*). The approval process was done to make sure that research subjects are protected and not harmed as a result of conducting this study. During the course of the study, precaution was taken to make sure that no participant was harmed in any way. The formal rule in this research was to get consent from all sampled organizations to allow this study to be undertaken at their offices and in their project sites. Similarly, permissions were also sought from gate-keepers (e.g. chiefs and block leaders) in selected communities where a survey was undertaken. A statement of confidentiality and privacy, together with the primary purpose of the study, were read out to all study participants prior to the interviews. All individuals had to give consent first to participate in the study, and those that declined were dropped from a list of recruited participants. The assurance of confidentiality and privacy for each study participant enabled them to be free to share what they knew concerning the study's areas of focus.

4.8 Conclusion

The purpose of this chapter was to introduce and discuss the methodology chosen for the research. It has been stated that the study followed a mix methods approach in order to adequately address the three research objectives. In this study part of the sample was selected purposively (key informants), while another was selected randomly (survey participants). A balance was made in terms of the setting by including urban, peri-urban and rural areas, as well as coverage of all administrative regions of Malawi. The chapter has in great detail explained the data collection techniques utilized and a variety of data

sources consulted so as to have a comprehensive view and coverage of the issues in question. It has also explained how the data was managed and then analyzed.

The subsequent empirical chapters (5, 6 and 7) present research findings, which are discussed and analyzed with reference to the theoretical underpinnings, empirics, and the key questions and issues presented in the preceding chapters. Thereafter, the paper draws conclusions and makes recommendations in chapter 8.

CHAPTER 5

EXTENT OF COMMUNITY STAKEHOLDERS' INVOLVEMENT IN COMMUNAL WATER INTERVENTIONS IN MALAWI

5.1 Introduction

In chapter 4, we have explained the methodological and technical approach taken in this study. A mixed methods approach was pursued to collect data for this research. Specific data collection techniques employed were key informant interviews with key individuals in selected institutions, a survey of water users (households) in the selected three districts and two cities, and few focus group discussions in selected areas. This chapter turns to empirical evidence on community stakeholders' participation in community water-points. As we have noted in chapter 3, communities can participate in different ways at different stages of community based development projects/programmes. We also noted that there are four key stages in the project cycle where communities are expected to participate in decision making, namely: initiation, design, implementation and maintenance. This participation, in this context, is regarded as the active process where beneficiaries influence the direction and course of execution of development intervention, instead of being on the receiving end (Paul, 1987; Mukundane, 2011). Based on the theory by Cohen and Uphoff (1997), we noted that participation can be looked at within the lens of a project life cycle with four stages, namely decision making, implementation, benefits and evaluation; and under each of these critical questions can be raised, such as the 'who' of participation, the

'how', the 'when' and 'where'. We have also noted based on the second theory adopted (Wilcox, 1994) that participation can be analyzed on the basis of a five-rung ladder of participation, which from the bottom to the top has its ladders as 'information', 'consultation', 'deciding together', 'acting together' and 'supporting independent community interest'.

With this in mind, it must be stated that we are measuring participation in this study by asking questions to water users on 'who was the key decision maker at different stages of the project cycle' and 'what was their level of involvement in each selected key activity across the project life cycle'. This is done in an attempt to investigate the extent to which key stakeholders are involved in communal boreholes and water-kiosks programmes in Malawi, mainly from the perspectives of water users. We present quantitative results from water users on extent of participation and triangulate using data from key informants interviews and focus group discussions. We examine differences in the extent of participation in functional and non-functional water points across the four phases of the communal water project life cycle. The analysis focuses on the degree of involvement of each key stakeholder, which are a) community members, b) local leaders, c) implementers (NGOs with their contractors, d) Water Boards and the Ministry responsible for Water), Government (central and district levels), and e) donor agencies. This analysis is cascaded into four project phases of initiation, design and planning, implementation, and maintenance.

This chapter is organized into 5 sections. Section 5.2 gives a general overview of the extent of stakeholders' involvement in communal water project cycle, and then present and analyze the degree of community stakeholders' (i.e. community members, local leaders and area mechanics) involvement during initiation, design and planning, implementation, and maintenance phases of communal water projects. Section 5.3 assesses whether or not local knowledge and culture are integrated in the water projects under discussion. This is followed by section 5.4 which discusses technical and non-technical areas in which community stakeholders are excluded. In the end, section 5.5 draws appropriate conclusions.

5.2 Community Stakeholders' Involvement across the

Communal Water Project Life Cycle

This chapter, as alluded to in the foregoing, is primarily focusing on the investigation of the extent to which key stakeholders in communal water projects are involved. Given the central interest is on the host who eventually are given the task to sustain the water-points, the discussion will zero in on community based stakeholders, who are water users, water management committee, local leaders, area mechanics and the entire community. In this attempt, the results will be dissected and analyzed between functional and non-functional water-points to identify points of similarities and differences on key parameters constituting the different forms of assessment with regard to stakeholder involvement during each phase of communal water projects in question. The assessment, it must be borne in mind, is primarily based on what water users, water management committee members, local leaders and community members made during the survey component of the

study. Thus, where the N is not specified in subsequent tables and graphs, it should be taken to represent the aforesaid community stakeholder groups.

Water users in the survey were asked to state which stakeholders were closely involved in their communal water project from the time it was being introduced to the time it was handed over to the community, and then they were asked to give levels of involvement of community members, local leaders and external stakeholders (e.g. implementers, government and donor agencies) based on what they observed and experienced. Table 5.1 gives this overall picture for each main stakeholder groups on which the study focused.

Table 5.1: Overall Extent of Stakeholders Involvement in Communal Water Project Life Cycle

Cycle of Water Project	Status of Water Point	Community Members	Local Leaders	External Stakeholders (Implementers)	N =
Initiation Phase	Functional	13%	21.5%	65.2%	121
	Non-Functional	8%	9%	83%	118
	All	10.5%	15.3%	74.1%	239
Design & Planning Phase	Functional	13%	21.5%	65.2%	121
	Non-Functional	8%	9%	83%	118
	All	10.5%	15.3%	74.1%	239
Implementation Phase	Functional	3%	2%	95%	111
	Non-Functional	2%	0%	96%	112
	All	2.5%	1%	95.5%	223
Maintenance Phase	Functional	60%	2%	38%	112
	Non-Functional	49%	0%	51%	109
	All	54.3%	1%	44.8	221

Source: Own survey of water users

Table 5.1 is indicating that the majority of community members from areas with communal water points that were assessed (boreholes and water-kiosks) agree that implementers, who are NGOs, government, water boards, and/ or private sub-contractors, are the dominant

force in these projects beginning from phase 1 through phase 2 up to phase 3. This is clear here as their level of involvement ranges from 74.1 percent during initiation phase to 95.5 percent during implementation phase. When we look at community members and local leaders, their involvement levels are on the lower side at 10.5 percent and 15.3 during initiation and design phases, and 2.5 percent and 1 percent during implementation phase, respectively. In terms of the maintenance phase, however, the extent of community participation in this phase is giving us a totally different picture when this phase is compared to the first three phases. Maintenance phase is showing that communities with functional water-points have about two thirds of all involvement during this phase compared to close to half in the case of communities with non-functional water-points. A comparison of external and community stakeholders' levels of involvement in non-functional water-points, which is almost at 50 percent versus 50 percent, is giving a snapshot of the significant levels of dependency of communities with non-*functional* water-points on external stakeholders for assistance during this maintenance phase, unlike communities with functional ones. This, arguably, must be understood within the context of the adequacy of preparedness with essential skills and knowledge, as well as resources with which to maintain communal water points. These critical issues are discussed in detail in subsequent sub-sections and chapters.

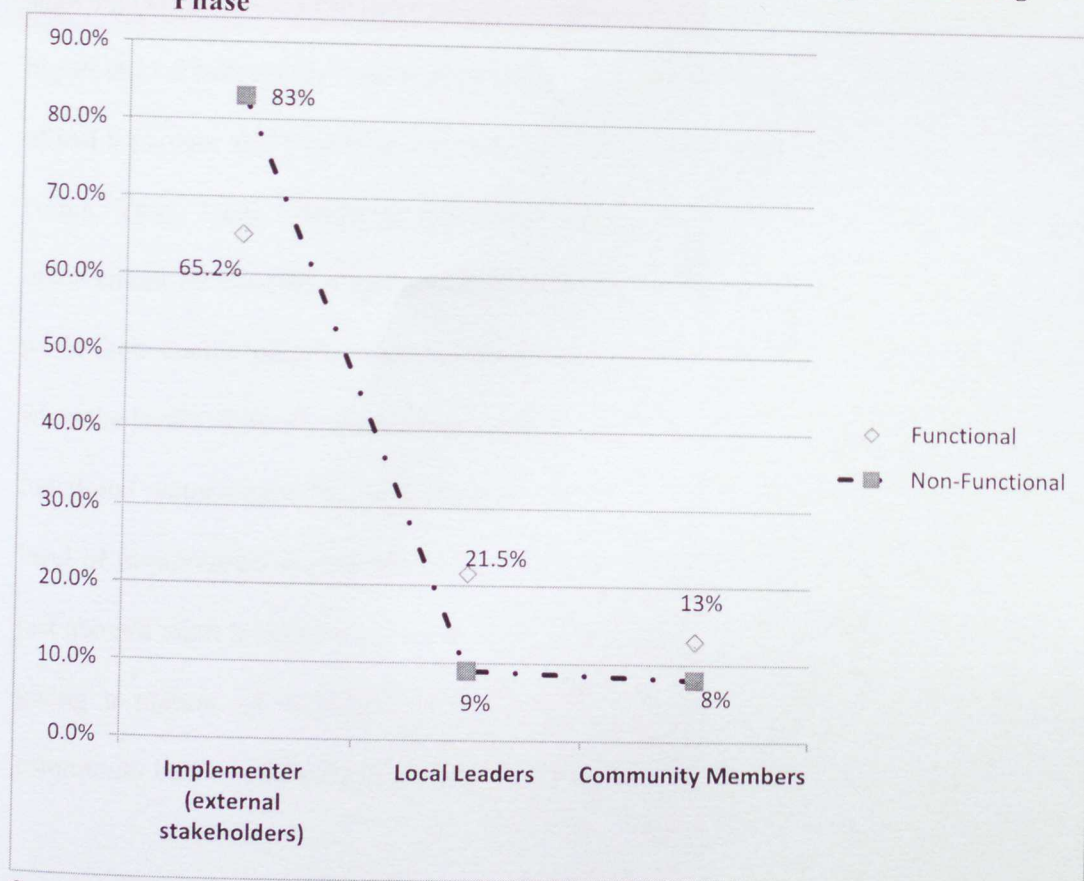
5.2.1 Community Involvement during Initiation, and Design & Planning

Phases

The ratings for both initiation, and design and planning phases are identical as shown in Table 5.1. As such, analysis for these two is combined in this section which seeks to

analyze communities' involvement during these first two phases of communal water projects. The study asked respondents during the survey to gauge the extent to which community members, local leaders and implementer were involved during initiation, as well as during design and planning phases of their communal water project. This was done to understand whether or not there were adequate levels of involvement of the host (i.e. community) of such interventions at the early stages. Figure 5.1 presents results of this assessment.

Figure 5.1: Comparative Involvement of Stakeholders in Functional and Non-Functional Water-points during Initiation, and Design & Planning Phase



Source: Own survey of water users

Note: Functional: $N = 121$; Non-Functional: $N = 118$

The above shows quite a distinction between external stakeholders and community based stakeholders (internal), as well as between functional and non-functional water-points. First, when overall comparison of internal and external stakeholders is made, there is a huge gap between them. The dominance level of the latter over the former is quite evident. This typifies the extent to which community member and their leaders are excluded in crucial areas of decision making and participation in key activities of these two phases. This is made clearer in Table 5.2 in the subsequent sub-section. Second, a comparison of the functional and the non-functional water-points during these first two phases are showing that the level of involvement of communities with functional water-points is a bit higher at 21.5 percent for local leaders and 13 percent for the community, compared to that of just 9 percent and 8 percent, respectively, for communities with non-functional water-points. Thus, local leaders in functional water-points had a considerable amount of involvement of close to a quarter of all available involvement during these two phases, while their counterparts in non-functional water-points had just one tenth. Furthermore, when the levels of involvement of community members and local leaders are combined for functional water-points the total comes to about one third (i.e. 21.5 + 13 percent) of all level of involvement during the first two phases, unlike the non-functionals which have just about a sixth level of involvement for community members and local leaders. This is giving a picture of existence of some reasonable involvement and participation of community based stakeholders in communities with functional water-points.

The reasonable level of involvement that is seen in communities with functional water-points is evidence that local leaders there gain some important skills and knowledge

concerning their water-points. This is important in order for them to be able to continue championing and supporting the same in their communities going forward. In contrast, the involvement of leaders in communities with non-functional water-points is either very minimal or absent, thereby making them to miss out opportunities for gaining essential skills and knowledge for rallying their subjects' support during the formative years and ensure that a good foundation is laid for the future sustainability of their communal water-points. The importance of involving local leaders, as gate keepers of communities and those who can ably champion development interventions, has been emphasized by scholars such as Finsterbusch and Wicklin (1987). Another distinct fact about local leader is that they already have authority over their subjects, and therefore, those that are involved (i.e. in functional water-points) are able to easily mobilize human, financial and material resources from their subjects for works when the needed arises. One of the key informants in Karonga (KII-KA 5.2), for instance, indicated that communities are required to mobilize funds of about K30,000.00 (Thirty thousand Malawi Kwacha) as initial capital for maintenance before his NGO can come in to install a borehole. This is where local leadership, if closely involved, can be the appropriate structure with authority through which such required resources can be easily mobilized from community members. On the basis of this, therefore, it can be argued that the minimal to absent levels of involvement of local leaders, which is discernible in communities with non-functional water-points, illuminates the predominance of implementers which essentially abates opportunities that would otherwise arise and benefit the water project if adequate levels of involvement of this particular key stakeholder prevailed during the early phase of the project.

5.2.1.1 Involvement of Stakeholders in Key Aspects of the Initiation Phase

Based on the review of theory and empirics, there are specific key activities that are at the centre of the phase of initiation in communal water projects. Such key activities include origination or source of idea for the water project as a solution to the existing water problem in the community; involvement in needs assessment exercise that determined the actual existence of and the extent of the water problem; involvement in the proposition for alternative solutions up to choosing the final water solution and design for addressing the existing water problem; feasibility assessment that are undertaken; involvement (or not) in choosing technology for the water solution; and whether there is involvement of local people in buy-in and consultation meetings or not. Study participants were asked to rate participation of key stakeholders in initiation specific activities. Results from this are presented in Table 5.2.

Table 5.2: Extent of Stakeholders' Involvement during Initiation Phase

Key Project Activities	Water Point Status	Stakeholders			N =
		Community	Local Leaders	Implementer/ External Stakeholder	
Origination of Idea	Functional	9%	5%	86%	76
	Non-Functional	8%	15%	77%	68
Needs Assessment	Functional	4%	7%	89%	56
	Non-Functional	7.5%	0%	92.5%	59
Propose & consider multiple designs and solutions	Functional	0%	5%	95%	74
	Non-Functional	0%	0%	100%	67
Feasibility Assessment	Functional	3%	5%	92%	61
	Non-Functional	2%	4%	94%	58
Technology to use	Functional	9%	9%	82%	92
	Non-Functional	0%	0%	100%	70
Meetings	Functional	51%	1%	48%	90
	Non-Functional	50%	1%	49%	94

Source: Own survey of water users

The assessment undertaken revealed that there is equal participation between community stakeholders and external stakeholders at almost 50 percent each during meetings. This is the case for both communities with functional and those with non-functional water-points. Communities' participation in meetings serves various purposes including consultations, to establish buy-in, to secure stakeholder commitment, discuss project progress and give updates. In relation to Wilcox's (1994) ladder of participation, the level of participation of communities here is essentially fitting within the first and second rungs on the ladder,

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	Non-Functional	0%	0%	100%	67
Feasibility Assessment	Functional	3%	5%	92%	61
	Non-Functional	2%	4%	94%	58
Technology to use	Functional	9%	9%	82%	92
	Non-Functional	0%	0%	100%	70
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Source: Own survey of water users

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which are *informing* and *consultation*, where community members are simply told what is planned, and during the meeting ideas are shared and feedback or new ideas solicited, respectively. This is the case because the assessment is showing that in the other critical decision areas, there were apparent very low levels of community members and local leaders' participation in comparison to external stakeholders, who seem to have predominated in such areas. For instance, community members and local leaders' level of involvement is either significantly low or absent on origination of the project idea, as external stakeholders get a share of 77 to 100 percent levels of involvement. On the basis of this evidence, it can be argued that the majority of communal water systems originate exogenously as there is very minimal involvement of communities in defining and putting forward their understanding of the water problems which they face, as well as minimal or lack of embedding local people's understanding of their problems and ideas into proposed solution(s) to address the water problem.

Furthermore, Table 5.2 reveals that local communities' knowledge of their own territory is ignored or minimally taken into account as most communities are excluded from getting involved in very critical exercises of needs assessment, feasibility study, choice of the design and technology for communal water-points. This, it must be noted, has very serious implications which hinge on the survival of the deployed water-points. The first implication is on whether the water solution and technology is appropriate and would be sustained by the community, as they would view it as an imposition by outsiders without their own input. This concern is well couched in Israel (2006, p.1033) argument that the recognition of community knowledge and skills are very key as community members can enhance the

cultural appropriateness of an intervention, and clarify certain ideas so that they fit in the local context. Therefore, the exclusion of local community members and their leaders puts to question the appropriateness of some of the water solutions and technologies deployed, and their acceptability in targeted communities. This flaw in part explains why some water-points eventually become dysfunctional and communities fail to resuscitate and maintain them.

It must be noted that this absence to minimal involvement of community stakeholders can be explained by the shortfalls in the implementers' conceptualization and execution of the majority of water projects in question. Another explanation is the need by implementers to speed up the implementation process as they work under pressure to deliver on targets agreed with their donors and partners. This is further complicated by the involvement of private sub-contractors who end up by-passing critical steps of community involvement as they seek to finish the assignment and move on to the next, since the bottom line greatly matters to them. As one key informant stated:

“as Implementers we sometimes get pressure from our donors to deliver on the project, and therefore, we do things with speed and by-pass other processes (e.g. step by step engagement of local communities)” (KII-KA 5.1).

Lastly, it must be stated that when we also review community involvement on the area of proposal of multiple designs and solutions, and choice of technology, there is some distinction between communities with functional and those with non-functional water-points. This demonstrates that there was some level of community members and local

leaders' involvement for the former in terms of consultations and/or information on technology to be used for the water supply, unlike the latter, whose ratings show a complete absence of involvement in these two areas.

5.2.1.2 The Design and Planning Phase of Communal Water-Points

The design and planning is a second phase in communal water projects, but in other cases it is embedded within the initiation phase. During this phase the main activities include detailing the concept of the intervention as defined during the initiation phase, finalizing the design and technical solution to the water problem, defining the operational and management aspects of the project, outlining resource requirements (financial, materials, human and others), and scheduling activities in a chronological order from project commencement up to its completion. This study, therefore, assessed the degree of key stakeholders' involvement in some of these main activities, which are presented in Table 5.3.

Table 5.3: Extent of Stakeholder Involvement in Key Activities during the Design and Planning Phase

Key Project Activities	Water Point Status	Stakeholders			N =
		Community	Local Leaders	External Stakeholders	
Finalize chosen design and solution	Functional	4%	1%	95%	96
	Non-Functional	0%	1%	99%	88
Prepare a budget and resources required	Functional	1%	1%	98%	79
	Non-Functional	0%	0%	100%	83
Prepare Action Plan	Functional	3%	6%	91%	98
	Non-Functional	0%	0%	100%	60

Source: Own survey of water users

The above evidence shows a continuation of absence to minimal levels of involvement of community members and local leaders in basically all key activities assessed under this second phase of communal water supply projects. What is striking is the finding that during this phase, unlike during the Initiation, the levels of involvement of community stakeholders are within single digits across board, even when combined on each area of assessment. Arguably, therefore, there is clear imposition by external stakeholders (i.e. implementers) on beneficiary community of their designs, solutions and action plans for communal water systems, which is disastrous with reference to the future sustainability of the same. The water solutions, designs and technology have direct implications on maintenance cost, availability of spare parts, and local people's knowledge of maintenance and related issues. These are certainly difficult to attain where there were high levels of exclusion of community members and local leaders in critical activities that happen during the second phase of communal water projects.

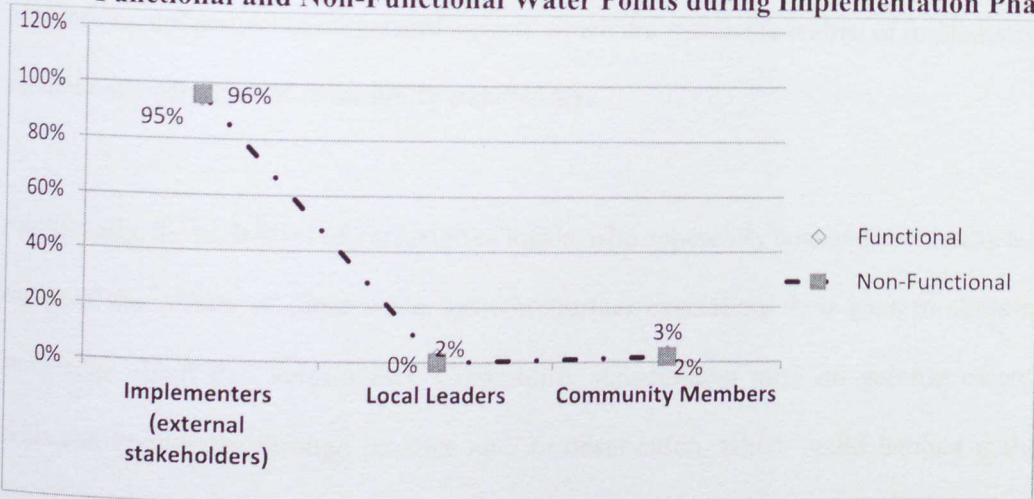
The foregoing evidence further demonstrates missed opportunities for preparing communities for their future roles of maintenance of communal water systems. This is more so in communities with non-functional water-points which register mainly 0 to 1 percent as compared to communities with functional water-points, who registered up to 6 percent degree of involvement in the same. However, these very small ratings underline the fact that host communities miss out on early practice, as well as skills and knowledge acquisition in decision making pertaining to key parameters of the water-points, resource mobilization and other capabilities, which they would effectively need once they take-over ownership and maintenance during phase four. Another distinguishing feature which would

be attained by community members if they are sufficiently involved during this important phase is a sense of ownership. This is one of the essential components of the geometry of positive outcomes and sustainability under discussion, on which the thesis looks at in detail in chapter 7.

5.2.2 Community Stakeholders' Degree of Involvement during the Implementation Phase of Communal Water Projects

According to Clark (1995), the implementation phase involves all processes in the execution of a project by way of putting into action the design to achieve predefined goals. The study also analyzed levels of community stakeholders' involvement during the implementation phase. The water users' survey also asked respondents to gauge community stakeholders' levels of involvement during this third phase of communal water systems in question. It also found out the levels of external stakeholders as one other key stakeholder in the same.

