GENDER AND WATER MANGEMENT: IT'S IMPLICATIONS ON WOMEN EMPOWERMENT

BY

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A report submitted to the University of Zambia in fulfillment of the requirements of a Master of Science degree in Integrated Water Resource Management (MSc. IWRM)

UNIVERSITY OF ZAMBIA

DECLARATION

I, Kasongamulilo Shula Hellen declare that this report represents my own works and has never been presented for a degree at this or any other university.

Signed.....

Date.....

APPROVAL

The report of Kasongamulilo Shula Hellen is approved as fulfilling the requirements for the award of a Master of Science degree in Integrated Water Resource Management (IWRM) by the University of Zambia.

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DEDICATION

This report is dedicated to the following:

1. My grandparents for their guidance and love. They sacrificed all they had to give me a future and hope. They introduced to the one True God, through whom I have achieved all things.
2. My mother, for respecting and supporting my dreams and decisions I have made so far.
3. The late, Mrs Mutinta Chilimboyi (UNICEF). Though our interaction was short lived, it was worth every second. I developed new insights and determination to look beyond my limitations and just say "all things are possible if you believe". I will always remember you for these words, "Hellen, it is not a coincidence that you were born a woman and in your family; God had you in His plan. You are a blessing to your family and those you come in contact with. Do not allow anyone to down tread you because of sex or background. Be independent, determined and focused on achieving your goals and always remember to make a difference in someone else's life".
4. My sisters, brothers and cousins, the road may seem long and impossible most times but that should not wear you down because all things work for good.....one day you will pose to remember and your heart will sing that a 'heartache now is but a stepping stone'.
5. My nieces and nephews let this work motivate you to do even greater things for as long as you live. I love you all.

ACKNOWLEDGEMENT

I would like to thank God for his providence. There were times when all odds were against my finishing my studies, but He always saw me through. I owe it all to Him. I would also like to sincerely thank my supervisor, Dr. Mafuleka for his dedication, wisdom and guidance he gave me throughout my studies. My other deepest thanks go to Prof. Imasiku for using every opportunity to expose me in the field of water and sanitation. I cannot thank you enough. I wish to further thank Ms. Ingrid and the IWRM staff for letting their doors open to me at any time i needed help. Furthermore, I am thanking the University of Zambia-Directorate of Research and Postgraduate Studies for accepting my application to study at the institution.

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ABSTRACT

Gender mainstreaming in the water sector is being justified on grounds that it helps to empower women; therefore it furthers broader goals of equality within society, contributing to poverty alleviation and social inclusion. This study was done in two peri-urban areas of Lusaka, Zambia namely Chipata compound and Kalikiliki settlement with a view to establishing the relationship between gender, water management and women empowerment. The study employed multiple research methods that were both qualitative and quantitative, field observations, questionnaires and interviews were used. Sample size was 200 households and 5 key informants from different implementing organizations. Data collected was later triangulated. Data was analyzed using SPSS and KAPs. Graphs were however generated in excel.

Key findings where that women in both communities actively participated in the initial phase of project implementation (98% and 70% in Kalikiliki and Chipata compounds respectively acknowledged that women were active participants), however, only 12% in Kalikiliki and 10% in Chipata were engaged in decision making processes. 91 respondents in Kalikiliki said there was significant improvement in the management of water since women where in-cooperated in the management of water points where as 26 respondents in Chipata compound said there was significant improvement. 7 respondents and 65 respondents from Kalikiliki and Chipata compounds respectively said they did not notice any improvement. The study discovered that women's confidence in the skills and knowledge they possess are not built due to lack of engagement in processes of decision making. Women and children suffer from time poverty which inhibits them from engaging in other productive activities and school (education). The study concluded that despite policy being tacked on gender mainstreaming, women are to a larger extent not taking up influential roles especially in processes of decision making with regards to water. There is both a direct and indirect relationship between gender, water management and empowerment. Zambia has potential to achieve effective gender mainstreaming in WRM, except success depends to a larger extent on whether the current policies and strategies are infused in existing local cultures.

KEY WORDS: Gender, empowerment and water resource management.