Figure 5.2: Comparison of Levels of Community Stakeholders' Involvement in Functional and Non-Functional Water Points during Implementation Phase



Source: Own survey of water users

Note: Functional: N = 111; Non-functional: N = 112

It is striking to note that both functional and non-functional water points show almost similar degrees of involvement of all stakeholders during this implementation phase. For instance, the degree of involvement of local leaders and community members are at 2 percent and 3 percent respectively in functional water-points, which is almost similar to the 0 percent for local leaders and 2 percent for community members in non-functional water-points. Therefore, such very significant low levels of community stakeholders during this third phase entails that there is no adequate room, or even none, for involvement of locals, which is why their ratings are at 3 percent and less. The comparison of functional and non-functional water points is revealing a more nuanced finding that neither the depth nor the breadth of involvement of community based stakeholders (other than the implementer) during implementation is a very significant factor to explain either success or failure of a communal water points, unlike when a similar comparison is made in the first two phases as well as the last one (i.e. initiation, design and planning, and maintenance). This could plausibly be attributable to the high technical nature of the installations and project management aspects which are within the realms of implementers, and not necessary that of community stakeholders.

Additionally, the high level of exclusion of locals, who apparently host and eventually takes charge of the affairs of these water systems, further exacerbate their gaps in skills and knowledge about the water-points. Community stakeholders miss on gaining essential skills and knowledge through practice and/ or observation, which could happen if there

were adequate levels of involvement during this very important stage of translating the water solutions' blue-prints into reality by deploying the chosen water systems.

However, the exclusion of community stakeholders should be understood within the context of the technical nature of some of the activities that happen during this phase. The implementers seek to stick to their designs, standards and/ or brand, and therefore, they dominate the process in order to achieve this during installation. This is supported by Khwanja (2004, p.427) who argue that involvement and participation of the community in all areas of a project is not always a good thing and that there is need for some limits, because if communities are involved in technical aspects and decisions, this can lead to worse project outcomes. Furthermore, besides this technical reason, the absence to limited involvement of local people can also be explained in terms of the already high levels of exclusion in earlier phases, due to which there is absent or limited buy-in of the project by local people. They also view implementers to be the sole and legitimate stakeholder that ought to be directly controlling the execution processes and plans during the installation of those communal water-points. In addition, there is already evidence of external origination of the project idea together with all other important elements, which as it has already been argued, makes local people to view these as exogenous, and in some cases as impositions on them.

5.2.2.1 Community Stakeholders' Participation in Key Activities of Implementation Phase

The assessment now turns to selected key activities that happen during implementation phase, that are central in the deployments of communal water-points in question. The study further assessed involvement levels of community stakeholders in key activities of this phase of financing, site preparation, installation, provision of labour, provision of materials, monitoring of progress and training. Table 5.4 presents results of the assessment for community members, local leaders, local technicians and external stakeholders, as well as a comparison between functional and non-functional water-points.

Table 5.4: Community Stakeholders' Involvement in Key Activities under Implementation Phase

Key Project Activities	Water Point Status	Stakeholders				N =
		Community	Local Technicians	Local Leaders	External stakeholders (Implementers)	
Financing	Functional	3%	1%	1%	95%	104
	Non-Functional	4%	3%	8%	85%	99
Site Preparation	Functional	14%	3%	19%	64%	72
	Non-Functional	13%	0%	17%	70%	68
Installation/ Construction	Functional	0%	17%	4%	79%	81
	Non-Functional	3%	2%	2%	93%	64
Provision of Labour	Functional	32%	9%	4%	55%	79
	Non-Functional	6%	11%	3%	83%	85
Provision of Materials	Functional	20%	0%	0%	80%	65
	Non-Functional	5%	0%	0%	95%	57
Monitoring of Progress	Functional	4%	1%	32%	50%	90
	Non-Functional	1%	0%	5%	93%	78
Technical Training for Local/ Area Mechanics	Functional	4%	4%	0%	90%	49
	Non-Functional	0%	4%	2%	92%	51
Training for Water Management Committee	Functional	31%	2%	2%	65%	65
	Non-Functional	21%	0%	2%	75%	58

Source: Own survey of water users

Table 5.4 further shows very low involvement levels of local people in the majority of key activities undertaken within this phase, as evidenced by the single digit percentages in most of the activities. This is further evidence of the extent to which community stakeholders are excluded by implementers, making them miss out of the potential to acquire critical knowledge and skills essential for managing and sustaining these communal water systems once they are handed-over to them. In some areas, however, there are some considerable levels of involvement of community stakeholders, and these are installation, provision of labour, monitoring of progress and trainings for Water Management Committees. A comparison of functional and non-functional water-points on these four areas shows that the former's level of involvement is better off than that of the latter. For example, functional water points show 32 percent level of involvement against non-functionals' 6 percent on provision of labour during this phase. In the case of the former, such labour is largely provided under formal arrangements which are made with implementers when they request community members to make some contribution towards the water intervention. In the case of the latter, however, such formal arrangements are rare, if not absent, and where labour is provided it is usually done at a fee to the implementer or contractor, in what is called "*ganyu*" (KIIs, ZA; KIIs, KK). It has also been stated that in some cases "political leaders interfere in water project by telling people not to provide labour or make contributions but instead rely on government", as that which they voted into power, and therefore, obliged to provide for them (KII-ZA 4.1).

The above table further shows that communities with functional water-points are not directly involved in the installation works of the boreholes or water-kiosks, but in their

place the Local Mechanics (Technicians) get involved to the level of 17 percent. This is crucial for skills and knowledge transfer from implementers and contractors to a group from within the community, which is entrusted with future maintenance responsibility. This strategy, however, is very rare among communities with non-functional water-points as they have registered just 2 percent level of involvement on this activity. This explains, in part, the challenges which they face with regard to maintaining and repairing their communal water-points once implementers exit the community.

Lastly, on site preparation evidence is indicating that about one third of all involvement is by community based stakeholders combined (community members, local leaders and local mechanics), in the case of functional and non-functional water points. In terms of financing, the small percentages are from communities that do manage to raise finances which some implementers require them to have at minimum before a borehole installation is made in their community. This is an advance amount which the community, through its Water Management Committee, keeps for meeting future costs of procuring spare parts and paying maintenance fees. For instance, one respondent indicated that:

“Choyamba timapanga gulu la Water Point Management Committee mothandizana ndi anthu a mmudzi, kenako timawawuza kuti akasonkhetse ndalama mmudzi ife tisanabwere ndi project. Timafuna asonkhonkhe ndalama (e.g. K30,000) yomwe adzagwiritse ntchito kugulira ma spare parts ndi kulipira okonza madzi atawonongeka” (KII-KA 5.2).

At the outset we work with the community to form a Water Point Management Committee, which is then required to fundraise in advance (e.g. K30,000) before we install the water point. This amount is for buying spare parts and meeting other maintenance costs in future.

5.2.3 Community Stakeholders' Participation during the Maintenance Phase

This phase is about the maintenance of communal water-points, and specifically looking at how community stakeholders participate in this phase. It has been argued that in order for the water-points to be sustained, it is imperative to empower communities so that they take up the responsibility of managing the water points and ensuring that they are functional always (Fielmua, 2011; Rautenan et al., 2014). This phase requires knowledge and skills for managing the water-point, financial resources and materials resources, among other things. All these are essential for supporting maintenance and repairs of the water-points. In this study, therefore, survey respondents were asked to rate the levels of involvement of community stakeholders (i.e. community members, local leaders and Area Mechanics) in this important and last phase of communal water systems. Table 5.5 shows results of this and also compares levels of involvement of community stakeholders between functional and non-functional water-points.

Table 5.5: Community Stakeholders' Degree of Involvement in Communal Water Projects during Maintenance Phase

#	STAKEHOLDER	Maintenance (Functional)	Maintenance Non-Functional
4	Community members	60%	49%
3	Local Leaders	2%	0
4	External Stakeholders (Implementers)	38%	51%

Note: Functional: N = 112; Non-functional: N = 109

In the maintenance phase, the levels of involvement of community members in functional and non-functional water points differ by a small percentage, as they are 60 percent and 49 percent, respectively. The percentages depict the expected significant level of responsibility bestowed on communities during this phase of the water intervention. As

and when communities are unable to fix required issues on their water points, they go back to implementers and/ or government for assistance, but also involvement of these stakeholders relate to preparation of communities for the transition and actual handovers of communal water-points to them. According to Table 5.5, external stakeholders' (implementers and government) level of involvement on this front is at 38 percent and functionals, and 51 percent in non-functional water-points, respectively. External stakeholders' involvement, where available, is for carrying out the exit strategy and empowering the community and Water Management Committees to assume responsibility for sustaining communal water-points. It also includes moments when implementers or government agencies (e.g. Department of Water) come to help resolve high level technical issues of the water-points, which are beyond the capability of the community and its local mechanics. But under this phase the primary role of managing and sustaining the water-points rest within the hands of the communities and their Area Mechanics. As it was stated:

“there are four levels in the framework of maintenance of communal water points, and these are Committee designated mechanics responsible for minor repairs; followed by second level of Area Mechanics, who cover five to six villages or beyond and they focus on major maintenance such as replacement of pipes; and the third level which is done by District Borehole Overseers (e.g. blockages) and finally the fourth level which is done by Water Monitoring Assistants, who are also based at the District Water Office just like the DBOs. Levels three and four focus on issues which communities fail to fix and resolve” (KII-ZA 4.1).

However, levels of involvement of external stakeholders to such magnitude, particularly in non-functional water-points is, arguably, a result of the dependency syndrome which was created by implementers themselves during the formative stages of communal water

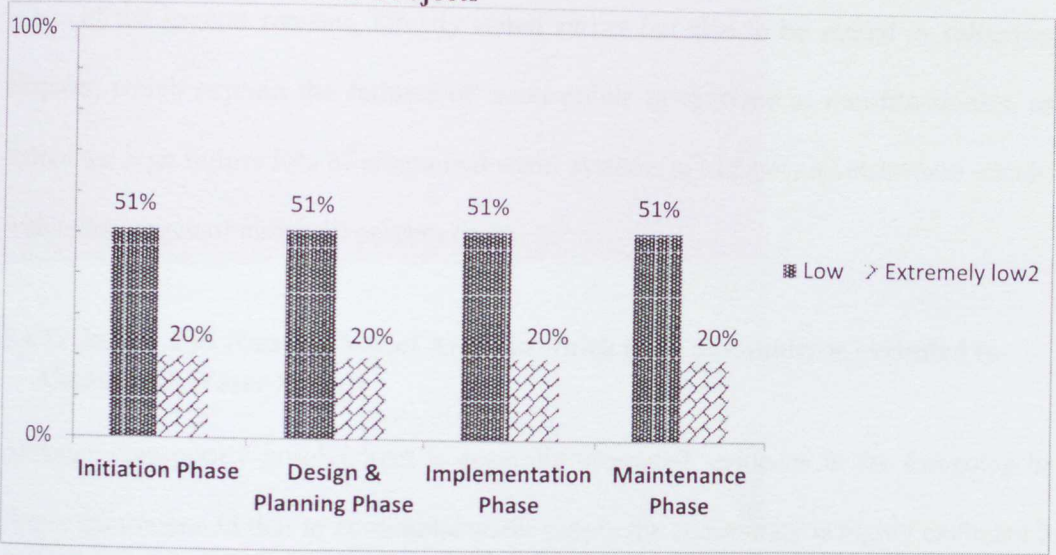
projects due to their significant levels of exclusion of community stakeholders in critical aspects that have empowering effects. Where communities still show significant levels of dependency on external stakeholders, the moment the latter exit and end their project operations in the area, then the concerned water-points have very slim chances of survival when resources and high level technical skills are required to maintain the water-points, due to due to internal shortcomings, some of which were external stakeholders' own creation.

5.3 Investigating the Extent of Integration of Local Knowledge and Culture in Communal Water Projects

The study also investigated the extent to which there was inclusion, or exclusion, of local knowledge and socio-cultural factors in the four phases of the water interventions under discussion. The importance of involving community members in order to enhance the cultural appropriateness of an intervention, and clarify certain ideas so that they fit in the local context has already been articulated (Israel, 2006). It must be emphasized that local knowledge system, norms and beliefs do influence water resources management, access issues, physical location of water points, people's behaviors, and acceptance of water interventions. But when these are ignored, some serious implications might arise, and these include people not using the water point due to its bad location based on their culture and local knowledge (e.g. located at previous or near a graveyard, or where salinity levels of water are usually high based on their experience with dug wells); lack of acceptance of the water intervention when seen as an external imposition; absence of a sense of ownership due to lack of local people's involvement; and community members' unwillingness to support, take care and maintain the water intervention (Marks and Davis, 2012; Mulwafu

et al., 2002; Tigabu et al., 2013). Survey respondents were asked to rate the extent of inclusion of socio-cultural aspects and local knowledge in the initiation, design and planning, implementation and maintenance phases of communal water systems under discussion. Figure 5.3 shows results of this assessment.

Figure 5.3: Levels of Inclusion of Local Knowledge and Socio-Cultural Factors in Communal Water Projects



Note: Functional: *N* = 102; Non-Functional: *N* = 108

Likert Scale: 1 = extremely low; 2 = low; 3 = below average; 4 = average; 5 = above average; 6 = high; 7 = extremely high

Based on the above figure, whether in functional or non-functional water-points, up to 71 percent is covering the ratings of *low* and *extremely low* combined in terms of consideration and taking into account of socio-cultural aspects and local knowledge during water project initiation, design and planning, implementation, and maintenance phases. Only 29 percent (i.e. ratings of below average through average and above average to high) shows that these aspects were factored in during the project. This is additional evidence that augments earlier results that indicated that most of these water projects were exogenously driven and implementers (NGOs, donor agencies, government and the water boards) did not spend

much time to analyze the socio-cultural aspects of the local areas prior to and during the water project installations. This is then entailing that the consultation meetings that took place were mainly for information purposes, rather than for partnering with community members for their input on various aspects including learning and appreciating local ecological issues, culture and social aspects worth integrating into the water projects. This is one of the several reasons, already stated earlier but also to be shared in subsequent chapters, which explain the failures of water-points categorized as non-functionals, and indeed the high failure rate of communal water systems in Malawi and elsewhere which is within the ranges of about 40 percent or so.

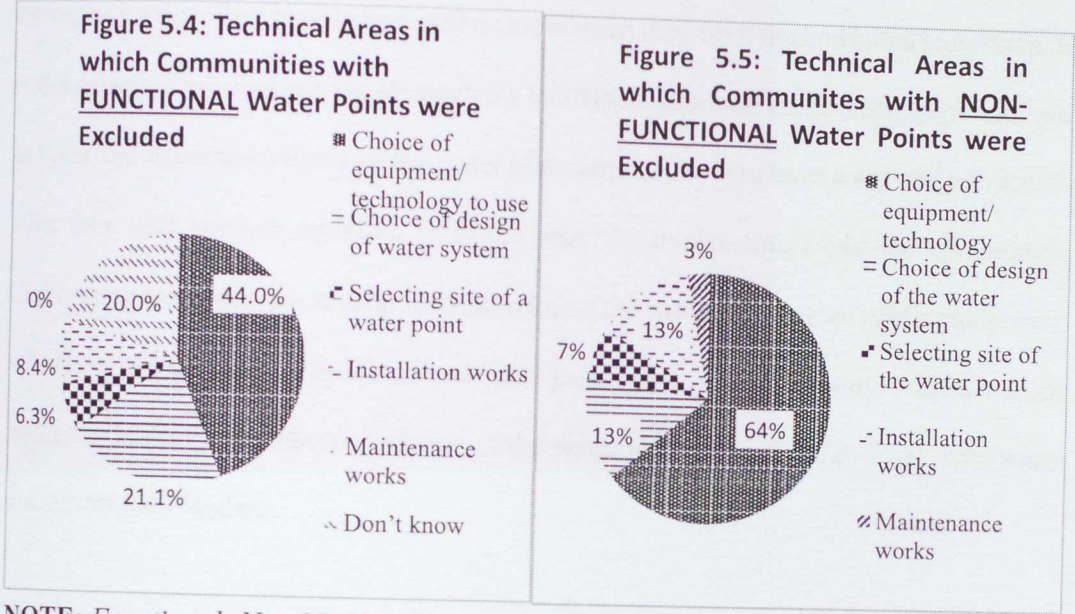
5.4 Technical and Non-Technical Areas in which the Community is excluded in Communal Water Supply

Although community involvement is generally promoted, evidence in the foregoing has clearly demonstrated that in communal water supply the community is highly excluded by implementers in many facets. Scholars such as Khwanja (2004, p.427) seem to support part of this exclusion by arguing that the involvement and participation of the community is not always good and should have limits, as the community's involvement in technical decisions, for example, would lead to worse project outcomes. This study also investigated and analyzed key aspects in which the community is excluded and among them isolating the ones that appear to be standing out as prominent.

5.4.1 Technical Areas of Exclusion and Rationale

The key technical areas on which the investigation centred were choice of equipment and technology for the water-points, choice of design of the communal water-point, installation

works, and maintenance works. The analysis looked at the percentage distribution of the levels of community exclusion on these key aspects, as shown in Figures 5.4 and 5.5.



NOTE: Functional: N = 95; Non-functional N = 97

The community and its leaders are highly excluded in deciding on technology and equipment to use for installations. This is more particularly the case among communities with non-functional water points, which is at 64.2 percent as compared with those with functional water points, which shows 44 percent. Additionally, the exclusion levels in other areas are within the same percentage ranges in both functional and non-functional water-points. This evidence, when considered together with earlier pieces of evidence, is critical, and in part, explaining the success outcomes and sustainability, as well as failure and non-functionality of concerned water-points after implementers exit the community.

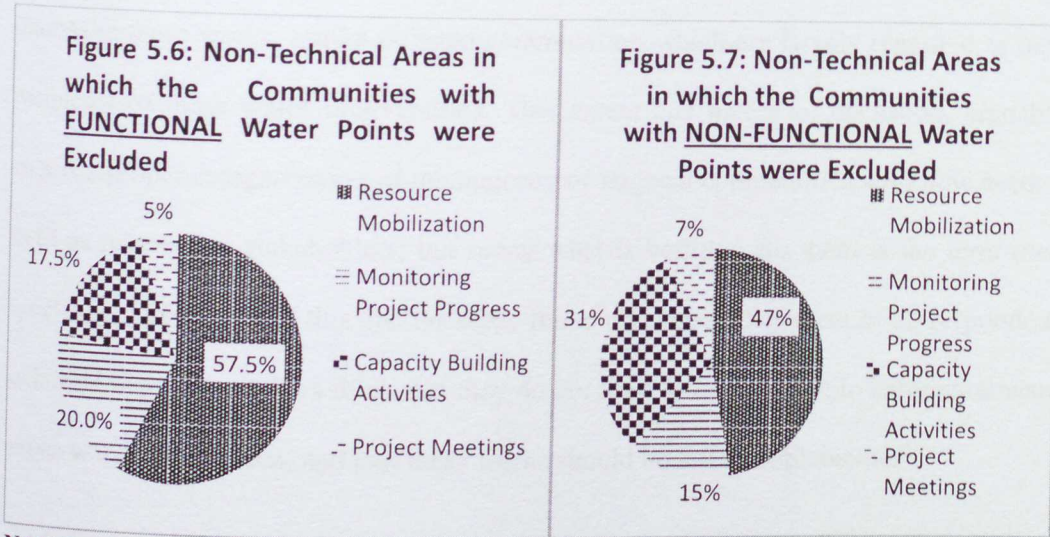
Although in some cases the communities' involvement in deciding on technical decisions can lead to worse outcomes, we contend that some level of consulting them and ensuring their buy-in in the choices of such critical elements of the project is essential and needed

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to be embedded in the project execution, as shown through earlier evidence. It is unimaginable to expect community members to fully embrace and sustain water technologies that were simply imposed on them when they were not consulted to participate in the selection process among all available and viable alternatives. As such, communities, as hosts and expected owners of the water interventions, have to have a say and agree with what they will have to maintain in future after the implementers exit the community. Community members, for example, need to know the nature and source of the equipment, whether it can be easily maintained and spare-parts can be sourced locally, and have some understanding of other inner-workings of the water technology through local technicians and community leaders.

5.4.2 Non-Technical Areas in which the Community is excluded

Even though some exclusion of the community and local leaders would be understandable on certain technical areas, it is paradoxical that there is existence of community exclusion even in some key non-technical areas, which others call soft parts of the water project.



NOTE: N = 80 in Functionals, while N = 86 in Non-Functionals

As Figures 5.6 and 5.7 show, the major area of exclusion is *resource mobilization*, which corroborate earlier findings of low levels and even absence of community stakeholders' involvement in contributing materials, labour and even money towards the installation of communal water-points. The second area is *capacity building activities* under which there is high exclusion of communities with non-functional water points at 31 percent, against those with functional water points at 17.5 percent. This exclusion in *capacity building* speaks to limited trainings for the community, particularly Local or Area Mechanics and Water Users Committees, which points to the systemic shortcoming in the programmatic design of implementers.

The exclusion levels in both technical and non-technical key areas can be explained by the already apparent dominance predisposition of the implementing agencies and their contractors. It has already been illustrated that they are essentially the ones from whom the project idea mainly originates, make all the plans, and have expertise and resources to undertake these works, unlike targeted communities, which are largely regarded as mere recipients of these water interventions. This extent and nature of exclusion, arguably, entails a proper categorization of the majority of targeted communities who now seem to unfit as partners or stakeholders; but rather what is befitting for them is the term mere spectators. It is due to all this that the study found that about 35 percent of all respondents indicated that communities think that they do not need to be involved in communal water projects implementation, and that these works should be left to implementers.

5.5 Conclusion

This chapter set out to assess the extent of participation of community stakeholders in various stages of the project life cycle in communal water supply system. Community participation has been measured by water users' perspectives on whether they were and who was involved in decision making at different stages of the project life cycle as well as specific activities within a project life cycle. The study has shown that there are very high levels of exclusion of community stakeholders in all phases of communal water projects, but maintenance phase in which they primarily dominate. Within the first three phases, however, there are few selected activities in which some reasonable level of involvement of community members, local leaders and area mechanics is evident, and these include meetings, provision of labour, water-points installations, monitoring progress and training. A comparison between functional and non-functional water-points on the same shows that there is extremely low participation of community stakeholders in non-functional water-points as compared to those in functional water-points. Thus, this is in part entailing a direct link between continued functionality (and, therefore, sustainability) and the degree to which community based stakeholders are involved or participate in the water interventions under discussion. Arguably, therefore, the significant levels of exclusion of community stakeholders during the critical early phases of initiation, and design and planning, due to implementers' quick and flawed approaches, makes community stakeholders to fail to acquire and/ or augment requisite capabilities and develop a sense of ownership and commitment, all of which are critical and underpin the sustainment of these kinds of development interventions.

Second, it has become clear that the origination of water projects ideas, solutions to the water problems in beneficiary communities, the choice of technology and other related aspects have primarily been exogenous. Evidence has shown that it is those that are from outside beneficiary communities that identifies the water problem, decides on the solution and then undertake implementation of the same. This approach has been quite common among communal water systems implementers, but it is problematic due to the impositions on beneficiary communities. The study has found programmatic and methodical weaknesses of implementers, particularly in critical aspects. Evidence has shown that there is minimal, or absence of, the community and local leaders' involvement in making decisions around the foregoing important areas. This sidelining of local people in itself undermines acceptability of the water interventions locally, and indeed, the future maintenance and continuity of the same. It is illogical to impose the water solution, technologies and equipment, and sometimes the site for a water-point, and then expect local people to accept all this, assume ownership of the water point and sustain it. Rather it is obvious that such approaches create the demise of the very same developmental (water) interventions which implementers bring to communities.

Third, when levels of involvement of key stakeholders are compared between functional and non-functional water-points during the implementation phase, the results are almost similar, with just a difference of about 2 percent or so. This is in contrast to initiation, design and planning and maintenance phases, in which there is apparent differences between these two categories of water points; with community members, local leaders and area mechanics showing reasonable levels of involvement in communities with functional

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water-points, while showing minimal or no involvement in those with non-functional water-points. Therefore, based on this evidence it can be argued that phase three of the water project (i.e. implementation) seems not to be very critical in building the necessary prerequisites that underpin the communities and local leaders' capabilities, buy-in and sense of ownership, which are critical to sustaining communal water systems. However, it is phases one, two and four, which are of very paramount importance and in which the involvement of local leaders and community members need to be enhanced and the necessarily prerequisites to be undertaken in order to better prepare them to carry the responsibilities of maintaining the water-points in question going forward.

Furthermore, this study has unraveled contradictions that exist in the water sector in Malawi. While the government and some NGOs maintain that water supply systems must be designed and implemented in a sustainable way (National Water Policy, 2005; Mughogho and Kosamu, 2012; Water Aid – Malawi, 2010), paradoxically the majority of their own water projects' designs and approaches have demonstrated to be the opposite. Evidence in the foregoing clearly shows the predominance of implementers (i.e. NGOs, Water Boards and government) in crucial areas of the water projects, while at the same time there is minimal to absent involvement of community members. It is, therefore, surprising how the community is expected to competently and sufficiently manage and sustain such communal water-points once implementers exit the community.

Based on the analysis of the foregoing in relation to Wilcox's (1994) ladder of participation and Cohen and Uphoff's (1997) participation across a project life cycle, it can be argued

that the high levels of exclusion of community stakeholders makes the majority of water-points installation to fall within the first two rungs of the ladder (information and consultation) and few on the third rung of deciding together. It has been shown that there is significantly lack of involving and allowing beneficiary communities to make key decisions concerning the water-points in question. The levels of control and power by communities is very insignificant and in some cases absent during the first three phases of the water projects. The persistence of this situation has been one of the exceptional shortcomings of communal water supply interventions, which to a large extent undermines communities' preparedness and capability to manage and maintain communal water-points successfully once implementers exit the community. Arguably, this major gap and its apparent contribution to the high failure rate of communal water-points actually points to the need to re-think how these water supply implementations are undertaken currently, in order to better re-design the model and approach them in ways that increase communal water-points' sustainability. One critical step in trying to achieve this would be to engage communities and their leaders closely and come up with strategies that would increase their levels of involvement in all critical aspects across the communal water project life cycle.

Therefore, on the basis of serious shortcomings uncovered herein in terms of how community stakeholders are involved in communal water supply in the country, this chapter argues for transformative and inclusive approaches to be taken and embedded in the design and execution of communal water supply projects going forward in order to make them sustainable. There is no doubt that to attain this there is need for systematic and broader changes that needs to be championed and pushed across the water sector in Malawi,

particularly within communal water supply, due to commonality of shortcomings uncovered by this study. The next chapter (6) turns to the analysis of the nature and levels of empowerment of community stakeholders in communal water-points' implementations. The chapter assesses whether capacity building activities are undertaken and are adequate, as well as whether there is technical and financial capabilities of communities to sustain communal water-points.

CHAPTER 6

NATURE AND LEVELS OF COMMUNITY EMPOWERMENT IN TECHNICAL AND FINANCIAL CAPABILITIES IN COMMUNAL WATER SYSTEMS

6.1 Introduction

In Chapter 5, we investigated the extent to which community stakeholders participate in communal borehole and water-kiosk programmes in Malawi. The focus was on various key parameters and aspects from initiation through design, planning and implementation to maintenance of these water-points. This chapter turns to the issue of empowerment of community members, which is one of the underpinnings of sustainability of community development interventions (Rautanen et al. 2014, p.161). These community based development programmes often require capacity building activities aimed at empowering communities to manage project processes and facilities. The empowerment only occurs when individuals and communities take power (Rapport, 1985 in (Heritage and Dooris, 2009, p.46), as well as acquire the necessary skills and experience, which then leads to greater self-reliance, influence and control over events and outcomes of importance (Chifamba, 2013, p.7; Rapport, 1981; Fawcett, 1995).

It is important to note that 'empowerment cannot be bestowed by others but that those with power (intervention implementers) and those who want it (clients or community members) must cooperate to create conditions necessary to make empowerment possible' (Heritage

and Dooris, 2009, p.46). Some of the common ways through which empowerment can take place is by way of involving community members in the work that an implementer is doing, and/ or by way of undertaking capacity building trainings, as was the case with the community based resource monitoring of Brazil and Namibia studied by Constantino et al. (2012, p.3). According to Constantino et al. (2012, pp.5-6), empowerment strategies that worked in their study were intensive participation and linkage with education (capacity building) programmes, among other things. Factors that facilitate these empowerment strategies include the value which communities attach to the intervention or resources, existence of management rights by locals, presence of trusted leadership at local level, and collaboration between stakeholders (including relationship between internal and externals). Empowerment can be measured by focusing on evidence on, or absence of, capacities and skills of local people in certain prescribed areas of interest, such as capacity to generate and/ or mobilize resources, power and control dynamics, leadership and decision making, and individual or community competence (Butterfoss, 2006, p.227). Other scholars and practitioners state that community empowerment entails having or seeing collective decision making, involvement, participation, contribution and shared control, which then reinforces the capacity of the community to achieve program goals and the notion of local "buy in" (Korten, 1989; Maser et al., 1999; Plummer, 2005, p.35; Claridge, 2004, p.25).

This chapter sets out to test the hypothesis that adequate levels of empowerment during the life cycle of a water project underpins the functionality status and eventual sustainability of communal water points after implementers exit beneficiary communities. In this attempt, the chapter analyzes the nature and levels of empowerment of communities in relation to

the technical and financial capabilities which underpin continued functionality of communal water interventions in Malawi. In doing so, the frameworks by Clark (1995) and by Kaswel in Bush et al. (2002) were utilized. This chapter is organized into six sections. Section 6.2 analyses communities' empowerment across the project life cycle of communal water supplies. Section 6.3 focuses on explaining the management structure and maintenance framework for communal water systems, which is followed by an assessing of the nature and levels of technical capacity for community groups to prepare them for maintenance of communal water interventions. Section 6.4 assesses communities' financial capability with which to meet and sustain the operations and maintenance of communal water-points. Section 6.5 presents the examination of the existence of standards in the water sector in Malawi in relation to community empowerment. Section 6.6 presents concluding remarks.

6.2 Communities' Empowerment in Communal Water Projects

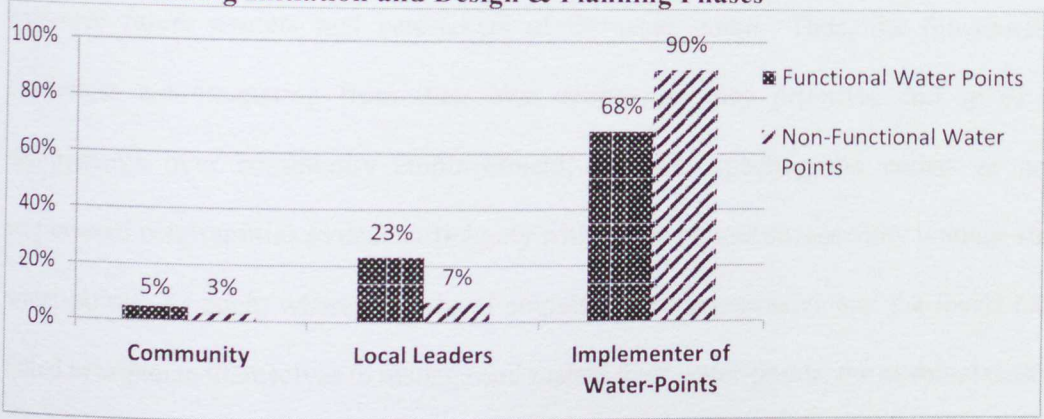
Rappaport (1981) states that all people have existing strengths and capabilities as well as the capacity to become more competent; that the failure of a person to display competence is not due to deficits within the person but rather to the failure of the social systems to provide or create opportunities for competencies to be displayed or acquired; and that the new competencies are best learned through experiences that lead people to make self-attributions about their capabilities to influence important life events. This, therefore, means that members of the community can learn and become competent to manage and run affairs of a communal intervention if a systematic approach is taken by governmental and non-governmental agencies in empowering them with the pre-requisite knowledge and

skills. This can be done through their involvement in key areas of the project as well as through deliberate interventions such as capacity building.

6.2.1 Empowerment of the Community in Initiation, and Design & Planning Phases

Investing in institutional strengthening and capacity development in the community right from the start of a project is very useful and crucial for sustainability (IFAD, 2009, p.43). It is, therefore, important to analyze the extent to which the community and its leaders were involved overall during the first two phases of the water project, as this underpins sustainability. The study asked respondents to gauge the overall levels of involvement for purposes of empowerment among all the key stakeholders during the first two phases of the water project.

Figure 6.1: Overall Extent of Stakeholder Involvement in Relation to Empowerment During Initiation and Design & Planning Phases



Note: N = 239

The most outstanding and distinctive feature in this Figure 6.1 is the marginalization of community members and local leaders as exemplified in their levels of engagement for empowerment purposes during the first two phases of these communal water projects. This

engagement is ranging from just 5 to 23 percent for communities with functional water-points, and mere 3 to 7 percent for those with non-functional water-points. This figure is confirming the reality that empowerment is very limited and not systematically entrenched into the programmatic approaches of the majority of implementers. Such limited, or in many cases lack of, involvement of local people for empowerment purposes, denies community based stakeholders the best opportunity to get empowered and fully understand the background and inner workings of their communal water-points through participation, practice and capacity development activities. With the majority of communities having limited capacity or none, it is difficult for them to adequately undertake full responsibilities of the water interventions once they are handed over to them.

This capacity gap among community members then becomes the creation of implementers themselves, as designers and champions of the communal water-points, who fail to empower future owners and care-takers of the water-points. Thus, the functionality challenges are emanating from their own actions, as they prioritize and speed up deployments over community empowerment, but yet expecting the under- or non-empowered communities to deal sufficiently with issues of, and successfully manage such water-points. As such, where absence of empowerment is pervasive and the locals have failed to organize themselves to manage and sustain their water-points, the eventual demise and non-functionality of such water-points obviously creeps in. This also points to the creation of the dependency syndrome in concerned communities as they consider that only external stakeholders (implementers, government or donors) are the only ones who have the capabilities to fix and support maintenance of their water-points, as locally there is

leaders in functional water points still gain a little more in relation to empowerment with their close to a third level of involvement in this particular activity unlike their counterpart. This is important going forward as competent or empowered leadership is one of the central components in the sustainability equation of these interventions.

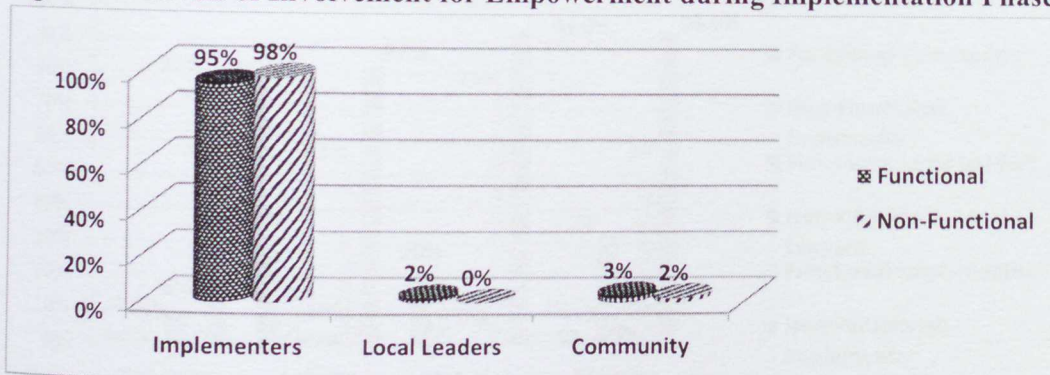
However, when we cross over to the other two key decision areas of choosing the solution and design, and technology for communal water supplies, community members and local leaders in both functionals and non-functional water points are almost excluded as shown by the 0 to 1 percent levels. Thus, this in itself undermines community empowerment, yet it is crucial for the community members to acquire the requisite skills and knowledge, through involvement and practice, to put them to use in future for running of the affairs of the water interventions once they are handed over to them.

On the basis of the above evidence, one can argue that perhaps implementing agencies tend to engage communities and their leaders, not for the sake of empowering them, but to use them during unavoidable situations in order for them to deliver the project as per what they agreed with their donors or partners. For instance, very low rates shown in Figure 6.2 is evidence that implementing agencies could not proceed without some level of engaging local stakeholders on the choice of the site as this required the land owners to provide this important resource (piece of land), without which communal water projects cannot proceed. Evidently, that kind of involvement clearly lacks elements of active and meaningful empowerment through involvement, as well as lack of deliberate and adequate capacity building mechanisms during the phases in question.

6.2.2 Empowerment of the Community in the Implementation Phase

It has been argued that sustainability of water supply systems cannot be fully realized if communities are not able to operate and maintain their own water supply facilities, because operating and maintaining them on a daily basis ensures that they continue to be functional for a long time (Davis et. al., 1993 in Musonda, 2004, p.55). This know-how, arguably, can be sufficiently achieved when community members and/ or their designated representatives are actively engaged and take part in the water-points installation process up to hand-over. Further to this, deliberate capacity development in critical aspects such as how to operate the water-point, undertake basic repairs, manage affairs of the water-point, and generate and manage revenue, are crucial for the community members to be able to manage and sustain communal water-points once they are handed-over. Figure 6.3 indicates overall involvement of key stakeholders in relation to empowerment.

Figure 6.3: Levels of Involvement for Empowerment during Implementation Phase



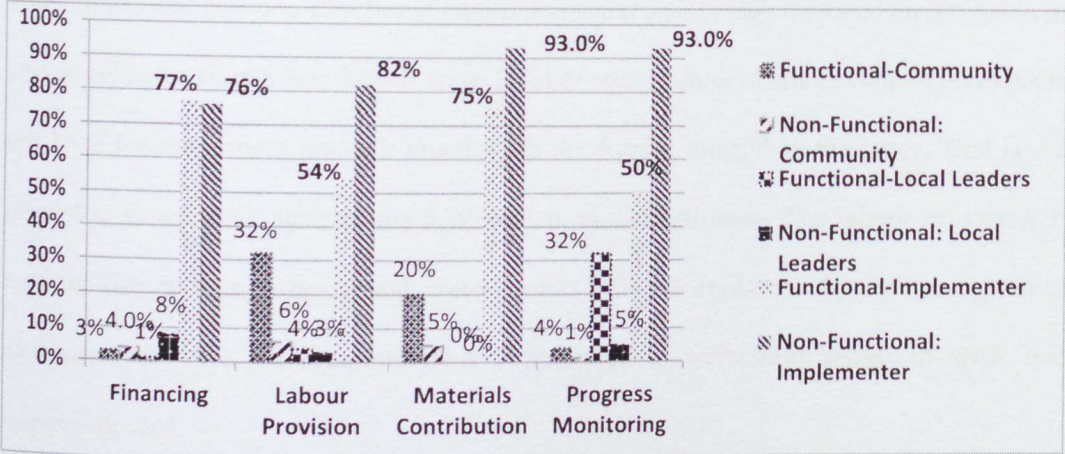
Note: N= 239

In the light of the prevailing picture displayed in this Figure 6.3, it makes sense to reflect on what Rappaport (1981) said in the foregoing that everyone has strengths and capabilities, but failure of people to show certain skills and abilities is a result of the failure of the social system to help them. This is informing us that members of the community can

learn and become competent to manage and run affairs of their communal water-points if deliberate efforts are made to empower them. However, the high levels of exclusion of community based stakeholders, with the 0 to 3 percent levels for community members, local leaders and even area mechanics, is a further demonstration of how they are denied the opportunity to acquire important technical and management skills with which to maintain the communal water points once they enter phase four. This scenario prevents the passing down of requisite skills and techniques of maintaining communal water-points to community members during their actual implementation.

The analysis also focused on selected specific activities (e.g. financing, labour and so on) under this phase and gauged community empowerment there on.

Figure 6.4: Assessing Community Stakeholders’ Level of Involvement for Empowerment in Selected Key Areas



Note: Functional: N = 90; Non-Functional: N = 72

Figure 6.4 shows that even when implementation phase is dissected based on key selected activities, the low levels of community stakeholders versus high levels of dominance by implementers is quite clear across board. It is apparent, therefore, that implementers get

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absorbed into the project execution without considering implications of their predominance. They tend to focus more on results in terms of completion of installations in the quest to meet targets set internally within their organization or as agreed with their donors; and forget critical sustainability elements without which whatever they deploy cannot survive and continue offering benefits to targeted communities. In addition, one can also argue that the above evidence points to how disempowering the implementation process is due to the very nature and minimal levels of involvement of local leaders and community member for empowerment purposes. This is a clear indication that what matters to implementers, as already said, is the fulfilment of their programmatic goals than the question of how communities are prepared and empowered, through practice and involvement as a strategy for preparing them for their future maintenance roles.

When functional and non-functional communal water points are compared on provision of labour, evidence shows that there is some level of contribution of labour (which gives some low level empowerment through practice) in the former more than the latter. That is, 32 percent in functionals against just 6 percent in non-functionals. The labour provision in communities with non-functional water points can be explained by how community members view this intervention. This explanation is well summarized in what one respondent said:

"Chidwi ife tinalibe chifukwa timati iyi ndi ntchito ya contractor. Koma pamene amafuna thandizo anthu ena amapita kumuthandiza ngati mwa ganyu yolipiridwa"(KII-KK 3.1).

(We were not excited about the drilling/ installation work as we regarded it to be the contractors' job. But some members of the community could assist them when contractor request their labour, which was provided at a fee).

But it must be noted that in communities with functional water points, labour requirements by implementers and contractors were arranged through formal channels that involved both local leaders and community members to make local contributions to the project. This is important as to some extent it empowers people involved in terms of techniques for mobilizing resources such as labour and materials requirements, which would also be required during the maintenance phase. Besides contributing labour and monitoring projects' progress, communities with functional water points also provide security during the installation period to make sure nothing is stolen along the way. One respondent stated that:

"timayika munthu woti azilondela pamalopo kuti pasabedwe kanthu nthawi imene contractor akugwira ntchito" (KII-KA 5.2).

(We identify men to guard the place while construction is underway)

In terms of monitoring of progress of the water intervention, local leaders in functional water points are involved substantially covering a third of all available involvement (i.e. 32 percent). However, those in non-functionals are not involved much in this undertaking as evidenced by the just 5 percent participation in this, as shown in figure 6.4.

6.3 Communities' Empowerment and Technical Capacity to Manage and Sustain Water-Points

As Altman (1995, p.528) argues, communities must be equipped organizationally, politically, and financially so that they can handle ownership and control of interventions

if they are to be sustainable; and that in the absence of a community structure or commitment to assume ownership, interventions are unlikely to be sustainable. IFAD (2009, p.45-46) further states that systematic approaches need to be taken in order to build the capacity of communities so that they can assume the on-going financing (and technical skills) needed for sustaining the interventions. As such, availability of expertise within the community on how to maintain and repair a borehole or a water-kiosk is one of the underpinnings of sustainability of these water systems. Equally important is access to external expertise on aspects which are beyond the capacity levels of the community.

This section, therefore, presents the general frameworks for maintenance of boreholes and water-kiosks, and then delves into the assessment of capacity building and existence of technical skills within communities to manage and sustain these water-points.

6.3.1 Management of Communal Water-Points

Structurally, before hand-overs of water-points to the community happen, organized implementers who take a participatory approach work with communities' established committees called Water Management Committees (WMC) or Water Points Committees, which are given the responsibility to manage all matters concerning their water-point. This committee consists of about 10 members, out of which usually 6 are women and 4 are men (KII-ZA 4.1). This seemingly gender-bias is due to the fact that women are the ones who often use water-points and are affected most with regard to water access and availability. The composition of the committee is as follows: Chairperson and vice, Treasurer and vice, Secretary and vice, and 4 members (KII-ZA 4.1; KII-LL 1.1; KII-LL 1.2). Once the

committees are set up, implementer are expected to build the capacity of committee members by way of trainings, orientation and involvement in key areas of the water intervention so that they get empowered in the process with a view to ensuring that they effectively manage affairs of their water points going forward. Such trainings, among other things, focus on things such as general management and operations of a communal water point, basic repairs for continued functionality of the water point, resource mobilization, financial management, health and hygiene, protection of water catchment area (in case of boreholes by ensuring afforestation is done and trees are conserved), and other related issues.

Although most sampled water points have WMCs, some do not have. In other cases WMCs do not exist, in which case matters of the water points are handled by volunteers from within the community who are concerned with the sustainability of their source of water. The study investigated on who manages communal water points that were sampled.

Table 6.1: Group in Charge of Managing the Affairs of Communal Water Points

GROUP	FUNCTIONAL	NON-FUNCTIONAL
Water Management Committee	59%	50%
Community Volunteers	30%	34%
Implementer	1%	5%
Others	9%	9%
Don't know	1%	2%
Total	100%	100%

NOTE: Functional: N = 115; Non-Functional: N = 117

The results are that 50 percent of non-functional water points and 59 percent of functional water points were being managed by WMCs, while 34 percent of non-functionals and 30 percent of functional water points were managed by volunteers. Lastly, a small percentage

is said to be managed by other organizations including those that installed the water-points, such as ADMARC and so on within their territorial influence but the water source is open for public use.

6.3.2 Maintaining and Repairing Communal Water-Points

In water-kiosks there is a Kiosk Management Unit or volunteers who oversee all affairs of the water-point, including maintenance and repairs. The beneficiary community is normally given the responsibility to undertake basic repairs such as changing a tap rubber, a tap or minor blockages, in the case of approaches that are community centred and participatory (KII-ZA 4.1). However, tasks that are beyond the capacity of community members are performed by trained personnel who are called Local or Area Mechanics. The major faults are resolved by the implementer (i.e. Water Board, or Department of Water), which includes repairs such as changing broken pipes and fixing drainage blockages (KII-ZA 4.1; KII-LL 1.1).

While in boreholes the arrangement is a bit different. The maintenance framework involves the community itself through its designated members of the Water Management Committee who were trained to undertake basic repairs. They focus on replacing fast wearing parts such as bush bearings, cap seal, orings, rod centralizer and the rod. When a fault is beyond the capacity level of the community's technicians, then Area Mechanics are engaged. Normally, one Area Mechanic covers all villages in one Group Village Head (GVH) and sometimes even beyond. This cadre focuses on major repairs and maintenance works such as replacement of pipes and resolving major breakdowns. In cases where the issue is

beyond the capacity of Area Mechanics, it is referred to the district level (i.e. Department of Water) where the Borehole Overseer is assigned to address it. This cadre mainly deals with serious blockages and faults. The last level to which very serious technical issues are referred to is the Water Monitoring Assistant cadre, still at the district level's Department of Water (KII-ZA 4.1; KII-LL 1.1; KII-LL 1.2).

6.3.3 Capacity Building for Key Community Based Stakeholders

The community, it must be noted, is a pillar for the sustainability of communal water-points, because it is both the host and the primary user of the water facility. This is why it is essential for implementers to ensure that capacity is built locally for proper management and maintenance of communal water-points. It has been stated that those who undertake capacity building activities for the community, Kiosk Management Unit and Water Management Committees focus on overall management of a communal water-point, ways of taking care of a water-point, how to use a water-point, and general maintenance of the same. In terms of the latter, within each KMU, WMC or community, as it has been stated earlier, few members are supposed to be trained in basic maintenance and repairs of a water-point. This group becomes key in performing first level support as and when need arises. Another important area on which capacity building tackles is resource mobilization or revenue generation, which is also key for sustainability. Again, where implementers organize trainings, they also focus on how the committees can keep books of accounts and mobilize resources, including finances through user fees, contributions (monetary and/ or material) and so on, which are useful for the maintenance of the water-points. Table 6.2

shows levels of trainings undertaken for Water Management Committees of communal water points under discussion.