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ACRONYMS

ABOs- Area Based Organisations

CARE- Cooperative for Assistance and Relief Everywhere

CU- Commercial Utility

CSO-central statistics office

DMS-Delegated management system

DAW-Division for the Advancement of Women

ECZ- Environmental Council of Zambia

FGD- Focus Group Discussion

GWA- Gender and Water Alliance

GAD-Gender and Development

GRZ- Government of the Republic of Zambia

GOJ- Government of Japan

GNP- Gross National Product

INSTRAW- International Research and Training for the Advancement of women

IWRM- Integrated Water Resource Management

JICA- Japan International Cooperation Agency

KAPS- Knowledge, Attitudes and Practice matrix

LWSC- Lusaka Water and Sewerage Company

MDGs- Millennium Development Goals

MLGH- Ministry of Local Government and Housing

MoU-Memorandum of Understanding

MFNP- Ministry of Finance and National Planning

NWASCO- National Water and Sanitation Council

NGO-Non Governmental Organisation

PROSPECT- Programme of Support for Poverty Elimination and Community Transformation

PUAs- Peri Urban Areas

PUWSS- Peri-Urban Water Supply and Sanitation

PR- Public Relations

PCU- Private Commercial Utility

PUSH- Programme for Urban Self Help

RDAs- Rural Development Committees

SPSS- Statistical Package for Social Scientists

SIDA- Swedish International Development Agency

USH- Urban Self Help

UN-United Nations

UNDP- United Nations Development Programme

UUS- Unplanned Urban Settlements

UNICEF- United Nations Children's Education Fund

WHO- World Health Organisation

WID- Women in Development

WAD- Women and Development

WDCs- Water Development Committees

WUP- Water Utility Partnership

WSS- Water Supply and Sanitation

WSSCC- Water Supply and Sanitation Collaborative Council

ZDC-Zone Development Committees

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CHAPTER ONE: INTRODUCTION

It has become increasingly accepted in the recent past that women should play an important role in water management and that this role could be enhanced through the strategy of gender mainstreaming. Gender mainstreaming is "the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all spheres so that women and men benefit equally,"(United Nations Development Programme; 2001; p18). It is a strategy aimed at making both men and women a part of the planning, implementation, monitoring and evaluation of policies, projects and programs. Gender refers to the social construct of sex. Within this concept, society is seen as constituted of women and men who exhibit socially and culturally determined differences in behavior, attitudes, roles and responsibilities (Seymour-Smith, 1986). Gender has been further defined by the World Health Organization (2009) as a concept that refers to socially constructed roles, behavior, activities and attributes that a particular society considers appropriate and ascribes to men and women.

The distinct roles and the relations between men and women may give rise to gender inequalities where one group is systematically favored and holds advantages over another. Therefore, gender mainstreaming is an integral dimension to bringing to light the concerns and experiences of both men and women. According to Frances (2003), in water policy, gender mainstreaming is justified for reasons of efficiency and effectiveness; a gender-sensitive approach helps to ensure that supplies are provided and managed more sustainably. It is also argued that gender mainstreaming helps to empower women and so furthers broader goals of equality within society, contributing to poverty alleviation and social inclusion. However, instrumental gender mainstreaming in water management depends on how the main agenda can address the transformations of gender relations in water supply, use and management (Panda, 2007, Hombergh, 1993). This is because even in instances where women maybe involved in water supply projects, they are often not given a chance to influence the focus of the projects. Yet women's involvement in the planning of water projects could actively enhance sustainability since they are the end users of such projects (Rydhagen, 2002).

As a socially constructed terminology, gender has serious implications on national development and human development. In most developing countries, Zambia included, gender is one of the underlying factors perpetuating the increase in the gap between the rich and the poor. Gender inequality presents daunting challenges for human development which consequently has both direct and indirect effects on the development and sustainability of key sectors and sector projects for development. The water sector is one sector that deserves special consideration in this case. Inequality in the position of men and women can and has worked against societies' progress as a whole for most countries. For example, one study argues that the fact that women in Kenya, during the 1960– 92 period did not, on average, complete as many years of schooling as men, accounts for almost one percentage point difference between the long-term growth potential of Kenya and that of high performing Asian economies (Ellis et al, 2007).