Table 6.2: Training for Water Management Committees

Formal Training Conducted for Water Management Committees	STATUS OF WATER POINTS		Overall for All Water- Points
	Functional	Non-functional (when they were functional)	
Yes	22%	6%	14%
No	78%	92%	85%
Don't know	0%	2%	1%
Total	100%	100%	100%

Note: N = 239

Evidence shows that only one fifth of functional water-points had their Water Management Committees trained in key aspects of management and operations of a communal water point, while in non-functional ones there is a very small number of WMCs (only 6 percent) that received training on management of the same. Thus, non-functionals are showing significantly low levels of preparedness on management of these interventions. This shortcoming has negative implications on how the community manages and sustains the water-points going forward, and in part it does explain their currently non-functionality status.

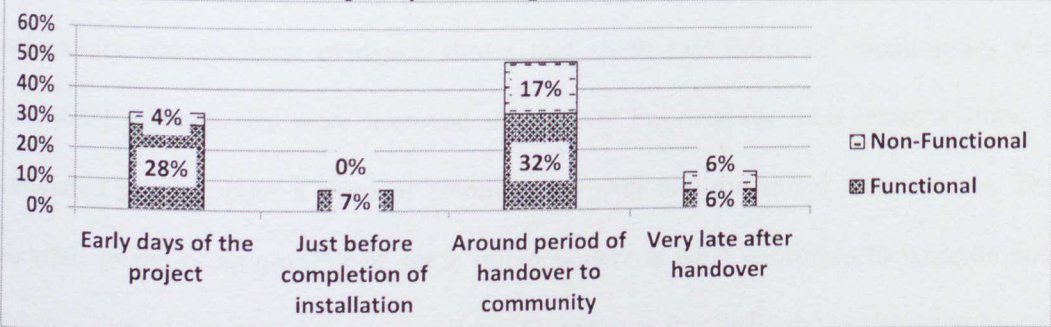
Further, Area Mechanics constitute a cadre which was established to be addressing issues of communal water-points, which are beyond the technical capacity of the community and WMC or KMU. Training for this group focuses on a bit high level technical skills development in-line with their roles. Areas on which their training touches include general skills for undertaking repair works and maintenance of a borehole and a water-kiosk,

installation of pipes and taps, how to fix broken pipes, and how to install or repair borehole parts such as rod centralizer and replacement of faulty parts. This cadre is also trained on how to undertake structural maintenance of the housing unit or concrete base and stand of the water-points.

6.3.4 Levels of Capacity Building in Communal Water Projects

The study also assessed various parameters on capacity building such as time when it was conducted, and the extent of capacity building activities undertaken for each key group from the community - Water Management Committees, Area Mechanics and community members. First, in terms of when the implementers normally build the capacity of the community, evidence shows that there are two periods when most of the capacity building is said to take place when one reviews at capacity related activities along the water project life cycle. As per Figure 6.5, the two periods are ‘early days of the project’ and ‘around period of hand-over to the community’ i.e. 32 percent and 49 percent, respectively (functional and non-functionals combined).

Figure 6.5: Period when Capacity Building for Community Based Groups were held



Note: N = 54 for both Functional and non-functional

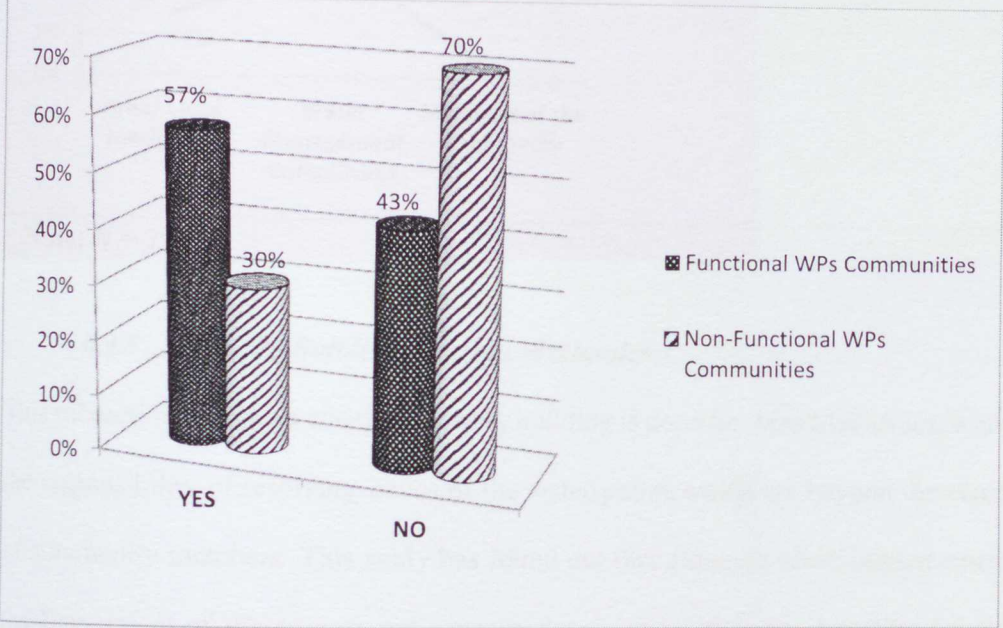
According to Figure 6.5, 28 percent of communities with functional water-points have capacity building happening during ‘early days of the project’, followed by 7 percent of

functionals that receive it towards the end of the installation period. Thereafter, 32 percent of them have capacity building during hand-over period. Thus, just about 35 percent of water points, which constitute the functionals, received capacity building from implementers within a reasonable period that allows the knowledge and skills to sink in and enable them to be ready for their expected roles once implementers hands-over the water-points. Unfortunately, only 4 percent of water-points, which are non-functionals, received capacity building within this same reasonable timeframe in the water-project. The majority of communities with these water-points, therefore, received capacity building around period of water-point hand-over or very late after the hand-overs. This evidence is demonstrating that a good number of implementers do not put much effort as well as emphasis to capacity building in their water projects, and execute it in a timely manner. This has very serious repercussions with regard to future maintenance of these communal water-points as a result of late, inadequate or absent skills and knowledge transfer to local people who are formally, or by default, given the mandate to own and sustain the same.

Crossing over to the extent to which capacity building is done as a way of empowering community stakeholders; evidence shows that about two thirds of communities with functional water-points were involved in capacity building for their water system, as compared to just about a third of communities with non-functional water points. This shortfall in the programming of some implementers is what continues to increase non-functionality of communal water systems in the country. It is difficult to expect community members who did not undergo any sort of capacity building for empowerment to satisfactorily manage their water-point, raise adequate funding, manage finances and books

of accounts, and perform the regular maintenance works and repairs. It can be argued, therefore, that this systemic gap in the implementers' programmes, whether deliberate or genuine error, significantly negates their very same progress which they seek to make in rural and urban communities in the quest to meet their water targets.

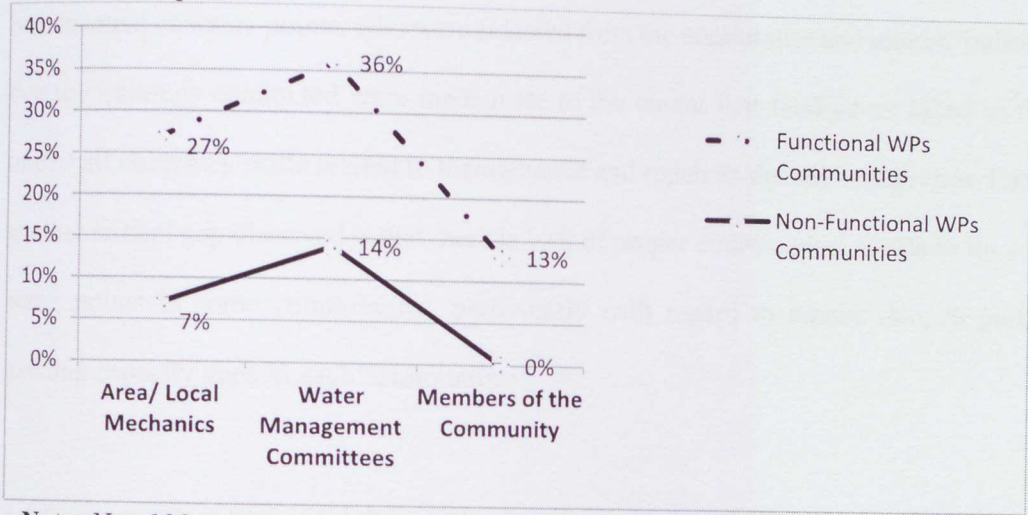
Figure 6.6: Comparison of Extent of Capacity Building between Functional and Non-Functional Water Points



Note: N = 130

Figure 6.7 below further shows an extension of the above scenario, when specific groups responsible for maintaining the water-points are compared. It is evident that functional water points are showing high levels of occurrence of capacity building than non-functional water points.

Figure 6.7: Comparison of Extent of Community Based Stakeholders' Empowerment



Note: N = 130

6.3.5 Capacity Building for Area Mechanics

This subsection examines whether capacity building is done for Area Mechanics, who have the responsibility of resolving issues of the water-points which are beyond the capability of community members. This study has found out that although some implementers and the Department of Water carry out capacity development activities targeting the WMCs and Area Mechanics, there exist some serious gap on this capacity front. Even though some implementers have capacity building component embedded in their programmes, they tend to focus on training representatives from the community and/ or Water Management Committees, but forget to include the most crucial group of Areas Mechanics (KII 1, Min. of Water). This has resulted in shortages of Area Mechanics in many parts of the country, which makes those available to be serving big catchment areas, which in turn poses logistical challenges for them to respond to all requests for repairs. Thus, delays in attending to some water-points are obvious or further increases in the costs that communities have to meet when they engage Area Mechanics e.g. transport, meals and/or

accommodation. Besides this, even people involved in undertaking repairs and management of water-points, who were selected from the community and trained, indicated that the trainings conducted were inadequate to the extent that facilitators failed to fully impart all necessary skills related to maintenance and repair to the targeted groups. Lastly, another critical gap observed is that there is lack of proper coordination of affairs for some water points in some communities, particularly with regard to repairs due, in part, to existing capacity gaps in such communities.

6.4 Communities' Financial Capability for Management and Maintenance of Communal Water-Points

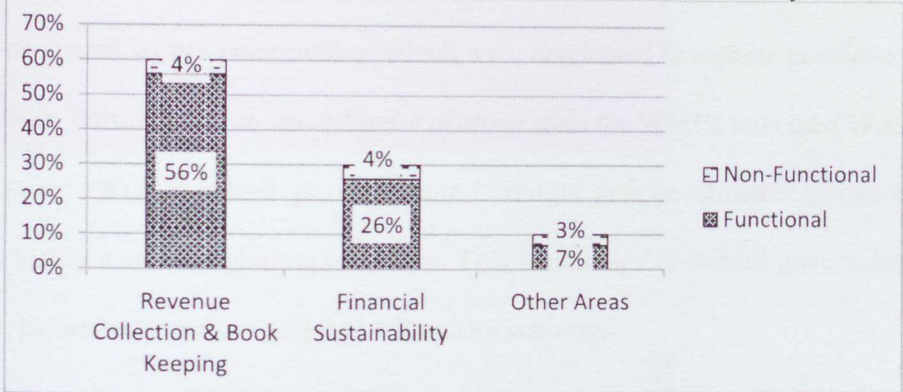
As stated earlier, beneficiary communities assume responsibility of maintaining communal water-points once implementers close the project and exit the community. During the maintenance phase, one of the main duties of beneficiary communities is to raise revenue with which to meet operational and repair costs, and for paying monthly water bills, in the case of water kiosks. Due to all this, therefore, the capability of communities to raise, manage and disburse funds is very critical.

6.4.1 Capacity Building on Financial Management for Communal Water-Points

Some of indispensable practices that are vital in management of communal interventions that involve revenue collection are good financial management, discipline and reporting. In case of communal water supply systems, a Water Management Committee is in-charge of managing overall matters of a water-point, including finances. Within each WMC there is a Treasurer and the Vice, who are designated to manage funds. As these implementations

are done in various places including rural areas where literacy levels are low, it was important to examine whether water-points implementers empower WMCs and communities, so that they have adequate basic skills with which to collect and manage own revenue, which is essential for the operations of their water-point. This study assessed the general capacity building pertaining to finance for sustaining communal water-points. This is summarized in Figure 6.8.

Figure 6.8: Capacity Building on Financials and Sustainability



Note: *N = 27 for both Functional and non-functional*

Evidence of training for communities with functional water points on key aspects of finances and sustainability are conducted at reasonable percentages – 56 percent on revenue collection techniques and how to keep books of accounts. Financial sustainability, which is critical, is also covered up to 26 percent. But communities with non-functional water points show very minimal presence of some form of capacity building on this front – 3 to 4 percent. Therefore, non-functionals were not prepared adequately on how to mobilize and manage financial resources and techniques for sustaining communal water-points.

Evidence provided in the foregoing has also shown that significant percentages of WMCs in functional and non-functional water points did not receive any form of capacity building during the implementation of the water intervention. This is another major flaw in water implementations under discussion, because the WMCs are central to the continued functioning of communal water-points. The WMCs ought to have been adequately trained in how to manage and sustain their water supply systems. Arguably, communities which have vibrant and performing WMCs are simply due to the existence of knowledgeable and skilled personnel within communities which were nominated to assume positions in these committees. Furthermore, in water-kiosks in urban areas the WMCs fall under Water Users Associations (WUAs) which provide some oversight and governance guidance to the WMCs within a specific geographical area. This layer helps in overall governance of the WMCs, particularly as they interface with water suppliers.

6.4.2 Communities’ Financial Capability to Maintain and Sustain Communal Water-Points

A self-assessment by communities on their ability to finance repairs and on-going operations of the water-points was undertaken. This capability is essential for sustaining the communal water points, as it has already been alluded to.

Table 6.3: Communities Capacity to Fund Water-Points Repairs

Community’s Capability to Fund Required Repairs/ Operations for Water-Points	STATUS OF WATER POINTS		Overall for All Water-Points
	Functional	Non-functional (when they were functional)	
Yes all	51%	24%	37%
Yes Some	9%	20%	14%
No	40%	56%	49%
Total	100%	100%	100%

Note: *Functional: N = 112; Non-Functional: N = 117*

But when percentages for *Yes* and *No* are compared overall, the total for Functional water-points shows a high propensity and ability to support and fund repairs, which is at 51 percent against non-functionals' 24 percent. When all water points are considered together, on average 49 percent show a 'No' propensity and interest to finance repairs and maintenance of their water point. This relates to issues of low income and poverty levels, which are common among the people that access communal water points, but also to issues of ownership and commitment to the water point and overall leadership and management of the same.

6.4.3 Overview of Sources of Revenue for Operations and Maintenance

User fees are primarily common in water-kiosks, so that revenue is generated for paying monthly water bills and the balance, if any, is reserved for operations and maintenance. Besides user fees, revenue is also generated through community contributions, which is a common way of raising funds in boreholes where there are no regular user fees. The funds are raised to support operations and maintenance i.e. for regular as well as major repairs. When things are beyond the financial and/ or technical capacity of the community, help is sought from the Government, Water Boards, NGOs and development partners. Table 6.4 gives a summary of the sources of revenue for maintenance of the water points under discussion.

Table 6.4: Frequency of Sources of Revenue for Maintenance of Water Points

Communities' Sources of Revenue for Maintenance	STATUS OF WATER POINTS		Overall for All Water-Points
	Functional	Non-functional (when they were functional)	
User fees/ tariffs collected	45%	42%	43.5%
Community contributions	42%	42%	42%
Solicit help from implementer (especially NGOs)	0%	2%	1%
Solicit help from government (including Water Boards)	13%	12%	12.5%
Other	0%	2%	1%
Total	100%	100%	100%

Note: Functional: N = 74; Non-Functional: 57

Assistance from Governmental agencies accounts for 12 to 13 percent of the frequency total. This caters for high end repairs and parts replacements that are beyond the financial capacity of communities. However, NGO Implementers' contribution is trivial, at zero percent in functional and 2 percent in non-functional water points.

6.4.4 Community Members' Financial Contributions for Operations and Maintenance

All water-kiosks that are installed by the Water Boards are metred, and every month users are expected to pay water bills. As such, each water-kiosk's Management Committee collects user fees or tariffs from users on a pay-as-you use basis (e.g. per bucket), or on a periodic basis (e.g. monthly) in order to raise funds for paying the water bill and for maintaining the water-point. In case of boreholes, users mostly draw water for free but are required to make contributions when there is need for spare-parts to be bought and/ or

maintenance works to be done. Table 6.5 indicates the percentage of users who pay user fees and those who do not.

Table 6.5: Status of Regular Fees among Water Users

Households' Main Source of Water	Status of Users Fees (per day, week or month)			Total
	Yes	No	Don't know	
Borehole	41%	59%	0	100%
Water-kiosk	91%	6%	3%	100%

Note: N = 239

Table 6.5 shows that 91 percent of respondents indicated that their water point required them to pay regular users fees on a daily, weekly or monthly basis depending on the arrangement at their water-kiosk. While 6 percent indicated that they do not pay anything. This is a group of very poor people which the community allows to access water due to their under-privileged condition. As it was stated:

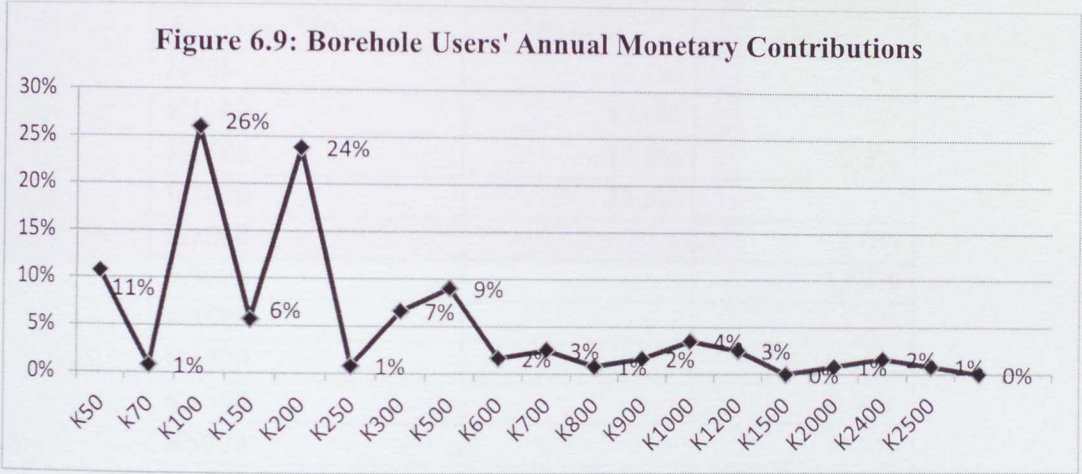
anthu ena amakhala ovutika kwambiri nde simawalipiritsa user fees kapena zosonkhetsa zokonzera mpopi wa madzi (KII- KA 5.2).

(Very poor people in the community are still allowed to access water for free due to their condition as there is no way they can afford paying user fees or required contributions for undertaking repairs).

The study also revealed that 41 percent indicated that they are required to pay some fees or contribution for the operations and maintenance of the borehole, compared to 59 percent that are not. The latter constitutes a significant percentage, which clearly shows the seriousness of the threat of continuing to see more and more communal boreholes failing to fix their repairs, even minor ones. Since financial capability is one of the critical factors, then obviously without this capability it follows that in the absence of assistance from other

external stakeholders (e.g. Government, Implementers and donor agencies), the boreholes would become dysfunctional.

Crossing over to actual monetary contributions, the assessment of communal water users was undertaken in order to understand the levels of contributions towards maintenance and repairs. Figure 6.9 presents overall monetary annual contribution by borehole users.



Note: *N = 26 water points and 154 respondents.*

This figure shows that the majority (68 percent) contributes between K50 and K250 per person annually towards operations and maintenance of their water-points. This is primarily during periods when there is need for repair works to be done, and the lower amounts indicate some stability of their water-points in relation to breakdowns and need for repairs. However, about 25 percent contributes cumulatively between K500 and K2500 per person or household annually. The amount is on the higher side due to the frequent breakdowns and need for repairs that arise.

In water-kiosks, which are mainly in urban and peri-urban areas of Mzuzu and Lilongwe, on which this study focused, the payments arrangement is different from that of the

boreholes in question. Kiosk users make monthly payments to use the water source or buy water per bucket (e.g. K10 or K20 per bucket in some areas). In case of the latter, the totals are calculated as well based on monthly consumption and accordingly households' contributions.

Table 6.6: Monthly Water Bill per Household in Water-kiosks

Monthly User Fees - Water-kiosks		
Amount (MK)	Mzuzu	Lilongwe
K800	13.2%	-
K1000	47.4%	-
K1500	15.8%	5.3%
K2000	23.6%	-
K2500	-	2.6%
K3000	-	13.2%
K3500	-	5.3%
K4000	-	10.5%
K4500	-	5.3%
K5000	-	31.5%
K5500	-	5.3%
K6000	-	15.8%
K9000	-	5.3 %

Note: *N = 24 water points and 85 respondents*

In water-kiosks, users pay monthly bills which from the table above are different between Mzuzu and Lilongwe. In the former, water-kiosk users pay between K800 and K2000 per household per month, with the majority (47.4 percent) paying K1,000 per month. While in Lilongwe monthly payments for each household using a Kiosk ranges from K1,500 (lowest) to K9,000 (highest), with the majority (31.5 percent) paying K5,000 per month.

One of the major uses of the above revenue is for procurement of required spare parts for the water-points. According to the experience of one key informant (KII-ZA 4.1), regular spares (including average prices) for boreholes are bush bearings (4 x K680), cap seal (1 x

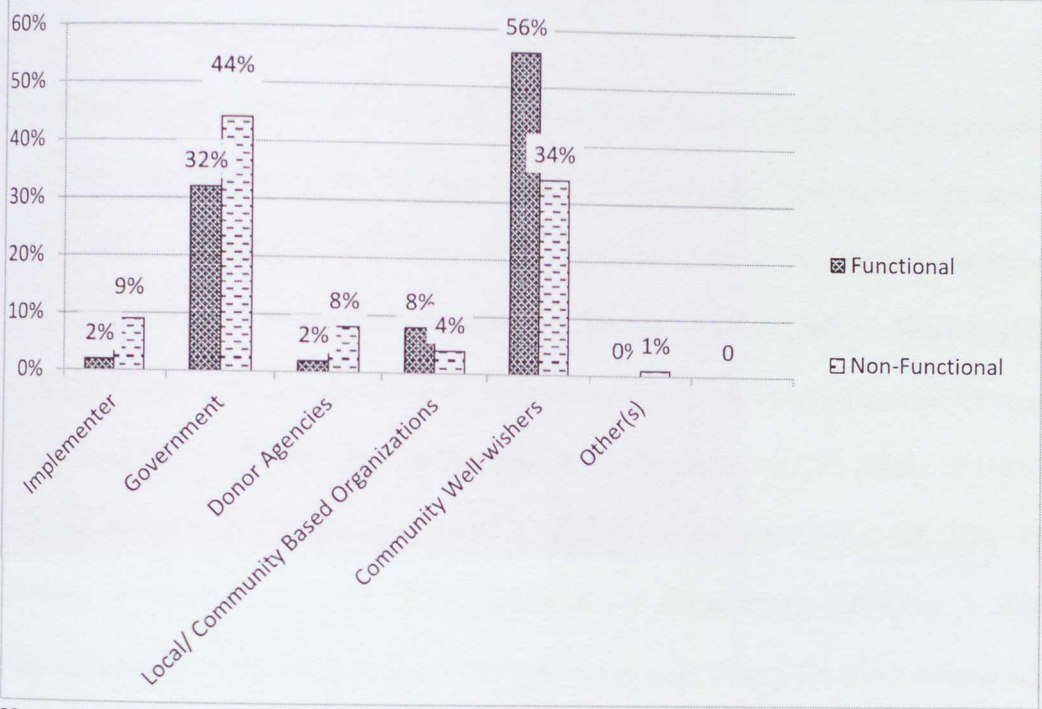
K1,300), bobbins (2 x K550), o-rings (1 x K300), rod centralizer (K850 x 1) and the rod (K11,500 x 1) in boreholes.¹ As for water-kiosks, the common spares needed include valves, cylinder, and taps. In this discussion it must be noted that the cost of spare parts and the communities' ability to make such purchases is another critical issue with respect to continued maintenance and sustainability of communal water-points.