In Zambian societies, whether affluent or non-affluent, women have the primary responsibility for the management of household water supply, sanitation and hygiene. Among other domestic water users, women are the ones who depend on this resource more for the smooth running of a home and to some extent they depend on domestic water supply for subsistence food production and small scale horticulture. Because of this dependence on the resource, women attach great value to it and are affected by their being marginalized from active participation in decision making and mismanagement of the resource. Men and women have different uses for water and attached values to these uses. Therefore, water distribution and management will greatly be influenced by these uses and their value.

In 1992 the International Conference on Water and the Environment that was held in Dublin developed four key principles to guide policies for water and sustainable development. These are the famous Dublin Principles that represent the current international consensus on 'best practices' in the water sector. These principles are;

1. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

2. Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.

3. Women play a central part in the provision, management and safeguarding of water.

4. Water has an economic value in all its competing uses and should be recognized as an economic good.

In 2000, world leaders committed to a collaborative program of sustainable development during the United Nations Millennium Summit. At this summit, greater gender equality and increased access to health and education through the Millennium Development Goals (MDGs) was emphasized. According to Isha (2008), this emphasis was as a result of the realization that greater access for people to water and sanitation is key to achieving the stipulated Millennium Development Goals (MDGs) with special reference to goals number three and seven. These MDGs urge policy makers to promote gender equality and empower women and ensure environmental sustainability, with a specific target to halve by 2015 the proportion of people without sustainable access to water and sanitation respectively. Since then, international agencies like Women in Development (WID) and Gender and Development (GAD) have made water for women a cornerstone of their development and humanitarian efforts.

Women have been acknowledged as key players in the development and management of water resources because of their dependence on the resource. The nature of their gender roles has helped them accumulate considerable indigenous knowledge about the resource and they have discovered indigenous ways of telling the proximity and location of a water source, how to assess the water quality and how to improve it if need be and also devising ways of storing their water safely, (Van Wijk-Sibjema, C. 1998). However, regardless of the illustrated point above, major efforts aimed at improving and managing the water resource and extending access to safe drinking water and improved sanitation (as outlined in the MDGs) tend to be sidelining women (Francis 2003). To a larger extent, efforts are overlooking the central role of women and the significant contribution they can offer to the water management sector in Zambia. The majority of Zambians have no proper access to safe drinking water not because the water resource is scarce but because the resource has not been developed to levels where it can be distributed

in an equitable manner. This has further been exacerbated by poor management at both local and national levels. This study was an attempt to probe in detail the role that gender plays in water management in Zambia and what it means in relation to women empowerment. Chipata compound and kalikiliki settlement area were used as case studies.

1.1 STUDY AREA

This section gives an overview of the study area. It aims at giving the reader an understanding of the country, province and communities where this study was conducted.

ITEM 1.1.1 COUNTRY PROFILE

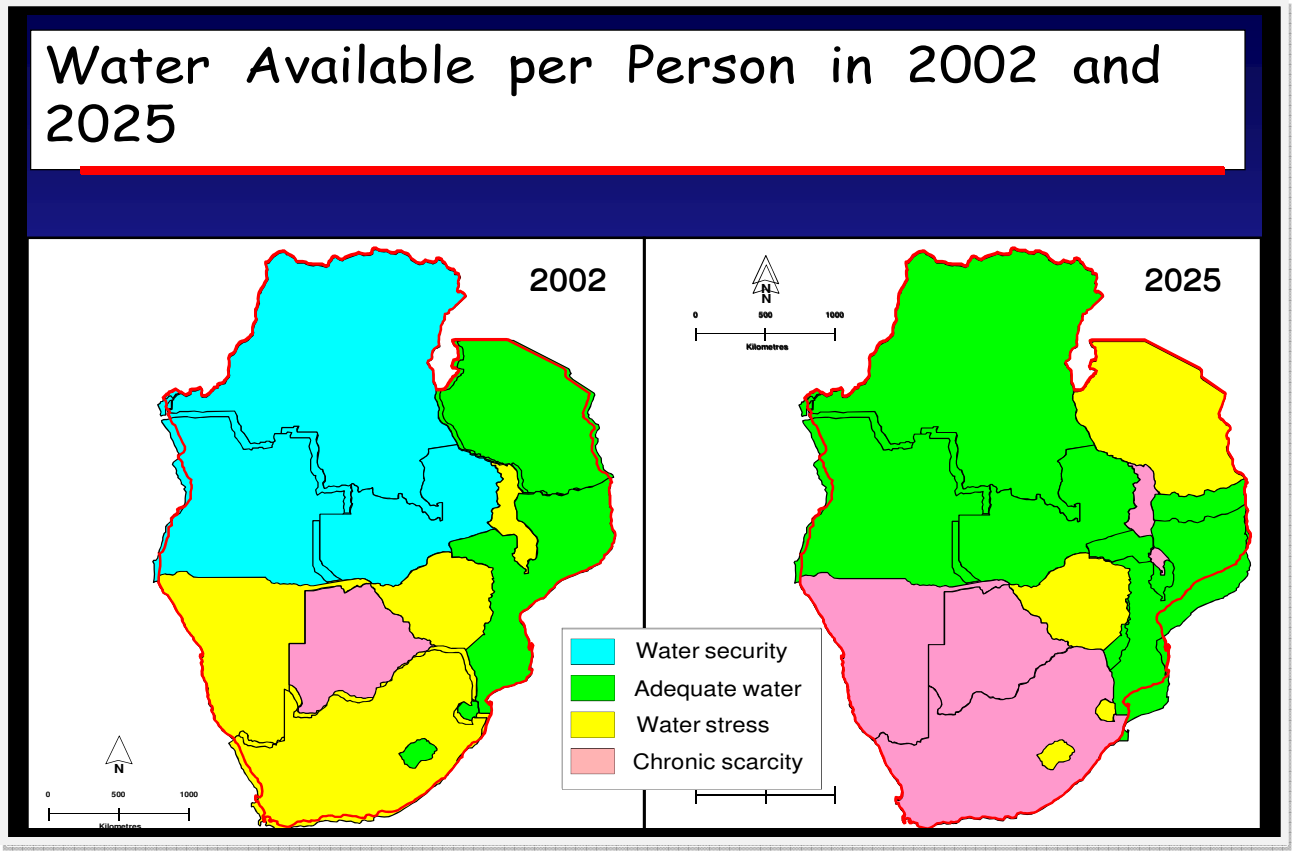
The two study areas were drawn from Zambia, a country that is landlocked and located in the southern part of Central Africa. It is bordered by the Democratic Republic of Congo to the north, Malawi on the east, Angola, Tanzania to the northeast, Mozambique, Zimbabwe, Botswana and Namibia to the south and Angola to the west. The country is divided into 10 provinces which are further divided into 82 districts. Each province has an administrative headquarter. However, there are four major cities worth noting and these are; Lusaka (the capital city of Zambia), Ndola (the headquarter for the Copperbelt Province), Kitwe (the economic hub of Zambia) and Livingstone (the tourist capital). Zambia's population has continued to rise from 5.7 million in 1980, 7.8 million in 1990, 9.9 million in 2000, 11.7 million in 2006 and 13.5 million in 2010 with the annual growth rate of 2.3% in the former years and 2.9% per year between 2006 and 2010, (Central Statistics Office, 2010). The majority of this population is concentrated in urban areas,

Figure 1: **Political Map of Zambia. (Source: Google maps)**

with the highest population density on the Copperbelt and Lusaka. Two thirds of the total urban population resides in peri-urban areas. In relation to climatic conditions, Zambia experiences a sub-tropical weather pattern that is characterized by three season's namely; the cool dry season which is from May to August, the hot dry season which is from August to November and rainy season which is from November to April, with temperatures ranging from 16 to 27 degrees celcius in cool and dry seasons and 27 to 38 degrees Celsius during the hot and rainy season. Annual rainfall ranges between 1000mm to 600mm in the Northern and Southern parts, while the mean annual temperature ranges between 18 and 20 degrees, with the highest and lowest annual temperature being 32 and 4 degrees respectively (Environmental Council of Zambia, 2001).