6.4.5 Other Sources of Financial and Technical Support for Operations and Maintenance

It is a fact that when the water points' running costs exceed revenues collected, a deficit arises. The WMCs and communities have to look elsewhere for additional resources (financial and/ or technical) in order to meet the required repairs' expenses. Resource mobilization skills are essential with the view to meeting such kind of obligation. However, as evidence has shown, in both the preceding and this chapter as well, capacity building has not been done adequately in these communal water-points to prepare communities to manage the water supplies on their own. Resource mobilization capability is one of the major capacity gaps of the WUAs, WCMs and communities. As figure 6.10 shows, the primary sources of additional funding to finance the needed repairs are mainly the traditional ones, which are Government (Department of Water, MPs, etc.) and well-wishers from the community.

¹ Current Exchange Rate: K720 = 1 USD

Figure 6.10: Extent of Support for the Water Points from Alternative Sources



Note: Functional: N = 60; Non-Functional: N = 76

Although resources are limited but they do exist, including for water supply systems; however, what matters is innovativeness and creativity in how to access these resources. So with lack of resource mobilization skills, it is obviously difficult for communities and WMCs to reach out to, and tap resources from, development partners, water supply implementers and other NGOs. This is why more burden for additional funding is continuously placed on community well-wishers (34 and 56 percent in non-functional and functional, respectively) and Government (44 and 32 percent for non-functional and functional, respectively) way more than Implementers (i.e. NGOs), development partners and even the community based organizations, which are at less than 10 percent each.

6.4.6 Overall Financial Capacity of Communities to Support Communal

Water-Points

Communal water supplies are primarily located in low income parts of urban, peri-urban and rural areas. The catchment for these water systems consists of low income earners and poor people. According to NSO (2012: 205), 17 percent of the urban population in Malawi is living in poverty compared to 57 percent of the rural poor population. With regard to sampled districts and cities in this study, the poverty incidences are 22 percent for Lilongwe city, 16 percent for Zomba city and 56.6 percent for Zomba district, 16 percent for Mzuzu city, 32 percent for Nkhosha and 61.7 percent for Karonga (NSO, 201:206). This presents a challenge to the Water Management Committees (WMCs) or Kiosk Management Units (KMUs) to be able to generate enough revenue to meet running costs (spare-parts, technician fees and monthly bills where applicable). As it has been highlighted in other studies (Njonjo and Lane, 2002), during the rainy season revenue collection declines as some people harvest and use rain water. This is also a major issue in places that are located near other free sources of water such as rivers and lakes. As a matter of fact, in such scenarios it is extremely difficult to expect few members of the community to be the only ones to contribute and sustain a communal water-point (i.e. a public good). Further, as Njonjo and Lane (2002: 7) stated, already in Malawi the tariffs are low and there is low demand for water from the communal water points, which then makes the WMCs to generate inadequate income to sustain running costs over time. This is worsened by the difficulty to raise water tariffs, particularly without prior scrutiny and approval by government (in case of water-kiosks), as this is a sensitive issue. However, in the end all this undermines financial sustainability (Njonjo and Lane, 2002: 7).

6.5 Existence of Sector Standards for Community Empowerment

Standards, in this context, must be understood as technical specifications set to guide in the design and implementation of communal water systems or solutions in order to ensure quality, uniformity, durability, sustainability, and so on. Existence of standards in the water sector ensures attainment and continuity of benefits distributable across targeted communities and individual water users.

As already shown elsewhere in the paper, particularly in Chapter 2, the water sector in Malawi has many players who are involved in the drilling and installation of communal water systems in urban, peri-urban and rural communities. Although the sector has legislation and policies designed to govern it, it is sadly evident that there is no coordination mechanisms and a sector-wide agency or network that would define and actively monitor standards set for the sector. Each implementer designs its own water solution and undertakes implementation in its own way (KII-LL 1.1; KII-LL 1.2). Thus, where uniformity would exist is within implementations by one implementer or perhaps few. This finding also points to the shortcoming on the part of the Ministry responsible for water development for its failure to play its regulatory function as per its mandate and ensure that standards are set and followed by all implementers.

Absence of national standards, and monitoring and compliance framework set to be followed across the sector has some implications even on empowerment of local communities by the communal water-points implementers. There are not sector-wide

standards related to how empowerment of communities should be undertaken to prepare them for their future role of owning, managing and sustaining communal water systems. There is no requirement of what kind of capacity building and how many should be done for community based groups, which are central to future management of communal water-points. This open cheque scenario gives implementers room to decide whether to build the community's capacity or not, and if they do, decide their own form of capacity building, which would vary from other implementers and may not be comprehensive enough. Furthermore, absence of the same standards, together with no agency or network with the capability to actively enforce these standards, is responsible for sustaining the current situation where every implementer (NGO, parastatal, government or private contractor) is free to implement its own designs and approach, which are seen to largely ignore the importance of empowering communities.

6.6 Conclusion

This chapter set out to investigate the nature and extent of community empowerment in the management of project processes and communal water points. The importance of empowerment of individuals and the community in general for future management and maintenance of communal water-points has been emphasized. The empowerment in question occurs when concerned stakeholders who eventually takes over the running of affairs of the water-points, have been equipped with the relevant knowledge and skills by those bringing the intervention into their communities. This can be done by way of practice as locals get involved in the various processes and activities of the development project, and/ or by deliberately designed capacity building activities with clear skills and

knowledge to be transferred to the target groups. In the case of communal water systems such things include decision making, management of communal water-points, management of affairs of WMCs, mobilization of resources, financial management and book keeping, and basic maintenance skills for the water-points. These are essentially the major areas which the study analysed across the life cycle of communal water projects. In this undertaking special attention was made to whether communities were empowered for the technical and financial capabilities, which arguably are central to the sustainability of these water systems.

The chapter began with examining levels of empowerment of community members, Area Mechanics and local leaders across the water project life cycle. In the case of the initiation, and design and planning phases, empirical evidence shows that in functional water points there is 28 percent (almost one third) level of engagement for empowerment of community members and local leaders against 72 percent level of external stakeholders; whereas non-functional water-points show just 10 percent of level of engagement for empowerment against external stakeholders' engagement of 90 percent. This demonstrates significant levels of exclusion of communities in some important activities undertaken during the initial, and designing and planning stages, which have empowering elements as shown in the foregoing. This is mainly the case in communities with non-functional water-points, as compared to those with functional ones, as their one third level of engagement for empowerment gives them an opportunity for some level of empowerment through involvement to happen by way of knowledge and skills transfer during the various processes and activities in these two phases. Furthermore, when the water project

transitions to the implementation phase, the high levels of exclusion of community based stakeholders by the implementers and their contractors is evident in both functional and non-functional water-points. It has become clear that empowerment of communities through involvement is very low during this phase. However, when those existing minimal levels of involvement of locals are dissected, there emerges some degrees of distinction between communities with functional and those with non-functional water point, with the former registering some levels of taking part in key decision making areas and important empowering activities such as provision of labour, materials and progress monitoring up to almost one third degree of involvement, unlike the latter's mere 1 to 5 percent across these three categories. In the case of the latter, therefore, there are demonstrable disempowering effects occurring in the process, which correlates with their current dysfunctional status.

Therefore, the preceding evidence has pointed to members of communities with non-functional water-points' lack of interest to get involved and get empowered during the implementation phase, as they might be seeing the intervention to be foreign and belonging to the implementers; as well as implementers' failure to adequately embed empowerment into their programme implementation. It has been well demonstrated how implementers predominate in the first three phase, which consequently deny communities the prospects of acquiring organizational, managerial, political, technical and financial skills (Altman, 1995), which are indispensable to sustaining communal water systems. This is a major flaw in the water interventions in question, as they fail to create space and platform through which local community members could have been empowered as part of the strategy to

have competent locals who can sustain such communal water systems. Albert Einstein (BCI Australasian Chapter, 2014) succinctly summarized this necessity by stating that, "tell me and I forget, teach me and I may remember, involve me and I learn."

The study further examined capacity building interventions and the extent to which capacities of concerned communities were built or not. The central capacity areas on which the study was focused were both financial and technical, which are said to be essential if beneficiary communities are to definitely manage and sustain communal water-points. A comparison of the assessment of empowerment of key community stakeholders (Water Management Committee, members of the community and Area Mechanics) show a distinction between communities with functional and those with non-functional water points. The degree to which Area Mechanics, Water Management Committees and members of the community are empowered differs by 27 percent against 7 percent, 36 percent against 14 percent and 13 percent against 0 percent for communities with functional and those with non-functionals water points, respectively. Overall, communities with non-functional water-points have one of the key cadres in repairing communal water points (i.e. Area Mechanics) who are not empowered sufficiently, while in functional ones the degree of empowerment for Area Mechanics is reasonable. Similarly, while members of the community are empowered in communities with functional water points, evidence shows this is not the case in communities with non-functional water points. Again, a comparison of empowerment of committees that manage the water-points, shows differentials between functional and non-functionals, with the former showing high levels of empowerment compared to the latter. In terms of capacity building on finances and

sustainability, communities with functional water points surpasses those with non-functionals by 56 percent against 4 percent on revenue collection and book keeping, by 26 percent against 4 percent on financial sustainability, and 7 percent against 0 percent on other capacity building activities, respectively. Based on this evidence, therefore, communities with functional water points have reasonable occurrence of capacity building and empowerment as opposed to those with non-functional water-points. The differential degrees between the two emanate from the approaches taken by implementers, and as argued earlier, implementers who do not empower communities have faulty approaches. Such implementers are more focused on delivery of the project without due regard to processes that include engagement and empowerment of locals. It is inconceivable to expect that beneficiary communities on their own and without any form of empowerment would adequately manage to maintain and sustain their communal water-points. Evidence herein, therefore, demonstrates that the survival and functionality of communal water-points also depends on availability of various skills and knowledge (managerial, technical, mechanical and financial) among community based stakeholders. Further to this, there has to be easy access to required expertise from outside the community for issues that are beyond locally available expertise.

The study also analyzed beneficiary communities' financial capability to sustain the water-points. The analysis has revealed that it is basically communities with functional water-points who show evidence of having received some reasonable to adequate capacity development trainings on financial management, book keeping, resource mobilization and other related trainings, while the ones with non-functional water points show either less or

lack of training on the same. Further to this, it has materialized that within communities with functional water-points the rate is 60 percent for 'yes' against 40 percent for 'no'. Thus, two thirds are able and willing to provide finances required for operations and maintenance of the water points, in form of regular user fees or necessary contributions. Within functionals, however, 40 percent indicates the extent to which a substantial number of water-points struggle in order to remain functional. This is a high rate, which also signals a major problem that would result in high failure rate once some of these water-points reach a situation where they can no longer manage to secure resources for water points' maintenance. Even among non-functional water points during the time they were functioning, the capability rates were 44 percent for 'yes' against a 56 percent for 'no' propensity to finance operations and maintenance of their water-points. This data points to a major problem that exists within the communal water supply sector in Malawi. This situation requires addressing sooner than later, and the solutions needs be tailored to the local situation and identified from within the community as this would ensure sustainability, unlike when such things are seen to be externally driven. This relates to the detailed discussion in the next chapter on a sense of ownership and participation among community members. However, it must be noted that external stakeholders such as government, and perhaps community well-wishers, who are already the major sources of external support currently at 39 percent and 44 percent, respectively, can come in when there are major faults or rehabilitations required, on which the community lacks both the financial and technical capabilities to act.

Lastly, it has been emphasized that existence of sector standards is very essential in a sector such as communal water supplies as there are various players that are involved. However, although some policies and legislation governing the sector exist, clear standards are not in place and there is no sector-wide mechanism through which to enforce these. As such, each implementer of communal water systems do it their own way. One critical element that suffers, therefore, is that there is no requirement for community empowerment for each and every player or implementer in the sector, other than government agencies that implement the same as they are bound by the National Water Policy of 2005 and the Local Development Fund operational manual of 2009.

The next chapter (7) takes these issues further by examining participation levels of community groups in relation to how they influence outcomes of communal water-systems. The study focused on outcomes of communities' sense of ownership of and commitment to the water point, as well as sustainability of the same. Other key aspects of outcomes and sustainability have also been covered. Again, this study is continuing with a comparative analysis between functional and non-functional water-points.

CHAPTER 7

EXAMINING COMMUNITY STAKEHOLDERS' PARTICIPATION IN RELATION TO OUTCOMES IN COMMUNAL WATER SUPPLIES

7.1 Introduction

The previous chapter centred on the nature and extent of empowerment of community stakeholders in relation to management of project processes, and capabilities (technical and financial) with which to sustain communal water-points. This chapter examines participation of community stakeholders in relation to outcomes of the communal water-points in Malawi. As already shown in the preceding chapters, participation of community members and local leaders in all stages of a communal intervention, as prime stakeholders, is one of the driving forces that underpin sustainability of development interventions, including communal water-points. Rautanen et al. (2014, p.161) argue that one of the most common reasons for lack of sustainability is the top-down planned and constructed water infrastructure that cast off on communities without true participation, capacity building, and consequent feeling of ownership from the community's side. Basically, there is a direct link between participation of beneficiary communities or local people and sustainability as an outcome of a development intervention (Regt, 2005). For instance, based on a study undertaken in India, Regt (2005, p.5) showed how centralized control and exclusion of beneficiary communities resulted in failure in relation to recovery of costs and maintenance

of World Bank funded water projects. But where local people actively participate and get empowered, they become self-reliant and take control of their development interventions, which then result in attainment of positive outcomes (Bonye et al., 2013).

The key outcomes which are central to this examination and discussion are functionality status of the water-point, sense of ownership of the water-point among community stakeholders, community's commitment to the water-point, and sustainability of the communal water-point itself. The study asked key questions in order to explain the linkage between community stakeholders' participation and the foregoing outcomes in communal water interventions. Questions asked include is there commitment by community stakeholders towards the communal water-point in their area, and if so, to what extent; is there a sense of ownership of the communal water-point by community stakeholders, and if so, to what extent; what is the functionality status of the communal water-point and what are the key factors behind functionality and non-functionality of the same; and whether communities participate in implementers' exist strategies and how this affects outcomes.

This chapter is organized into seven sections. Section 7.2 presents a summary of the extent of community stakeholders' participation in communal water supplies under discussion, including key decision making areas. This section undertakes a comparative analysis between functional and non-functional water-points to find whether there are differentials or not. The section also gives a highlight of how communities rate participation factors that are essential in explaining the functionality status of communal water-points. Following this is section 7.3 which examines implementers' exit strategies and community

stakeholders' participation or not in the same Section 7.4 examines the existence and/ or absence of a sense of ownership of the communal water-point among key community stakeholders. Thereafter, section 7.5 examines the extent to which key stakeholders display commitment to the water points under discussion. Section 7.6 analyses key features of communal water-points in relation to their sustainability. In section 7.8, which is the last one, concluding remarks are given.

7.2 Comparing Participation Levels between Functional and Non-Functional Water-Points

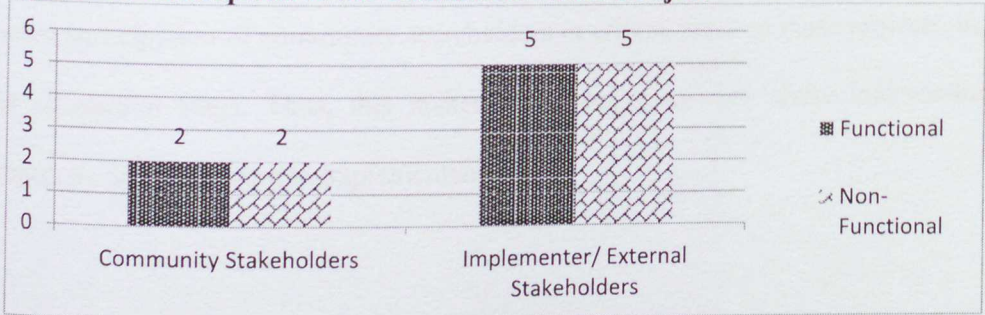
As stated earlier, participation in this context must be understood as the maximization of the involvement of people in the stages of development, and their ability to influence the direction of development interventions in which they are involved, or from which they anticipate to receive benefits (Mukandala, 2005 in Mukundane, 2011, p.1; Paul (undated) in Bamberger, 1986, p.vii). Where participation is present, it can take different forms such as mere information giving, thorough consultations, by deciding together as stakeholders, by acting together, or local people getting support (e.g. funding) to develop and implement their own development ideas (Wilcox, 1994, p.1). In addition to this, Cohen and Uphoff (1997) in Finsterbusch and Wicklin (1987, p.5) was also important in the research and data analysis as they looked at participation thoroughly across a project life cycle (decision making, implementation, benefits and evaluation), which draws parallels with communal water projects. It is, therefore, with this in context that this section seeks to analyze the levels of participation of key community stakeholders in communal water systems. The participation analysis utilized a Likert scale, which was used to gauge community

stakeholder's participation on selected key areas across the seven levels of this scale starting from 1 as *extremely low* up to 7 as *extremely high*.

7.3 Assessment of Communities' Activeness of Participation in Meetings and Discussions during the Key Stages of Communal Water Projects

The conception of a project is important to be understood as it can clarify key issues, which have a bearing on whether community stakeholders, as the hosts, would accept and own the project or not. The conception stage relates to critical aspects of problem identification and the creation of one understanding out of the 'different understandings' of the (water) problem. That understanding which is constructed and promulgated does influence on the type of solution(s) that is eventually settled for to address the problem (Birkland, 2011, p.10, & p.188). At this stage, disagreements among stakeholders can centre on the final understanding of and solution to the problem. On this basis, therefore, one key area that was selected for assessment was on who conceptualized the communal water projects in question as this has a bearing on future ownership by beneficiary communities, their commitment to the same, and indeed, the overall sustainability question. Figure 7.1 presents results of the assessment on this front.

Figure 7.1: Conception of the Communal Water Project



NOTE: N = 195

Likert Scale: 1 = *extremely low*; 2 = *low*; 3 = *below average*; 4 = *average*; 5 = *above average*; 6 = *high*; 7 = *extremely high*

The assessment as per the above figure shows a score of 5 on the Likert scale for external stakeholders (i.e. implementers, government and donor agency) against the community' score of 2, whether functional or non-functional. This, therefore, entails that the majority of community water projects were conceived by the former on their own, more than with the latter. This has implications on how community members view such interventions and on whether they would be willing and prepared to provide support for maintenance going forward. It has been put on record that in such scenarios local people name and regard such communal water-points as belonging to the implementer. In Karonga, for example, it was stated that:

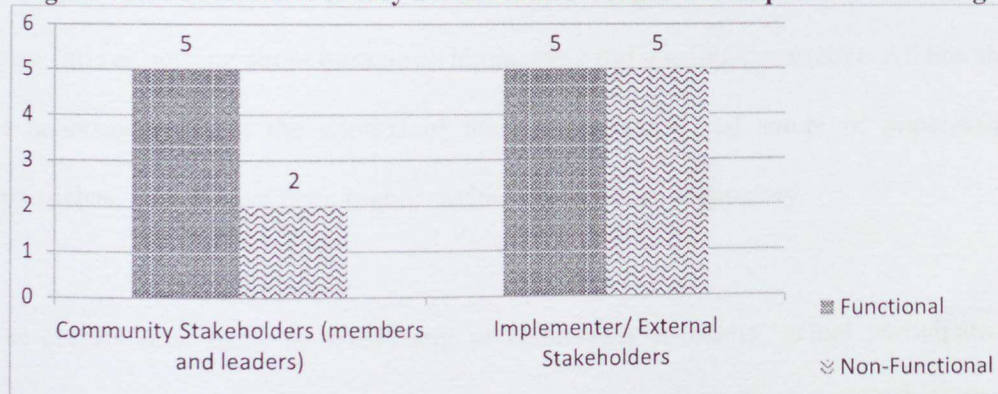
“in some cases community members do not see the water points as belonging to them. They refer to boreholes as ‘Danida’ or ‘World Vision’, which drilled the boreholes in their communities at some point” (KII-KA 5.1).

With such attitude and thinking, it is obvious that in such situations community members would expect the implementer to be the one in the fore-front maintaining the water-point, than expecting them to do so since the project idea never originated from them. Again, this is why evidence presented in preceding chapters showed significant levels of absent to very limited participation of community stakeholders in critical areas of these projects, beyond this conception stage. Thus, this makes local people to view these interventions as exogenous and belonging to implementers.

7.3.1 Assessment of Community Stakeholders' Participation in Meetings and Discussions during Early Stages of the Communal Water Project

A general insight into participation levels of community stakeholders was also looked at, particularly in relation to how active they were in meetings and discussions within the limited areas in which they were allowed to participate. The first area of 'meetings' can be analyzed intuitively by utilizing Wilcox's theory (1994, p.1), which presents a series of steps in the ladder of participation with giving people *Information* on what is planned and *consultations* as the lowest two levels through *deciding together* to *acting together* and then *supporting individual community initiatives* as the highest levels.

Figure 7.2: Assessment of Key Stakeholders' Active Participation in Meetings



NOTE: N = 194

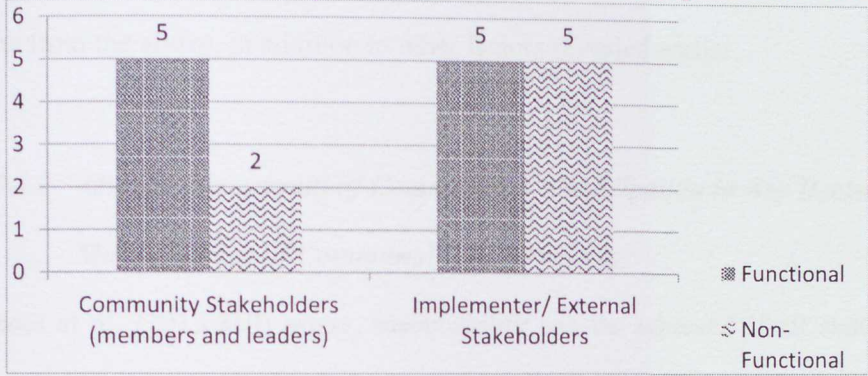
Score Key: 1 = extremely low; 2 = low; 3 = below average; 4 = average; 5 = above average; 6 = high; 7 = extremely high

The above figure further augments the prevailing differentials between communities with functional and those with non-functional water-points in relation to how they participated in key aspects of the water projects under discussion. Communities with functional water-points were rated 5 in terms of the participation in meetings, which is above average on the Likert scale, compared to a 2 (low) for communities with non-functional water-points. This

is informing us that within the established limited space and time of participation which implementers gave communities, it is essentially communities with functional water-points that participated more in meetings that were organized for planning, discussions, consultations and/ or information purposes concerning the water projects. The rating of 2 is a perfect indicator of very limited to none participation of communities with non-functional water-points. This variation is entailing, therefore, that the former were better prepared by understanding and knowing something about the upcoming water interventions, which they were expected to take-over, own and sustain once they are handed-over by implementers; while the latter were ill-prepared, or even not at all, and consequently, the whole thing of owning and sustaining water interventions for which they knew little or nothing about became an implausible and startling occurrence. All this should be understood within the context of the already established nature of implementers' approaches, which have been highly exclusive and non-participatory.