In terms of water resources, Zambia is endowed with adequate surface and underground water resources required to meet the demand. According to Nyambe, (2001), even as the southern part of Africa is threatened by water scarcity by 2025, Zambia will still have enough water to meet its demand at the time. Groundwater is well distributed, while surface water is unevenly distributed, which results in some areas experiencing shortages, especially the southern part, despite receiving the highest annual runoff. The available surface water exceeds the total consumptive demand in a year (Environmental Council of Zambia, 2001).

***Figure 2*: A water model depicting water availability per person in 2002 and 2025 respectively (Source: Water for a growing city, 2001).**



1.2 LOCAL STUDY AREA

Lusaka province accommodates a population of 2, 198, 966 million, with 81% in urban areas, while 19% live in rural areas, making it to be a province with the second largest population size, (LWSC, 2012). It is estimated that 60 – 70% of the urban population reside in low cost and low income settlements which were initially developed as squatter or illegal settlements but were later legalized (Central Statistics Office, 2000). Lusaka District accommodates the largest number of people at both provincial and national level (Central Statistics Office, 2004).

Lusaka district has a population of 1, 742, 979, with 49% being males and 51% being females. The growth rate for the district is at 4.9% (Central Statistics Office, 2010). It relies on both surface and

ground water, as sources of raw water. The quantity of surface and ground water supplied by Lusaka Water and Sewerage Company (LWSC) is between 200,000 m³/day and 220,000 m³/day and approximately 80,000 m³/ day is supplied from private boreholes and shallow wells (UN-Habitat 2007). In most peri- urban areas of Lusaka, LWSC provides water through the central water distribution system to the perimeter of the supply area. However, the water supplied via the central water distribution system and from local borehole systems is inadequate and the supply is erratic. Generally, the supply of safe water in most unplanned settlements is understood to be deficient. In terms of gender integration in water resource management both at national and community level, Lusaka province leaves much to be desired.

This study was conducted in two communities of Lusaka district namely, Chipata compound and Kalikiliki settlement area. These communities were purposively selected to represent the urban poor settlements that have benefited from the Programme of Support for Poverty Elimination and Community Transformation (PROSPECT) initiative. The two were to provide fact based data on the level of integration of women in water resource management, their contributions and how it translates to improved overall community benefits and promotion of efficiency and effectiveness of community water facilities or systems. Additionally, the two study areas where to give an overview of the implications of gender mainstreaming on women empowerment. A formative survey on the water situation in these areas showed that despite these good water initiatives (water schemes) by Care International and JICA respectively, the water problems continued to present daunting challenges. Additionally, the two case communities were chosen with the rationale that they would enable the researcher and readers obtain an understanding on the different perspectives of gender mainstreaming in water projects by the two implementing partners. By using the same methods of data collection and analysis in both case communities, the results were triangulated and replicated to show how the gender and water issues are accredited.

Figure 3. **Map of Lusaka district indicating the two communities. (Source: Google Maps)**

ITEM 1.2.1 OVERVIEW OF THE WATER PROBLEM IN LUSAKA DISTRICT

With the growth in urban population and the mushrooming of slums and shanty compounds, the majority of Lusaka's population is living in a deplorable state with little or no access to safe clean water for domestic purposes. Lusaka is one of the fastest growing cities in the third world, with about 60% of the people depending on ground water and not municipal water,(World Bank,2001). This ground water is threatened by pollution as sanitation in shanties is pathetic. Peri-urban settlements have severe water problems, with approximately 90% of the peri-urban inhabitants relying on ordinary pit latrines, which they also use as bathing shelters. This practice, combined with poor drainage and waste management, leads to significant health hazards due to a high ground water table and periodic flooding during the rainy season (November – March), (Water and Sanitation Programme Report, 2002).

Supply of water in Lusaka, like any other part of the country, is a primary responsibility of the civic authorities. However, its management especially in peri-urban areas leaves much to be desired. There is artificial shortage of water in the slums and compounds and as such people depend on alternative sources. However, the rapid growth rate for Lusaka in past few years has inevitably led to increased

demand for water supply and management services in the area. According to Lusaka Water and Sewerage Company (2012), the company needs to produce 350, 000m3/day. However, the utility only has capacity to produce 258,000m3/day of water making it difficult for the utility to supply to compounds and unplanned settlements. The socio-economic impacts of low access to water and sanitation are substantial to Zambia's economic development. The water problem in Zambia is a primary crisis for poverty, inequality and power, as well as political will.

ITEM 1.2.2 CHIPATA COMPOUND

Chipata compound is a peri urban area of Lusaka. It is situated north of Lusaka's town centre, about 7 kilometers away. It is a home to over 29, 740 people. Of this population, about 14, 804 are male and 14,936 are female. The majority of this population, especially women, is in informal employment and living on a dollar per day (Central Statistic Office, 2000). Those who are in formal employment are employed as laborers in industries and companies. It was given the status of compound in 1996 during the upgrading of urban settlement areas. Chipata is divided into 39 zones. Each zone has a zone leader who is the people's representative at community level. Each of these zones has a water point called the care communal tap. Despite having these water points in each zone, the area is usually affected by water shortages especially in the dry season. In addition, the water points are not adequate to address demand in each zone. Therefore, people in this compound are often times walking considerably long distances to go and drawing water from nearby communities and the Ngwerere stream.

Water point in Chipata's zone D. Source: Hellen Shula Kasongamulilo, 2011

ITEM 1.2.3 KALIKILIKI SETTLEMENT AREA

Kalikiliki settlement area is situated east of Lusaka town centre, about 8 kilometers away from the town centre. It boarders Mtendere compound and faces serious challenges of water and poor sanitation. The area generally depends on water from shallow wells that are situated very near to latrines that are also used as bathing shelters. The population of Kalikiliki, as of 2000, was at 11, 830, with about 5,977 males and 5,853 females with about 2, 517 households (CSO, 2000). During the rainy season, with heavy rains, the area gets flooded and the latrines are filled with water. This water over flows and contaminates the water in the shallow wells and thus poses a health hazard for both adults and children. Like Chipata compound, Kalikiliki also lays on an aquifer which is equally porous and high, making the water table highly vulnerable to contamination especially that the area has no proper waste disposal mechanism. There is no piped water supplied to this area. The residents depend on the boreholes; however, some zones do not have boreholes and have to fetch water in other zones or nearby communities like Mtendere. In times of water scarcity, residents walk considerably long distances to alternative water sources (mostly the University of Zambia area and Kabulonga). These areas are not easy to access because of social class stratifications.

Girls waiting for water at communal water point in Kalikiliki. Source; Hellen Shula Kasongamulilo, 2011

1.3 STAKEHOLDERS IN THE WATER SECTOR

ITEM 1.3.1 LUSAKA WATER AND SEWERAGE COMPANY

Lusaka Water and Sewerage Company (LWSC) is one of the key stakeholders, not only in the two communities of this study, but also all peri urban water and sanitation works in Lusaka district. It is a quasi-government institution that was formerly a department of water and sewerage under Lusaka City

Council. It was established in 1988 under the Companies Act but only started operating in 1990 and it is answerable to the government, through the regulator (NWASCO). The utility is mandated to provide water and sanitation services (WSS) to all areas within the jurisdiction of Lusaka at a commercially sustainable level. It has a customer base of over 44,000, (LWSC, 2005). Initially, LWSC was not obliged to provide water to the PUAs until recently due to the change in policy, legalization of most areas and response to water borne disease outbreaks. The planned PUAs are provided with well coordinated services, while in the unplanned settlements the services are almost non-existent as they rely on the supply from the entrepreneurial local residents. Statistics show that about 65% and 72% of the residents of Peri-urban and low cost areas do not have access to sustainable supply and acceptable sanitation respectively (NWASCO, 2006).

With the current growth in population, the utility is under pressure to meet the water and sanitation demands which has surpassed supply. However, LWSC has responded positively to the challenges of water and sanitation services provision to low-income communities by addressing policy issues through establishment of the Peri-urban Department and formulation of the Peri-urban policy which stipulates the roles to be played by the different stakeholders in water management. The utility has further responded by sinking additional 105 boreholes and introduced pre-paid water kiosks whose water prices are much cheaper, as compared to buying water from a vendor, it is currently in the process of connecting peri-urban areas to its water networks, for example, Kalikiliki is one of the PUAs that was recently connected to the LWSC water network. (LWSC, 2012).