The section now turns to assessment of community members' actual participation in discussions during the aforesaid meetings, or any other forms of gatherings and consultations that took place prior to commencement of installation works of the water-points.

Figure 7.3: Assessment of Key Stakeholders' Active Participation in Discussions



NOTE: $N = 193$

Score Key: 1 = extremely low; 2 = low; 3 = below average; 4 = average; 5 = above average; 6 = high; 7 = extremely high

The results are indicating that community stakeholders in in functional water-points have a rating of 5, which is above average, compared to that of 2, low, for stakeholders in non-functional water-points. Therefore, the study has revealed that the former are able to participate adequately during discussions concerning execution plans and other preparatory works of their communal water-point interventions. The above average rating entails that community members, local leaders and WMCs (if already formed) were able to engage with and react to what external stakeholders were saying during the meetings and also offer their own view points. This is important to enrich discussions and debate or exchange of idea (if any), which in turn would make community based stakeholders to feel included in the development process. This level of participation, as alluded to earlier, helps in building a sense of ownership through close involvement, and in equipping local people with critical information and knowledge about the impending interventions, which they would be expected to sustain. In relation to community stakeholders in non-functional water-points, it can be argued that their lack of participation in discussions meant no incorporation of their ideas into the initial planning and programming processes. As a result, the outcomes

that are seen in these communities with regard to functionality status are obvious and culminate from the above, in addition to other factors revealed earlier.

7.3.2 Overall Assessment of Communities' Participation in Key Decision

Making Areas of Communal Water Projects

As Tadesse et al. (2013:210) argue, sustainability can be achieved if all stakeholders, including the community, play their role in the water supply intervention, make informed choices, guide the key investment and management decisions, and influence the development and management of the project, rather than merely becoming recipients. This is why it is recommended that communities must closely participate in development interventions being implemented in their areas. One of the important areas of participation in communal water supplies projects is in decision making on main issues. For this study's assessment of communities' participation in decision making, the main areas selected were choice of the water solution, design and technology to use, site for the water-point and season when to drill in the case of the borehole. The study found out that community based stakeholders are sidelined in these key decision areas due to the dominance tendencies by implementers, whether in functional or non-functional water-points. Evidence from the water users survey has shown that participation of community members ranged from 0 to 5 percent and for local leaders from 0 to 27 percent, compared to implementers' 70 to 95 percent levels. Despite this apparent high levels of exclusion of the community in decision making, there is reasonable levels of participation of Local Leaders in the decision of selecting sites on which to install communal water-points. The levels of involvement are 27 percent in Functional water points, and 13.5 percent in non-functional ones.

Although community stakeholders are excluded in such magnitude, it is essential to note that in fact it is the community with its leaders that is best placed to decide the site for a water-kiosk or borehole as they know the best location which would be easily accessible by the majority of community members, and that which does not have any cultural or traditional restrictions or prohibitions for installation of a water-point. In addition, local people have sufficient knowledge of their terrain in relation to water availability, quality, salinity or contamination risks. Thus, even though they do not have the scientific knowledge and expertise in geo-water issues, their knowledge and experience on their terrain, which they acquired for many years, still provides valuable advice with which to make informed decisions related, for example, to the choice of site for the water point, season when to drill a borehole and type of technology to use.

With regard to the exclusion of community members and local leaders on deciding when to embark on borehole drilling, again implementers make another major blunder. This is so because community stakeholders are the ones who are very conversant with the seasonal variations of their area in relation to ground water levels' fluctuatuions, and the terrain in terms of water quality and accessibility. Community members already have experience in digging wells in their locality and usually they do so during the dry season in order to make sure that they reach the water below, unlike if this is done during the rainy season, or soon after, as the water table is normally few metres from the surface. As Harvey (2004, p.339) noted, some boreholes which are deemed successful at the time of drilling can subsequently fail to deliver sufficient yield of water throughout the year, as this is affected by the seasonal fluctuations of water levels in the ground. However, even though all this is

pointing to the need for high levels of participation of communities and their leaders in these kinds of key decision areas, evidence has shown that implementers of communal water-points seem to have played a blind eye to all these critical issues, which do affect continued use and functionality of these water systems.

7.3.3 Prioritization of Critical Participation Related Factors behind

Functionality and Non-Functionality Outcomes in Communal Water Projects

A step further was taken by the study to give a chance to study respondents from targeted communities to do a prioritization of major participation related factors that are central to explaining why some communal water-points are functional while others are non-functional. This was done with reference to their own experiences from their communal water-points. The results are presented in Tables 7.1 and 7.2.

Table 7.1: Assessment of Prioritized Factors behind Functional Status of Communal Water-Points Sampled

FACTORS	PERCENT
Local contributions - fees, labour, materials, etc.	35.2
Good management of water-point by locals and Water Management Committee/ Kiosk Management Unit	25.0
Durable equipment used	13.6
Provision of technical assistance by implementer	10.2
Training of locals on technical aspects for maintenance	9.1
Provision of financial support by implementer	1.1
Other(s)	5.7
Total	100%

Note: *N* = 239

This assessment has uncovered that participation of locals and their contribution to the project in form of fees, labour and materials stands at 35.2 percent. This is one of the most

ingenious approaches of enabling community members demonstrate and augment capability and interest to support maintenance of their water-points in future. Manifestation of this, it must be noted, depends on how the project is structured in terms of whether or not implementers wish to empower community stakeholders through active and practical participation.

Following the above is 25 percent for good management of the communal water points by either a Management Committee or volunteers. These are the people who ensure that all affairs of the water-point are running smoothly and any need for repairs are done in time to ensure continued functioning of the water-point. This good management is linked to capacity development and orientation of such local leadership entrusted to manage these interventions, as already explained in the foregoing empirical chapters. Clearly, we see continued recognition of the central role of community stakeholders in communal water-points that remained functional because community participation was embedded into the programmatic design and implementation of the same.

In the case of prioritized factors behind the non-functionality of water-points in question, Table 7.2 presents the results.

Table 7.2: Assessment of Prioritized Factors behind the Non-Functional Status of Communal Water-Points Sampled

FACTORS	PERCENT
Use of non-durable equipment during installation and as spares	31.3
Failure to have locals to make contributions - fees, labour, materials, etc.	21.7
Dependency on implementer to provide financial support	13.3
Lack of training and empowerment of locals on technical aspects for maintenance	12.0
Dependency on implementer to provide technical assistance	12.0
Poor management of water-point by locals and WMC	8.4
Other (specify)	9.7
Total	100%

Note: *N* = 239

This table indicates that the use of non-durable equipment (31.3 percent) puts a maintenance burden on the community, which did not participate in decisions on the type of technology and equipment to use, as already shown in Table 5.2 and Table 5.3 in chapter 5. Where there are frequent demands for financial and technical resources for the required repairs, such demands end up stressing community members, who eventually shun from making contributions for operations and maintenance. Basically, this must be understood within the context that these communal water-points by design target low income households who do not have adequate financial muscle to own private water-points in their yard. Thus, the choice of non-durable equipment without involving local people is in itself a result of the disempowering and exclusion approaches taken by most implementers who simply impose their solutions and technologies on communities. Further to this, some Implementers and contractors go for cheap and non-durable equipment because they want to save on costs, and in the case of contractors they want to share the spoils with those that

gave them the contract. In consequence, therefore, such use of non-durable technologies and equipment is continuously resulting in frequent breakdowns and replacements of faulty parts. This then strains concerned communities financially.

The second major factor is failure by locals to make contributions to the project (21.7 percent) as well as to actively participate in the process. Absence to limited contributions by local people towards the installation of their communal water-points shows lack of interest and/ or capacity locally to support these interventions. Therefore, it is not surprising to see concerned water-points in their current state, as the foregoing partly explain this status quo. Furthermore, lack of trainings targeting community members and/ or their representatives is also another paramount factor which is said to explain non-functionality status of communal water-points under discussion. It is obvious that where there is no local capacity for managing and/ or repairing communal water-points, it is difficult to see these continue surviving. This is evident in water projects which did not embed this critical component of capacity building for locals in their programming.

7.4 Examining Implementers' Exit Strategies and Communities' Participation

7.4.1 Exit Strategies and their Significance

Proper *exit strategies* from a community, when implementing development interventions, have been recognized as an integral part of the equation of ensuring sustainability of such interventions (IFAD, 2009, p.43; Batchelor et al., 2001, p.85). Sustainability, as already explained in the foregoing, is the capacity of a community to maintain service and benefits even after external agencies' (i.e. NGOs and Government Ministry) assistance – whether

financial, technical and/ or managerial – have been phased out (Batchelor et al., 2001, p.83). According to Hayman and Lewis (2014), exit strategies need to be built into the design of programmes and projects, and therefore, principles for exit should start from the outset. It has been observed, however, that in reality many organizations develop principles only once the decision to exit has been made, and that is when they begin to design how to exit, which is arguably retrofitting (Hayman & Lewis, 2014). This then results in problems as at this point it is often too late to make amends. Therefore, in development projects, including communal water supply, *implementers* are ideally supposed to have a hand-over plan, which should detail when and how they will transfer responsibilities to beneficiary communities and local leaders. This transfer of responsibilities needs to happen gradually and systematically, but the final one can happen either at completion of a project (i.e. water installation), or when the implementer is no longer able to provide any technical and financial assistance during the maintenance phase.

It has been recommended that an exit strategy should include elements such as social profiling to understand potential conflicts in the community; working with existing local structures; training of the community's selected committees in finance, management, technical and other related aspects; working with government and other agencies to ensure a supply chain of spares; and capacity building for government or private enterprises to form a group that can perform more difficult repairs on an on-going basis (Batchelor et al., 2001, p.86). Water supply implementers also need to organize and consult with the community to set up Water Management Committees which have overall oversight and management of the affairs of communal water-points. At another level, implementers (i.e.

NGOs) also engage the line government department or Ministry (i.e. Department of Water) and sometimes enter into a contract with it for provision of major technical and repairs for the long term sustainability of communal water systems installed (CRS, 2005, p.34). This study, therefore, investigated how the water-points in question were handed-over to communities by their implementers, and how issues of continued maintenance were addressed, whether through some form of agreement between implementers and beneficiary communities, or not.

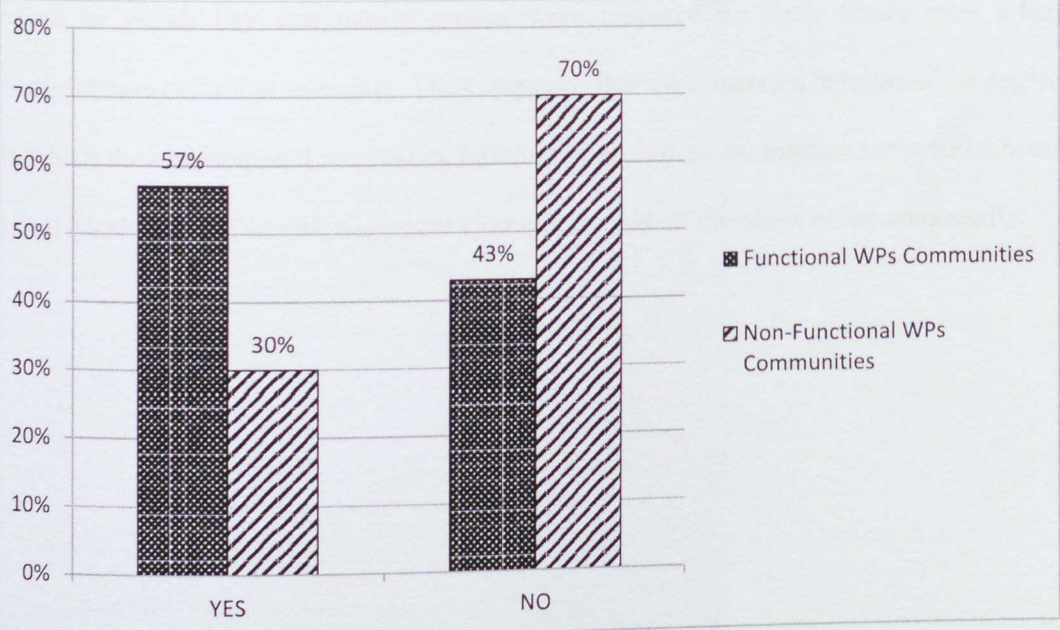
7.4.2 Assessing whether Communities were prepared for the Exit of

Implementers and Take-Over of Management of Communal Water Systems

This study looked at some basic but critical areas in relation to how a communal water supply implementer ought to exit a community in ways that would ensure their close engagement and active role in safeguarding the water-points so that they remain functional. In this context, the study focused on how implementers exited the communities; whether communities were adequately involved in capacity building and if so, to what extent; whether communities were given required information explicitly in terms of what is expected of them when implementers exit; whether the water-points were formally handed-over to the community or implementers just left them without any proper handovers to communities; and whether formal agreements were made between the implementers and beneficiary communities, which spelt out each parties' roles and responsibilities during the maintenance phase.

First, informing community members of what is expected of them and building their capacity in how to manage and undertake basic repairs of communal water-points are among key pieces to achieving water points' sustainability. Implementers are expected to include strategies of incorporating these in their water projects during execution. As Hawe et al. (2000, p.1) rightly stated, different organizations have quite different ways of conceptualizing capacity building, and indeed executing it on the ground. This capacity building can take the form of training members of Water Management Committees (WMC) in how to management finances, records and technical issues of their water-points. It can also take the form of trainings for local or area mechanics that would be providing technical support for repairing communal water-point in areas that are beyond the capacity of ordinary WMC or community members.

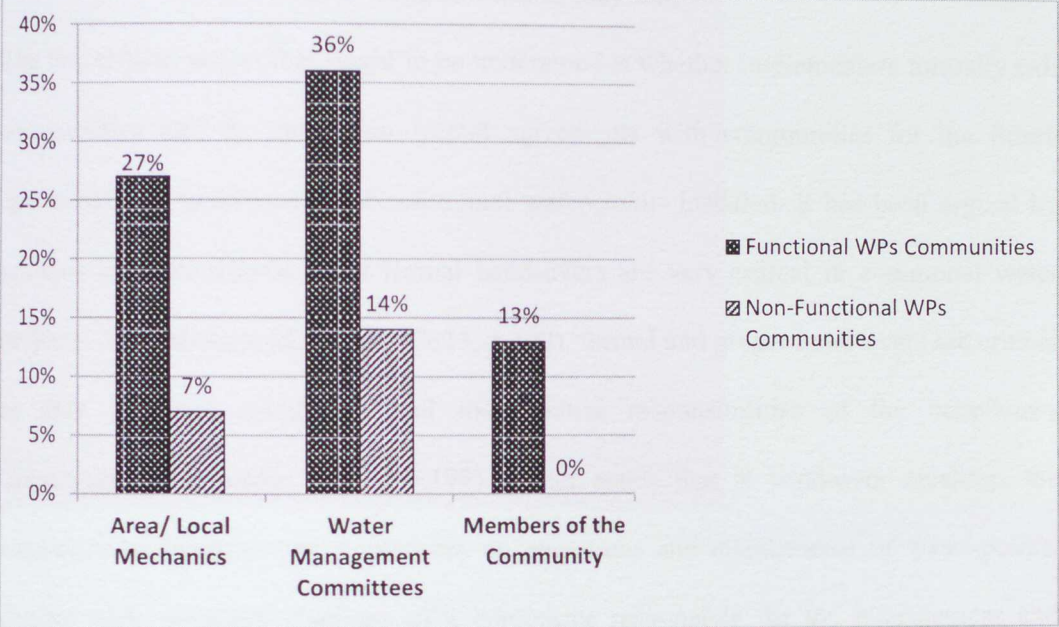
Figure 7.4: Assessment on whether Capacity Building for Community Stakeholders were held



Note: Functional: N = 65; Non-functional: N = 50

According to Figure 7.4, it is clear that in communities with functional water-points, implementers had a strategy of building some capacity in ordinary community members, local mechanics and Water Management Committees as a way of preparing them for take-over of these water points. Evidence shows presence of about two thirds of participation in such capacity development communities with functional water points, as compared with just a third for those with non-functional water-points. But the rating of 70 percent for no preparation of communities for take-over for communities with non-functional water-points is definitely one of the major contributing factors to such water points' failure and current dysfunctional state. This is obviously further exacerbated by additional factors already discussed in the foregoing, but also some which will be clearer in subsequent subsections that focus on the communities' ownership of and commitment to the water-points. Second, the study moved a step further by dissecting the above in terms of looking at the extent to which key community groups were prepared for their future roles when implementers exit the community. The key groups that were assessed in terms of the degree to which they participated in capacity building interventions by implementers were Area/Local Mechanics, Water Management Committees and all members of the community.

Figure 7.5: Assessment of the Degree of Participation of Each Community Group in Capacity Building Activities as part of Implementer Exit Strategy



Note: N = 130

Figure 7.5 further consolidates earlier evidence that in communities with functional water-points, implementers had embedded some capacity building in their exit plan. They equipped local people with certain skills in areas that would enable them perform their future roles of operation and maintenance of communal water-points under discussion. On each of the three community based key groups assessed, there is high levels of involvement of those based in communities with functional water-points way more than those in communities with non-functional water-points. Again, this evidence is crucial in explaining the outcomes of functionality state of communal water-points on which this study focused.

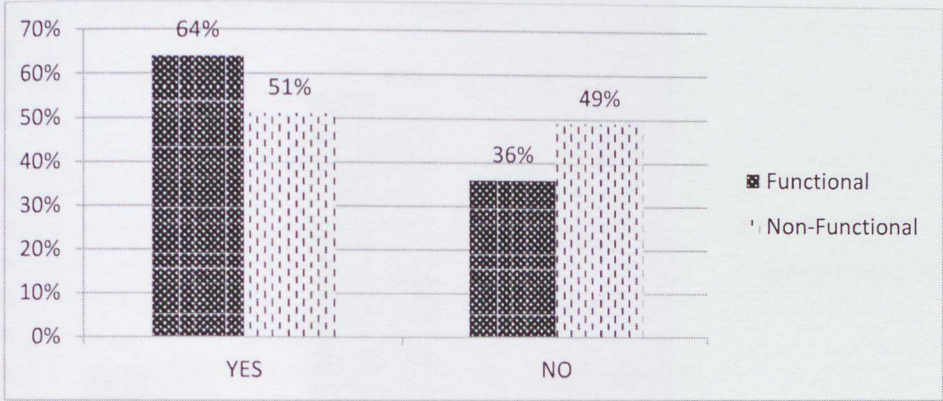
7.4.3 Examining whether Implementers Formally Hand-Over Communal

Water-Points to Communities as they Exit

The last critical aspect that ought to be understood is whether implementers formally exit communities and do enter into formal agreements with communities for the future operations and maintenance of communal water-points installed. It has been argued by scholars and practitioners that formal hand-overs are very critical in communal water projects. According to Mugumya (2013, p.100), formal and proper hand-overs are critical as they underpin ownership and maintenance responsibilities of the beneficiary communities. Mugumya (2013, p.197) further states that at hand-over meetings the contractor or implementer emphasizes on operations and maintenance of water-points. During such meetings elections of a committee responsible for the management and sustenance of the water-point are also held.

This study, on its part, asked respondents whether their water-points were formally handed-over and whether any formal agreement or contract was entered into between the community and implementers. Figures 7.6 and 7.7 show results of the assessment of whether formal hand-overs took place, and whether formal agreements between implementers and beneficiary communities are made for the maintenance phase.

Figure 7.6: Assessment of Formal Handovers of Communal Water Points

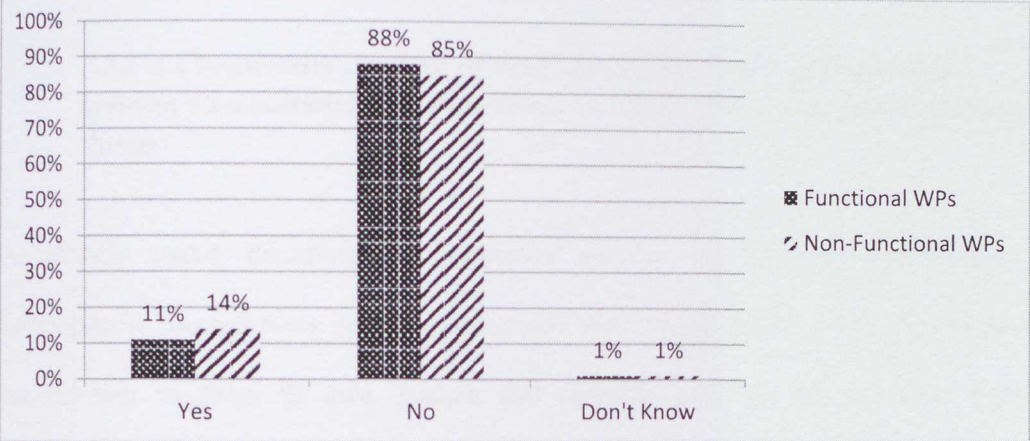


Note: *N = 228 (Functional: 114; and Non-Functional: 114)*

Figure 7.6 indicates 64 percent and 51 percent occurrence of formal hand-overs in communities with functional and non-functional water points, respectively. Whereas there is about one third against a half of absence of formal hand-overs in functional and non-functional water points, respectively. In most cases, it is implementations by government and the Water Boards which follow standard protocol of formally handing over water-points to the community more than those done by the NGOs and other implementers. For instance, it has been noted that government supported communal water-points are mainly funded through the Constituency Development Fund (CDF) and those directly funded by Members of Parliament or any politicians directly or through other sources, are also formally handed-over at a rally or event as these are used for campaign purposes and/ or to demonstrate that the ruling party is bringing development to communities.

Crossing over to assessing whether agreements are made between implementers and communities, Figure 7.7 shows that this is largely not the case.

Figure 7.7: Comparison of Status of Agreement at Hand-over between Implementer and Community



NOTE: Functional: N = 114; Non-Functional: N = 110

The results are similar for both functional and non-functional water points, which show 88 percent and 85 percent, respectively, for absence of formal agreements. As such, there is no formal document detailing the agreement which obligates either of these two parties in relation to future repairs and general maintenance of water-points in the majority of communities where these water-points are deployed. Only 11 percent of functional water-points and 14 percent of non-functional ones have formal agreements, respectively. On this basis, therefore, it can be argued that whether there is a formal agreement or not, this cannot necessarily influence the future functionality and sustainability of a communal water-point as functional and non-functional water-points have not shown any significant differences in the assessment undertaken. Rather what matters to the equation of sustainability are other key aspects which have been alluded to earlier on and some that are explained in subsequent sub-sections.

7.5 Examining Community Stakeholders' Sense of Ownership of Communal Water-Points

7.5.1 A Comparative Analysis of the Existence of a Sense of Ownership between Communities with Functional and those with Non-Functional Water Points

As already stated, beneficiary communities are one of the prime stakeholders in development interventions such as communal water supplies, as in the end these are handed-over to them to own, sustain and continue enjoying the benefits. Without communities taking part in such development efforts, therefore, it is far-fetched to even think about sustainability of communal development interventions such as the water systems in question. On this basis, therefore, communities need to be recognized, and enabled to actively participate in interventions within their areas if these are to thrive. With the existence of closer participation of local people in these kinds of interventions, they begin to regard the same as something which belongs to them (i.e. ownership), as opposed to a situation where local people are highly excluded. According to Mamburi (2014, p. 8), the concept of “sense of ownership” enables us to assess and determine how the interests and actions of individuals or organizations contribute to community development work; for example, if individuals are engaged authentically and intimately, the level of dedication to the process and outcome will be enhanced. It has been argued that when a sense of ownership exists, it leads to continued functionality of the development initiative (Manikutty, 1997; Whittington et. al., 2009; Marks & Davis, 2012). It is important to bear in mind that community ownership does not mean that the community will not receive support from external sources, but rather it would receive the same from government, development partners and other organizations in form of subsidies and technical support,

but still own the water system, make decisions and exercise control (Fielmua, 2011 in Mamburi, 2014, p. 8).

There are several factors that determine the attainment, as well as absence, of a sense of ownership among community stakeholders. Some of the major determinants of community's ownership of water projects, based on an empirical study done in Kenya, includes community involvement, type of technology used, distance to the water-point, governance structures and training i.e. capacity building (Boru, 2012 in Mamburi, 2014, p.3). Most of these determinants were addressed in detail in the foregoing chapters. This sense of ownership, it must be noted, is demonstrated when the community has (a) control of the water point, (b) full responsibility of operations and maintenance, and (c) a dedicated technical team responsible for maintenance or repairs (Mamburi, 2014, p.9). It is in this context that the study set out to examine whether a sense of ownership of the communal water-points exist or not among community stakeholder groups, who are the prime stakeholders in these water projects (i.e. community members, regular water users, water management committee and local leaders). In the first area of assessment, survey respondents were asked to gauge the extent to which ownership of the water-point exists among community members. It is important to note that this assessment, including for non-functional water-points, focused on the entire period i.e. from the time the water points' project commenced, through design, planning, installation and use by the community, to the current state.

Table 7.3: Sense of Ownership of Communal Water Points among Community Members

		Sense of Ownership among Community Members		Total
		Yes	No	
Current Functionality Status of the Water-points	Functional	63%	37%	100%
	Non-functional	25%	75%	100%

Source: Own survey of water users

The results are showing that within the targeted communities with non-functional water-points, 75 percent gave an indication that there was ‘no sense ownership’ of such water sources among community members, against 25 percent who indicated presence of that sense of ownership, during the time when the water-point was functional and today when it is non-functional. This very high rating, it must be emphasized, does explain to some extent why there is high failure rate of communal water systems, including boreholes and water-kiosks, in the country. Where people have subscribed to the view that they do not own a development intervention in their community, it is difficult to rally them around and mobilize required resources for purposes of ensuring the continued functionality of such interventions. This is what communal water-points’ implementations are currently facing in Malawi. As some respondents explained, the reasons behind lack of ownership include the following:

“ownership levels in some communities is very low due to poor targeting by project implementers; and in addition, when Water Management Committees are formed, they bring on board powerful and influential members of society who end up imposing their interests over that of the whole community. For example, they might influence location of a water

point e.g. to be at the Chief's residence even when it is far from the majority of the village/ community residents. In the end, people abandon it as 'cha a Mfumu' (i.e. they regard it to belong to the Chief)" (KII-KA 5.1); and "sometimes you fail to reach ultra-poor due to pressure from donors to deliver on your agreement with them. As such, water projects are implemented without closer collaboration and participation of local people, which in the end leads to low or absence of a sense of ownership among them" (KII-KK 3.1).

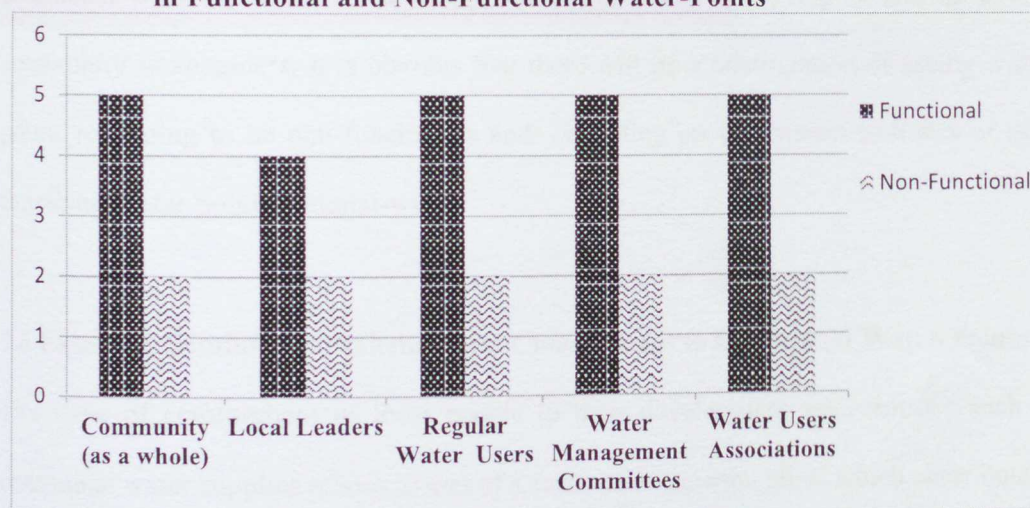
In the case of functional water points, it must be noted that about two thirds of them show existence of a sense of ownership among community members. Hence, it is expected that the majority of members in such communities are willing and able to support maintenance and repairs of the water-points as they regard them to be their own. This empirical evidence, therefore, demonstrates that there is a direct relationship between a sense of ownership and the functionality or non-functionality status of communal water-points.

Furthermore, a rating of 37 percent for functional water-points with 'No' sense of ownership is also an indication that even among some functional water-points there is a considerable number of community members who do not regard the water-points as belonging to them. This demonstrates serious gaps in how communal water supply projects are designed and executed, particularly in terms of whether and how community participation is embedded in their programming. This significant rating points to a danger of seeing some of these water-points sliding into dysfunctional status.

7.5.2 Comparison of Levels of Ownership of Communal Water Points among Key Community Stakeholder Groups

The study also undertook an evaluation of each of the key groups within the community in terms of their levels of a 'sense of ownership' of the water-points in question. The groups were the whole community, local leaders, water users, and members of Water Management Committees (WMCs), as well as Water Users Associations (WUAs), which looks after a cluster of water-points in several communities. Figure 7.8 shows results of this assessment.

Figure 7.8: Comparison of a Sense of Ownership among Community Stakeholders in Functional and Non-Functional Water-Points



NOTE: $N = 211$

Score Key: 1 = extremely low; 2 = low; 3 = below average; 4 = average; 5 = above average; 6 = high; 7 = extremely high

According to Figure 7.8, all key stakeholder groups based in communities with functional water-points show an *average* to *above average* ratings of existence of a sense of ownership of their communal water-points. This directly relates to the functionality status of their water-points, as such ratings indicate that these groups would ensure that they

continue providing required resources so that their water-points should remain functional and continue offering potable water to the community. On the contrary, an assessment of key groups in communities with non-functional water-points shows that across board there is a rating of 2, which is *low* for sense of ownership among these stakeholders. This typifies serious shortcomings on the part of water project implementers and the attitude that local people then develops with regard to the water-point. In their programming, implementers put in little or no effort to develop and nurture a sense of ownership among community members, yet this is a group that is expected to take over running of the affairs of the same communal water systems. Accordingly, therefore, where ownership is lacking among community stakeholders, it is obvious that there will be a continuation of seeing water-points remaining to be non-functionals and/ or adding on the current statistics of non-functional water-points national-wide.

7.6 Extent of Community Stakeholders' Commitment to Communal Water-Points

The issue of commitment of local people to their development interventions such as communal water supplies relates to that of a sense of ownership, all of which contribute to the achievement of sustainability of water systems or schemes (Fielmua, 2011, p. 176). Commitment should be understood as the act of being dedicated and willing to offer one's time, energy or resources towards a particular cause or activity. Commitment of community members in communal development interventions is one of the critical factors that underpin sustainability, and indeed, leads to continued functionality of a development initiative (Manikutty, 1997; Whittington et. al., 2009; Marks & Davis, 2012). Against this backdrop, therefore, it was essential for this study to also assess whether or not this

commitment exists among community based stakeholders, and if so, to what extent. Table 7.4 shows the results of this asses

Table 7.4: Community Stakeholders' Commitment to Communal Water-Points

STAKEHOLDER	STATUS OF WATER POINT	COMMITMENT RESPONSE (N / %)		TOTAL (N / %)
		YES	NO	
Community as a Whole	Functional	78 (80%)	19 (20%)	97 (100%)
	Non-Functional	49 (44%)	62 (56%)	111 (100%)
Water Users	Functional	84 (87.5%)	12 (12.5%)	96 (100%)
	Non-Functional	53 (48%)	58 (52%)	111 (100%)
Local Leader	Functional	71 (73%)	26 (27%)	97 (100%)
	Non-Functional	40 (36%)	71 (64%)	111 (100%)
Water Management Committee	Functional	56 (59%)	39 (41%)	95 (100%)
	Non-Functional	42 (38%)	69 (62%)	111 (100%)
Water Users Association	Functional	44 (50.5%)	43 (49.5%)	87 (100%)
	Non-Functional	21 (19%)	89 (81%)	110 (100%)

Source: Own Survey of Water Users

When the levels of commitment of communities with functional water-points and those with non-functional water-points are compared, it is basically the former (i.e. whole community, water users and local leaders) that shows higher percentages ranging from 73 to 87.5 percent for levels of commitment against the latter's low levels of commitment which range from 36 to 48 percent. This simply informs us that a significant number of community members, local leaders and water users in functional water-points have high commitment levels to their water-points, and are therefore inclined to offer their time, effort, resources and other forms of support to ensure that their water source remains functional. However, in non-functional water-points, there is just a third to close to a half of such critical stakeholders that show commitment and dedication to their communal

water-points, while the other half to two thirds do not (i.e. 52 to 64 percent). This signifies the challenges that these communities face to sustain communal water-points using locally available human, financial and material resources. This outcome, it must be emphasized, can be traced to how most implementers and donor agencies designed and implemented their communal water programmes, which have been shown to have limited to lack of inclusion and actual participation of locally based key stakeholders in critical stages of their water projects. This has been quite evident in the discussion in chapter 5, as well as in the second section of this empirical chapter. Logically, it is unexpected to see community members, local leaders and other community groups to display a significant degree of commitment to communal water-points in which they did not participate adequately right from choosing the type of water solution and equipment through critical decision making in key areas to their installation and hand-over at the commencement of the maintenance phase. Based on the foregoing evidence, therefore, it can be argued that there is a direct link between high levels of community participation and presence of a sense of commitment among community members, and low levels to no commitment where community members were highly excluded from participating in key activities and decision areas of the communal water-points. Thus, in as far as implementers will continue to predominate and exclude community stakeholders, the pervasiveness of non-functionality of communal water-points will continue as one of the major problems in the water sector in Malawi.

7.7 Analysis of Key Features of Communal Water-Points in Relation to Sustainability

The study also undertook an analysis of key features that are associated with functionality status of communal water-points. The analysis focused on technical parameters of quality of installations, capacity of installed water points to deliver water, and whether there is continuity of the delivery of water (i.e. functionality). It must be mentioned that in communities with non-functional water points, respondents were asked to reflect on a period when the civil works were just completed, the time the community was able to use the water point, and a period when it became non-functional. This was key than to just focus on a period when it became non-functional.

7.7.1 Quality and Standards of Installations of Communal Water-Points

The study has revealed that 39.9 percent of functional water points against 12 percent of non-functional water points were said to be of high quality and standard in relation to the water installations or civil works done. A wide gap between these two is quite clear. On the other hand, 9.9 percent of functional against 38.2 percent of non-functional water points are said to be of poor quality and standard in terms of installation works.

Table 7.5: Quality and Standards of Communal Water Installations

		Good Quality and Standard of Water-Point Installation		Total
		Yes	No	
Current Status of Water-Point	Functional	39.9%	9.9%	49.8
	Non-functional	12%	38.2%	50.2
Total		51.9%	48.1%	100

Note: N = 50 water points

The respondents' ratings correlate with the functionality status of the water-points. It is clear here that the majority of functional water-points are the ones regarded to be of good quality and standard unlike the majority of non-functional water-points, which have registered as having no quality and standards in their installation or civil works. This is in part due to implementers' or contractors' shortcomings, such as wanting to do the job for less money and remain with some savings; or due to system problems that lead to procurement and use of non-durable materials and equipment. This can also emanate from the failure by some District Water Officers to provide the expected technical supervision and expert advice during and/ or on completed civil works, which is usually requested by implementing agencies. This is well summarized in one respondent's account:

“Some contractors bring cheap and non-durable materials for borehole installation works. This can be in their own interest or due to the fact that during bidding process those handling procurement might have interests to award the contract to someone they know and have agreed that they get something by the end of the day. So the awardee compromises on quality as they try to save costs. The drive is to go cheap and save money on their part, and in the end we get poor quality civil works.. For example, rod *kuthyoka* (breaking) after one or two weeks from installation? *Zogwetsa ulesi and zomvetsa chisoni* (very discouraging and disappointing), (KII-KA 5.2).

Furthermore, the above finding of a total of 48.1 percent of installations being of not high quality and standard, points to a general sector-wide problem of lack of a framework for sector standards, as well as monitoring and enforcement of the same. Absence of expected

standards that each implementer has to follow, together with absence of enforcement by mandated regulatory governmental agency (i.e. Ministry of Water or the Water Resources Board), makes implementers together with their contractors to install communal water-points in their own ways and fashion, without adhering to expected sector standards that could have brought in some sort of quality, uniformity and durability of these installations.

7.7.2 Capacity to Deliver Water and Reliability in Relation to Frequency of Breakdowns

The study evaluated the frequency of water-points breakdown in general, as well as compared the same between functional and non-functional water-points. The extent of breakdowns in non-functional water-points (when they were working) is double as compared to functional water-points as shown in Table 7.6.

Table 7.6: Frequency of Breakdowns of Communal Water-Points

WATER POINT BREAKDOWN FREQUENCY	CURRENT STATUS OF WATER-POINTS		TOTAL
	Functional	Non-Functional (when they were functional)	
Every week	3.9%	2.5%	6.4%
Every 2 weeks	0.5%	1%	1.5%
Every month	9.3%	18.6%	27.9%
4 times in a year	3.9%	10.8%	14.7%
2 times in a year	3.4%	5.4%	8.8%
Don't know	23.5%	17.2%	39.7%
Total	44.6%	53.4%	100%

Note: *N* = 204

The difference in functionality between the two can be explained in terms of variations in the durability of technology and equipment used by the implementers, which has also been epitomized by an account presented in the foregoing. Related to this is the issue of quality

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of installations done. For example, poor drilling, siting and construction workmanship is a major issue across the country. Baumann and Danert (2008, p. 26) give an account of this scenario in the case of Mzimba district, where there were frequent complaints of bad quality by District Water Officers concerning the construction quality of boreholes, particularly those done for MPs and those drilled with Constituency Development Fund (i.e. government borehole implementations), which are said to be done usually in a hurry. Such situations then make the boreholes eventually become non-functional and then abandoned when they can no longer be fixed. These kinds of problems can also be explained by the stealing of materials, which compromises on the quality of the civil works. For instance, it has been observed that in some communities, materials get stolen and sold elsewhere by contractors in conjunction with some members of a Water Management Committee. One respondent narrated that:

“When we want to install boreholes in communities, we set up Water Management Committees to work with us closely on the project. But some of these Committees are not helping us because they connive with contractors and sell some of the materials such as cement.... *“kugulitsako cement yawo yomwe”* (selling their own cement). In the end this affects quality of the boreholes (KII-KA 5.1).

The above is further compounded by lack of proper supervision and lack of adequate technical supervision and expert advice by responsible Water Officers at district level and/or in implementing agencies.

“Another problem is that there is lack of expertise at district level (i.e. District Water Office) plus lack of close involvement of these Government

officers when contractors are working in communities. Experience has shown existence of capacity gaps in District Water Offices as they do not have qualified civil engineers. In addition, district level Government officers fail to understand that as NGOs we are here simply to complement on their development plans and efforts. The officers that go with us to monitor civil works during water point installation *nawo amafuna kudyapo* (engage in bribery) by certifying completion of works which is of poor quality and standard. In other cases we face the challenge of 'allowance syndrome'. The District Officers refuse to join us on field visits for monitoring purposes to see what the contractors are doing, simply because we have delayed in processing their field allowances. So we end up going on our own, yet we don't have all the technical expertise related to water installations" (KII-KA,5.1).

Although Table 7.6 shows that functional water-points' occurrence of breakdowns is half of their comparator (non-functionals), the mere experience of breakdowns is a good indicator that they too are susceptible to faults and breakdowns, which could result from reasons similar to the non-functionals. If such breakdowns are not well managed (i.e. technically, financially and operational-wise), then they too can eventually become non-functional.

7.7.3 Sources of and Access to Spare Parts for Repairs

Availability and access to spares with which to repair communal water-points is another essential element in the maintenance process. It is a fact that unavailability of spare parts can make the water points to crumble and become non-functional. As such, the study evaluated the frequency of the sources of spares, which is summarized in Table 7.7.

Table 7.7: Sources of Spares for Communal Water-Points

SOURCE	FUNCTIONAL	NON- FUNCTIONAL
Within the community	6%	11%
Outside the community but in the district	67%	53%
Outside the district	1%	5%
From the regional city	26%	23%
Other	0%	8%
Total	100%	100%

NOTE: *Functional: N = 110; Non-Functional: N = 115*

The primary source of spares is the district level market, followed by the regional city. Therefore, spare-parts availability for the regular repairs which the community itself undertakes is not a major issue with regard to water-points maintenance – both boreholes and water-kiosks. Hardware stores within the districts and cities stock regular spares such as bush bearings, cap seals, O-rings, bobbin, rod centralizers and rods (KII-ZA 4.1). It has been revealed that delays in repairing happens when the spare required need huge amounts of money, as compared to available funds raised in the community, or when the fault is major and beyond the technical and financial capacity of local mechanics and the community, respectively. In this case, the issue is referred to the Department of Water, NGOs that installed them, donor agencies, or well-wishers. In the case of a referral to Department of Water, for example:

“If the issue has been referred to Department of Water at the district, there are two levels depending on the extent of the issues. The matter is first brought to the attention of Borehole Overseers who deal with issues such as serious blockages. And issues beyond this level are dealt with by Water Monitoring Assistants and these include non-functionality of the water point” (KII-ZA 4.1).

7.7.4 Duration for Spare Parts' Procurement and Delivery to the Community

It was also crucial to understand the duration taken by communities (i.e. WMCs or volunteer leaders) to buy and deliver spares to the community. The results in the table below are indicating that for the majority of the parts, it takes just few days to procure and deliver, and this correlates with the fact that the majority of spares are found within the district or a regional city. This simplifies the issue of access and availability, and therefore, it is not one of the issues negatively affecting regular maintenance of communal water-points. The longer duration applies to very expensive parts and/ or major fixes, which are beyond the competence and technical know-how of the community and the Area Mechanics.

Table 7.8: Duration Taken to Procure and Deliver Spare Parts

DURATION	FUNCTIONAL	NON-FUNCTIONAL
Few days	81%	47%
Few weeks	13%	10%
A month	2%	1%
Few months	2%	14%
Several months	0%	2%
Very long	1%	20%
Other	1%	6%
Total	100	100%

Note: Functional: N = 104; Non-functional: N = 115

As Table 7.8 shows, in communities with functional water points, it takes largely few days (81 percent) to few weeks (13 percent) to source, procure and have the needed spare parts for maintenance of their water points. This is quite different in the case of communities with non-functional water points where close to half (47 percent) are sourced within few

days and few weeks, while the rest from few months to very long time i.e. more than a third of spare parts requirements. This, in part, illustrates challenges which exist in such communities in relation to the sustenance of their communal water points. Plausibly, challenges could include failure to fundraise adequately for procurement of the spares, disorganization to arrange for a technician to fix, and failure to know exactly what is wrong and get the right spare parts, among other things.

7.8 Conclusion

This chapter set out to answer the critical question of linking community stakeholders' participation in communal water projects to key outcome areas. The first area of assessment has been levels of community stakeholders' participation in conception of the water intervention, meetings and discussions, and key decision making during the early stages of the same. A critical review of these specific areas shows some differentials between communities with functional and those with non-functional water-points. The results are indicating the ratings of 5, which is *above average*, for the level of participation of community members, local mechanics and local leaders from functional water-points, compared to ratings of 2, which is *low*, for participation levels similar stakeholders from communities with non-functional water-points. Arguably, therefore, these differentials, as shown in the foregoing, are on central areas that influence the functionality of a water-point, and therefore, this does explain why these water-points are in their current functionality and non-functionality state today. The analysis points to lack of interest by local leaders and community members from areas with non-functional water-points, which is, in part, originating from the manner in which implementers executed the water-projects,

as they pursued non-inclusive approaches. The outcomes of having high failures or non-functional water-points are essentially inevitable and not surprising when systemic issues and shortfalls in programmatic approaches are evident during the critical formative periods of these interventions. It is illogical to expect communities to take-over and successfully maintain these water initiatives when they did not receive adequate knowledge and skills about them, and when they were excluded from participating in decisions that shaped the course and nature of the water projects.

The study also examined whether community stakeholders were adequately embedded into the exit strategies of implementers. This examination was delineated on key aspects of common strategies in this sector. Evidence has shown absence of principles and actual practice of exit strategies, more particularly among non-functional water-points. In these water-points, there were low levels to absence of undertaking capacity building for local stakeholders, yet they are expected to manage operations and maintenance of those water-points. It is obvious that without essential technical know-how and skills, local people on their own cannot undertake basic repairs and sustain the water-points. This essentially pushes them to rely on external stakeholders, or external mechanics who would require more resources in terms of their fees and logistical costs. Therefore, where communities cannot organize themselves to meet such costs, or there is fatigue, the demise of their water-points becomes inevitable. However, in functional water-points there is evidence of considerable levels of capacity building which targets key groups of local mechanics, water management committees and members of the community. Thus, in such communities there

is knowledge and skills of managing and repairing the water-points, and already people are trained in how to get organized and run affairs of the same.

Furthermore, it was also critical for the study to link levels of participation to the development of a sense of ownership or not among community stakeholders. The analysis on this front has further augmented the differences existing between functional and non-functional water points as is the case in the foregoing. The former portrays high sense of ownership (63 percent) of their water-points, while those with non-functional water facilities have very low sense of ownership (23 percent). Additionally, what is further painting a grimmer picture is evidence which shows that up to 37 percent of functional water-points are portraying lack of a sense of ownership by the community. This is revealing a serious issue which could affect negatively the sustenance of concerned communal water points, as they might slip into non-functional statistics in future if corrective measures are not undertaken to avert this.

Crossing over to assessment of levels of commitment by concerned community stakeholders (regular water users, local leaders and community as a whole), findings indicate that the levels of commitment by community based groups are ranging from 73 to 87.5 percent for those with functional water-points, as compared to 36 to 48 percent range for the same three local stakeholders in communities with non-functional water-points. This, therefore, indicates that in the former there is high level of commitment by the said community groups, which is shown through their dedication and willingness to offer their

time, energy and resources for repairing, operating and sustaining their communal water-points. The opposite is true in the case of communities with non-functional water-points.

The study also investigated the key features of communal water systems, which are linked to sustainability or its lack thereof. It has been noted that variations exist between functional and non-functional water-points in relation to assessment of quality and standard of the installations, durability of equipment used, frequency of breakdowns, and duration it takes to procure and deliver parts for repairs. The quality installations and durable equipment used are in part a result of local people's involvement in some aspects of the water-point including motoring of progress and meetings, as they would not necessarily tolerate implementers or their sub-contractors to be deploying cheap and non-durable equipment, particularly in areas where community stakeholders are enlightened and can easily notice such things. Frequency of breakdowns also relates to the use of cheap or durable equipment, but also to whether the community has local expertise or not for undertaking required repairs, as the communities may not afford to completely rely on external expertise during each and every repair requirement, including very minor and basic ones. In communities with functional water-points, such expertise is available to some degree unlike in communities with non-functional water-points, thereby underscoring the readiness of such communities to deal with the demands of repairs as and when they arise, which ensures continued functionality of their water-points.

In a nutshell, therefore, the assessment and analysis in this chapter has provided evidence that confirms both the theoretical and empirical evidence from other related studies, which

underscore the importance of adequate levels of participation of locals or community stakeholders in development interventions in order to make them sustainable. The study has demonstrated that high levels of participation of locals is crucial if development interventions are to realize positive outcomes and sustainability, and that lack of, or inadequate, participation of locals in communal interventions such as water supplies, which has been problematized herein, is responsible for the current high failure and dysfunctional rates of the communal water-points under discussion.

CHAPTER 8

CONCLUSION

8.1 Introduction

In concluding this thesis, we summarize key issues by way of highlighting key literature reviewed, what was found out by this study and conclusions that can be drawn. This is followed by a highlight of study limitations. We also go further to being clear about what this study's main contributions to scholarship and the field of development are. In the end, the direction for future research is recommended. To begin with, the central problem of this thesis was why and how do some communal water points in Malawi remain functional and sustainable, while others fail and become non-functional, ranging from about 30 to 40 percent (Water Aid, 2010, p.12; Magalasi, 2010, p.28). This high failure rate is a major issue because the majority of Malawians in urban and rural areas who access potable water do so from a communal point – borehole or kiosk (GoM, 2005; GoM, 2016). For instance, records show that a total of 68.9% of rural households and 58.1% of urban households in Malawi depended on communal water supply systems, among which the majority are boreholes and water-kiosks (GoM, 2011, p.18). In an attempt to address the above problem, this study set out to assess how participation and empowerment of community stakeholders affect outcomes in communal borehole and water-kiosks in the country. The study began with an investigation of the extent to which communal stakeholders participated across the four stages of communal water projects. It then analyzed the nature and extent of community stakeholders' empowerment during the water projects in question, followed by an examination of levels of participation in relation to outcomes of these communal water-

points. The outcomes on which the study focused were functionality status of the water-point, sense of ownership, commitment by local people, and sustainability. The study, it must be noted, pursued a mixed methods approach in addressing the central questions of this research.

The thesis also undertook a review of relevant literature in order to situate the study in appropriate theories, debates and empirics on participation and empowerment of communities in relation to development outcomes. Theoretically, the study adopted and used participation theories of Cohen and Uphoff (1997) which looks at participation of stakeholders across the life cycle of a project, and of Wilcox (1994) which analyzes participation using a five-rung ladder of participation. It also utilized the theories of empowerment by Rothman and that by Clark (1995), which again looked at empowerment approaches and interventions across a project life span. In all these, there are critical questions that are raised and key issues that are analyzed at each stage, which became very useful during tools development, the actual investigation, and data analysis.

Theoretical literature further informs us that participation and empowerment are inseparably linked and that the former represents action or being part of an intervention, while the latter represents sharing control and the entitlement to influence decisions and resource allocation, for instance in a development project (Claridge, 2004; and Wilcox, 1994). Scholars also agree that empowerment and participation of the community are central to the notion of sustainable development (Plummer, 2005), including community level interventions such as communal water supplies. The empirical analysis has shown

that when local people participate in a project, they bring in social capital which influences positively the outcomes of an intervention, as shown by several studies undertaken, for example, in India and Nepal (Altman, 1995; Regt, 2005; Rautenan et al., 2004). The opposite is true where there is lack of participation and empowerment of local people. It has also been observed that the issue of operations and maintenance in water supply systems remains a hot topic (Rautenan et al., 2014), which hinges on local communities' technical, managerial and financial capabilities to maintain the water systems. There is a high recognition of, and evidence on, the central importance of existence of these capabilities among community stakeholder groups to the sustainability of their water supply systems.

8.2 Extent of Community Stakeholders' Involvement in Communal Water Projects in Malawi

As indicated earlier, the study investigated levels of community stakeholders' involvement during initiation, design and planning, implementation and maintenance of a water project life cycle. It set out to test the hypothesis that the high levels of involvement of community stakeholders explains, in part, why some communal water supply systems remain functional and sustainable, while low levels of involvement of community stakeholders leads to failure and non-functionality of the same. Based on the findings and analysis in the foregoing, the following conclusions can be drawn:

- First, a comparative analysis of functional and non-functional communal water-points presents us with clear differences in involvement levels with the former registering reasonable to high levels of involvement while the latter registering low

to no involvement in selected key aspects and activities. These differentials are evident in almost all areas in which implementers did give communities a chance to get involved. As such, the study has determined that adequate involvement of key community members, local leaders, water management committees and area mechanics in the course of executing these projects is instrumental to success and continued functionality of communal water supply systems, and community development interventions in general. Where participation is inadequate or absent, then the eventual demise or failure of communal water-points is inevitable, as shown through the analysis of sampled non-functional water-points.

- Second, the investigation in chapter 5 has unraveled serious contradictions that exist in the water sector. Although government and implementers of communal water-points maintain that they seek to see water interventions to be sustainable once they are handed over to communities, paradoxically they themselves perpetuate programmatic approaches that lead to the opposite due to the inherent methodical flaws such as the exclusion, and/ or minimal involvement, of community members, local leaders and local mechanics during critical phases and important activities of the water projects in question. It is unthinkable for external stakeholders to expect communities which are not adequately prepared for take-over responsibility of communal water-points to do so with inadequate, or no knowledge and skills related to operations and maintenance. Hard data confirms that there are significant levels of community exclusions and in some cases no any involvement of community members and local leaders in various areas, together

with limited or no opportunity for community stakeholders' capacity building through practice and closer involvement.

- Furthermore, one of the nuanced findings by this study is that levels of involvement of communities with functional and non-functional water points are almost similar during implementation phase when the two are compared. Arguably, therefore, this phase is not a clear and outright determinant of whether a water point will remain successful and functional or become non-functional. Apart from few areas in which locals, especially those in communities with functional water points, are given a chance to get involved in, the majority of activities of this phase do not necessarily offer the requisites that underpin functionality and sustainability status of communal water-points.
- Lastly, analysis of study findings has also demonstrated that to a large extent the communal water-points are exogenous in nature. Evidence has shown that the origination of water project ideas together with water problem identification, the solution and the type of technology to use are largely externally driven, since the involvement levels of community stakeholders individually, whether in functional or non-functional water-points, on these specific aspects are at just 15 percent for the maximum and 0 percent for the lowermost, compared to external stakeholders' levels which are at 93 percent for maximum and 73 percent for the lowest. The high levels of exclusion of community stakeholders are more prominent in communities with non-functional water-points than those with functional ones. The perception that these water interventions are externally driven has negative implications on

local people's willingness to get involved and adequately support maintenance of such water systems.

On the basis of the foregoing, therefore, the paper argues for the transformative and inclusive approaches to be pursued and entrenched in the planning, design and implementation of communal water systems in order to make them more community centred and sustainable. In addition, systematic and sector wide changes need to be undertaken within a robust framework guiding operations of the whole communal water sector in order to address these systemic participation shortcomings in the design and implementation of communal water systems. This corrective measure is essential if the water-points are to become more sustainable, and to reduce the current high non-functionality rate.

8.3 Nature and Levels of Community Stakeholders' Empowerment in Relation to Capabilities for Sustaining the Water-Points

Another critical area that the study analysed is empowerment of community stakeholders in relation to capabilities essential for sustaining communal water-points. The hypothesis tested was that adequate levels of empowerment during the life cycle of a water project underpins the functionality status and sustainability of communal water points after implementers exit beneficiary communities. Therefore, in this undertaking the study critically analyzed the nature and extent of empowerment of community members, local mechanics and local leaders in relation to managerial, technical and financial capabilities which underpin continued functionality of their water-points. In this undertaken comparisons were made between communities with functional and those with non-

functional water-points. The analysis reveals interesting and systemic issues in communal water supplies. On the basis of the analysis undertaken, the following conclusions are made:

- The high levels of exclusion of community stakeholders, particularly during the first three phases, as stated earlier, largely deny local people the chance to acquire through practice the essential knowledge and skills that are key for future maintenance of the water-points. This is also supported by Altman (1995), who contends that when locals are actively and adequately involved in development interventions, they get empowered by way of acquiring organizational, managerial, political, technical, financial and other skills. This acquisition of skills and knowledge is either largely absent or limited in communities with non-functional water-points, compared to those with functional ones, who emerged to have attained some level of empowerment through practice due to their involvement in certain aspects of the water projects. The involvement essentially enabled such communities to understand the water solutions better and acquire important knowledge and skills, which are useful in the management and sustainability of these water-points.
- It is also clear that in communities with non-functional water-points there is either absence, or in some cases minimal, levels of involvement of communities in key decision making, choice of solution, and choice of technology to use. This exclusion is blamed for partly making local people to lack full understanding of how to operate and fix faults, as well as lack interest in providing support for the maintenance of their water-points.

- Evidence of limited or no capacity building embedded in the implementation of these water projects leads to the argument that the preoccupation of external stakeholders is on increasing their portfolio of installations and meeting targets agreed internally and/ or with their donors, more than the concern and need to see communal water points to remain functional. This is why there are some implementers who simply install communal water-points and move on to the next without preparing communities for their roles of operations and maintenance. This leaves the survival of concerned water-points hanging, and where there is lack of or limited assistance from external stakeholders (e.g. the District Water Office or NGOs) the water-points fail. The study further analyzed capacity building interventions in terms of whether they happened or not. In areas where implementers paved way for communities with functional water-points and those with non-functional water-points to get involved for empowerment (i.e. technical, organizational and managerial), the levels differ as the latter lags behind in capacity building levels for Water Management Committees, Local Mechanics and community members. Additionally, Area Mechanics are an important cadre within the community or cluster of communities (villages) responsible for providing technical expertise for repairing communal water points. In communities with non-functional water-points, however, this important cadre is not adequately empowered by implementers, as compared to their counterparts in communities with functional water-points who receive reasonable levels of capacity building which prepares them for their future roles once the water-points are handed over to communities.

- The study also analyzed the financial capabilities of communities to fund repairs and general maintenance of their communal water-points. Evidence shows that communities with functional water-points have a higher propensity to finance required repairs at 60 percent in comparison to communities with non-functionals water points, which registered 44 percent. However, it must also be noted that there still remains a considerable percentage of functional water-points, as well as non-functional ones, which either continue to struggle or are unable to finance on-going repairs and operations of their water-points. This could be attributed to their socio-economic profiles, which can be explained by apparent existence of poverty and low income levels, which are almost similar in both areas with functional and those with non-functional water-points. Furthermore, when the two categories of water-points are compared on capacity to manage finances through aspects such as revenue collection, book keeping and so on, functional water-points are at 56 percent compared to a mere 4 percent for non-functionals. Thus, this is demonstrating that communities with functional water-points outdo those with non-functionals by significant margins in critical aspects under financial capability.

8.4 Examining the Relationship between Participation and Programme Outcomes

The third and last area which the study examined was the relationship between levels of community stakeholder participation in relation to outcomes of communal water-projects, which is undertaken in Chapter 7. This chapter set out to test the hypothesis that high levels of active participation of community based stakeholders leads to positive outcomes which in turn result into the success and continued functionality of communal water points, while

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low levels, or absence, of participation leads to lack of ownership and commitment by locals which then result into failure and non-functionality of communal water-points.

Based on the examination undertaken, the following conclusions can be drawn:

- When the levels of participation of community based stakeholders are analyzed on the conception of the water-project, attendance of meetings and actual participation in discussions during the early phases, as well as in key decision areas, evidence shows that there is absence to low levels among communities with non-functional water-points, unlike in those that have functional water-points. This then undermines maintenance and sustainability of communal water systems, as locals become unwilling to sustain implementations in which they did not fully, or even, participated.
- With regard to exit strategies, there are apparent clear differentials between functional and non-functional water-points. Communities in the former seem to get prepared for implementers' exit, unlike in the former. Therefore, where implementers embedded the participation of community stakeholders in their exit plan, there is evidence of functionality and sustainability and unlike where this was absent.
- In terms of existence of a sense of ownership of the water-points by communities, as one of the critical outcomes, which partly underpins sustainability of the same, statistics presented herein indicate that communities with functional water points score high on this front with 63 percent, unlike those with non-functional water points whose score is 25 percent. In relation to their current status, non-functional water points registered 75 percent rating for 'No' sense of ownership, when

assessed across all the four phases in the water project life cycle. Moreover, the finding that 37 percent in functional water points showed lack of a sense of ownership signals a dangerous reality confronting the water sector. This presents a high possibility of more water-points slipping into statistics of failed and non-functionals in future if the situation remains unchanged.

- Lastly, a review of commitment levels to the water-points by community based groups shows that there are high levels of commitment (73 to 87.5 percent) among regular water users, local leaders and the whole community in communities with functional water points, as compared to low levels of commitment (36 to 48 percent) among similar local stakeholders in non-functional water-points. Thus, in functional water-points there is a high propensity by people to provide support for continued maintenance and sustainability of their communal water-points, unlike in areas with non-functional water-points. The results correlate and explain the functionality status of the water-points under discussion. In fact, it can be argued that the high failure and non-functionality rates will continue unless if there are serious reforms and re-thinking in the approaches in communal water-sector.

In terms of recommendations, therefore, based on the cavities and deficits in the programmatic approaches of implementers, which are seen to be responsible for the current high non-functionality and failure rates in the sector, there is need for the problems to be addressed. Since some of the issues behind these are emanating from either absence or weak frameworks and standards, we hereby propose that the Ministry responsible for water development and key stakeholders must come up with standards to be followed by each

and every implementer and strengthen monitoring and enforcement mechanisms to ensure that players are adhering to the set standards and policy frameworks governing the water sector. It is highly anticipated that once these are in place, then together with sufficient levels of community and local leaders' empowerment and participation, there will be a direct influence to robust implementation and sustainable communal water supply systems in Malawi. In the end this will nurture and foster the existence of stronger sense of ownership and commitment among community members, which will make them to embrace and continuously support these water-points, thereby enhancing their sustainability.

8.5 Study Limitations

As is obvious, limitations in any research are inevitable, and therefore, this research did encounter some limitations worth highlighting. First, the research initially targeted Water Aid and its sub-contract in the north, Livingstonia Synod's development arm called LISAP, as one of the major implementers of boreholes by non-governmental agencies. However, during the preliminary investigation and listing exercise it was noted that there were gaps in the official list of current functional and non-functional water points which these two organizations had in their reports. They also had incomplete records of where their boreholes were located, as they were yet to do mapping to correct this gap. Therefore, a resolution was made to focus on all available implementations by NGOs and government within each targeted district.

Second, as per the research protocol, permissions had to be sought from targeted implementing agencies in order to proceed with the study. Apart from Ministry of Water and Northern Region Water Board, the rest took several months to issue permission for the study to be undertaken and share a list of their water-points. This unexpected delay did affect timelines for the field work, and eventually, completion period of the whole study. Related to this is the fact that Blantyre Water Board, which was initially among targeted Water Boards in this study, was dropped because it never responded to several follow ups on the request. As such, the study decided to focus on water-kiosks implemented by Northern Region Water Board and Lilongwe Water Board.

Lastly, the study planned to review relevant programmatic documents from implementers of communal water supply systems in question. While some institutions made requested documents available, some did not fully share their documents as they regard such documents as confidential and for internal uses only. As such, the Researcher had to source secondary literature such as published reports to get required information.

8.6 Specifying Key Contributions of the Thesis

The study has made some contributions, to both scholarship and the development field, which are worth mentioning. First, this study was the first attempt, to my knowledge, to unravel what was actually behind the significant failure and non-functionality rate of communal water-points in Malawi. The study has uncovered and discussed critical factors that explain and influence functionality and sustainability of communal water points, on which it focused i.e. boreholes and water-kiosks. Second, the study findings and

conclusions are providing baseline empirics to current practitioners and scholars focusing on similar issues and areas in the water sector and other similar fields. These empirics would enable them situate or inform their programmatic designs and implementation. This study findings would enable practitioners know ways in which they can improve upcoming communal water initiatives by avoiding mistakes that most implementers have been making which are responsible for the high failure rates. Third, this study also makes an important contribution to the development field, particularly with respect to works that are done at community level – whether in urban or rural areas. It has provided key insights into what works and what fails when implementers and donor agencies bring development initiatives by pursuing either participatory, empowerment and inclusive approaches versus when they pursue the direct opposite of the same. This should be informative as they conceptualize, plan and implement community development work. Lastly, this study has provided some direction for future research, which is highlighted in the subsequent section. It points out interesting issues uncovered that are worth investigating further in order to deal with them as they too are equally important problems within this water sector that might also be affecting implementations.

8.7 Direction for Future Research

The study came across some puzzling issues which, due to limitations of time, resources and the scope of the study, were not looked at. But such issues require further investigations in order to uncover what is actually behind them, and with that then propose solutions for addressing them. The main issue, requiring some thorough investigations, is the apparent various interests and conduct of some external stakeholders such as water contractors and

sub-contractors, some key personnel in implementing agencies (government and NGOs), and other key stakeholders. It was noted that their interests and some conduct negatively affect implementation and sustainability of communal water systems in the country. Therefore, there is need to determine the extent to which this is a problem and put forward propositions on how to address it in the water sector.

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ANNEX 1: KEY INFORMANT INTERVIEW GUIDE

University of Malawi
Faculty of Social Science
PhD in Development Studies

TITLE: Participation, Empowerment and Development Outcomes: The Case of Borehole and Water Kiosk Programmes in Malawi

Overall Objective of the Study: To assess how participation and empowerment affect outcomes of borehole and water-kiosk programmes in Malawi.

Pre-ambble

This is an academic study in partial fulfillment of a PhD degree in the Faculty of Social Science at the University of Malawi. Participation in this study is on a voluntary basis. Respondents are free to discontinue at any particular point. Be assured that all data will be treated confidential, and no names will be disclosed to any third party or included in the final thesis document. The study is being conducted in accordance to ethical requirements of the University of Malawi.

KEY INFORMANT INTERVIEW GUIDE

I. BIO DATA

i. Respondent Name		ii. Gender	
iii. Role in Water Project/ Organization		iv. Type of Water Project (Specify)	
v. Organization		vi. Date	

II. EXTENT OF INVOLVEMENT OF KEY STAKEHOLDERS IN COMMUNAL WATER PROJECTS

1. Using a scale given, what was and/or is the extent of your organization's involvement in each of the following project phase?

Below is a scale that you have to use to respond to some of the questions requiring rating. Score Key: 1 = extremely low; 2 = low; 3 = below average; 4 = average; 5 = above average; 6 = high; 7 = extremely high

Initial Phase	Design & Planning	Implementati on	Maintenance
[]	[]	[]	[]

2. Based on your assessment, can you score using a scale the extent of support and contributions (monetary and material) by key stakeholders to water projects which you are involved in?

Community	Initial Phase	Design & Planning	Implementation	Maintenance	
	[]	[]	[]	[]	
Donor/ Implementer (focus on one not assessed above)	Initial Phase	Design & Planning	Implementation	Maintenance	
	[]	[]	[]	[]	

3. Overall, is the extent of involvement of each key stakeholder in the project adequate? If yes/ no, justify your response	
Donor	
Implementer	
Government	
Community	

4. What are the shortcomings of the water projects in question in terms of involvement of key stakeholders? How can this be improved? Why should improvements be done?

III. EMPOWERMENT, FUNCTIONALITY AND SUSTAINABILITY OF COMMUNAL WATER POINTS	
Success and failure of water projects	
5. Overall, what percentage of your community water projects constitute successful projects, and what percentage is for failed projects.	
%ntage Successful:	%ntage failed:

6.a. What factors are responsible for the success of water points and facilities that you install/ fund?	6.b. What factors are behind failure of water projects/ facilities that you install/ fund?

Empowerment

7.a. Are there any empowerment efforts that target communities during the course of project implementation? If yes, how are communities empowered and in what areas?

7.b. What are the shortcomings in community empowerment efforts related to maintenance and sustainability of water-points/ facilities? How can these be addressed moving forward?

Exit Strategy

8. Do you have an Exit Strategy for your water projects (borehole or water-kiosk)? If yes, please describe it, and then explain whether or not it is effective.

Financial capability

9.a. Do communities have the financial capability to maintain water-points/ facilities on their own once they are handed over to them? If yes, please explain the existing financial model.

9.b. Can you propose a financial model that would ensure sustainability of community water interventions (i.e. borehole/ water-kiosk)?

Technical capability

10.a. In your view, do ALL communities have technical capability to maintain and sustain the water-points/ facilities? What kind of technical competence do they have or not?

10.b. Can you suggest how best to empower communities technically to ensure sustainability of community water projects?

IV. LEVEL OF STAKEHOLDERS' PARTICIPATION AND PROGRAMME OUTCOMES

11. In your view, is there any correlation between *Level of Participation* and attainment of *Outcomes* (positive or negative) of community water projects? Explain your response.

12.	What is the Stakeholders Level of Participation in your water project?	SCORE	SCORE	SCORE	SCORE
		Community Stakeholders	Implementer	Govt. Stakeholders	Donor
i	level of stakeholder ideas in redesigning the project				
ii	level of financial contribution				
iii	level of material contribution				
iv	level of labour contribution				
v	level of attendance of meetings				
vi	level of participation in decision making				

13. (a) With reference to levels of participation of key stakeholders (including the community), explain whether or not there is the following in your water projects; and (b) On a scale of 1 to 7, rate the level of each one of these three aspects.

	EXPLANATION	SCORE/ RATE
Stakeholder commitment		
Beneficiary satisfaction		
Sense of ownership		

14. What are some of the main shortcomings of your water projects on stakeholder participation? How can these be addressed?

V. CLOSING

15. Is there anything that you would like to share in relation to issues covered in this study?

ANNEX 2: FIELD CHECK-LIST

University of Malawi
Faculty of Social Science
PhD in Development Studies

TITLE: Participation, Empowerment and Development Outcomes: The Case of Borehole and Water-kiosk Programmes in Malawi.

FIELD CHECKLIST

SECTION I

a	Observer	
b	Type of Project	
c	Implementing Organization	
d	Site (s)	
e	Date	

SECTION II

1. Farthest distance from user to water-point – all angle in the village.

2. a. How many households use the water point.

2. b. How many institutions are also using the same water point – schools, churches, CBOs, etc?

3. Sanitation/ environment around water point.

4. Technical diagrams of borehole and water-kiosk implemented. *List reviewed diagrams and make copies.*

5. Signed Contracts? How many and what key issues are covered?

6. Records: financial book(s), log book of issues/repairs, etc.

7. Key information on Targeted Boreholes

Village Name	Date of Completion	Borehole	Water-Kiosk	Community Supported	NGO Supported	Govt. Supported	Donor Supported

8. Durability of equipment used for installation: brand type, source, period it takes to begin to breakdown, and parts often replaced, etc.

9. Spare Parts Price List

#	ITEM	PRICE (MK)	#	ITEM	PRICE (MK)
1	Bearings		19	Pipes	
2	Bolts – inspection cover		20	Plunger	
3	Bolts and nuts		21	Press handle	
4	Chain and coupling		22	Pump head	
5	Chain bolt		23	Pump rods	
6	Check valve		24	Rod socket	
7	Crude bush over		25	Rubber cap	
8	Cylinder		26	Rubber seal large	
9	Cylinder rubber seal		27	Rubber seal small	
10	Grease 1000g		28	Sealing rings	
11	Grease 200g		29	Spacer	
12	Grease 500g		30	Spares kit	
13	Hand pump set		31	Upper foot valve	
14	Inspection bushes		32	Washer	
15	Lower foot valve		33	Water tank	
16	Lower valve		34		
17	Pedestal		35		
18	Pipe socket		36		

ANNEX 3: SURVEY QUESTIONNAIRE

See attached Questionnaire in MS Excel booklet format