After the mandate issued by government, LWSC opted not to discard the already existing infrastructure and management structures. Therefore, it has continued working closely with Community Based Organizations, the Ward Development Committees (WDCs), Water Trusts(know called the Delegated Management System (DMS) under LWSC) and other cooperating partners, including the private sector and NGOs to ensure efficient and effective management of water resources at community level. In Chipata compound, LWSC provides technical support to the delegated management system (DMS) and assists with maintenance works where need arises. In Kalikiliki, other than providing the technical

support, the utility supplies water to part of the community. The criterion for allocation of individual piped water in this community is basically the willingness to pay by individual households. The majority of the people are just serviced through extensions of the utility's network with piped water distributed through communal taps that are metered and NGO established water kiosks.

Performance indicator/yr	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Water production ('000m3/day	194	100	212	218	230	230	232	244	258
Service coverage water (%pop)	79	80	80	81	82	82	82	82	82
Service coverage sewerage(% Pop)	12	12	12	12	13	13	20	30	56

Table 1: **Progression made by LWSC in water production and service coverage (Source: LWSCo, 2012)**

ITEM 1.3.2 MINISTRY OF LOCAL GOVERNMENT AND HOUSING (MLGH)

The ministry of local government and housing is at the hub of all water supplies and sanitation programs, both for rural, urban and peri-urban areas of Zambia. It is one of the key stakeholders on WSS. Its involvement on the works aimed at improving water supply and sanitation in PUAs dates back as early as 1997 when the government of the Republic of Zambia, through this ministry formulated the Peri-urban water supply and sanitation (PUWSS) strategy to address the need for improvement of services, specifically to the Peri-urban areas. The major goal of this strategy was to ensure that adequate, accessible, sustainable and safe water supply and improved sanitation services are available and effectively used in all peri-urban areas in Zambia, thereby reducing the incidence of water borne related diseases (MLGH/PUWSS 2001) and its overall objective is to "establish a framework for effective and efficient planning, implementation and management of water supply and sanitation in peri-urban areas" (Ibid: 13). The strategy was to guide business houses on how to improve water and sanitation service delivery to the peri-urban areas so as to reduce incidences of water borne related diseases. This strategy,

therefore, is seen as a cornerstone for service delivery to peri-urban areas and is based on the following policy strategies:

1. Demand responsive approach.
2. Community participation and management.
3. Integration of sanitation.
4. Commercial utility responsibility to the community.
5. Regularization of informal settlements.
6. Consideration of women and children.

To ensure that the MDG on water is achieved, the ministry regularized all informal settlements, making it easier for commercial utilities to extend their works in the areas. It further encouraged community ownership of water supply and sanitation facilities, an approach that ensures sustainability and has been adopted by NGO's and CUs working in these areas. It has also developed a legal framework for community based institutions.

ITEM 1.3.3 CARE INTERNATIONAL

In 1992, the government of the Republic of Zambia was undergoing serious social economic challenges. The government was under pressure to downsize its public service and as a result, many people lost their jobs. At the same time, the number of people migrating to urban areas was on the increase. The people who were retrenched could not go back to the villages. This saw the mushrooming of a number of unplanned settlements and slams and Chipata compound was one of them. At the same time, conditions in the squatter settlements, or compounds, were worsening, with accumulation of garbage, blocked or non-existent drainage systems, distant or contaminated water sources, and few latrines. This new development increased pressure on government to fulfill its promises to the people. It was during this time that Care International was invited to come to Zambia and partner with the government in improving the livelihood of the poor and vulnerable. Care participated in the upgrading of urban settlements and co-existed with the World Food Programme that was running a Programme for Urban Self Help, (Alston et al. 1993).

In 1997, Care International, in partnership with the government of the Republic of Zambia, embarked on programmes aimed at improving the livelihoods of the poor and vulnerable in three communities. Under this arrangement, Care International introduced the commonly called Care communal taps. The system relies on ground water abstraction for its water supply and has a borehole to the north, supplying water to the ground and over head tanks, reticulating to about 39 water points or communal taps. This was and is still the only reliable system expected to supply water to over 6364 households. Further, under the request of the World Food Programme, Care International embarked on a smaller project in three peri-urban settlements in Lusaka namely; Chipata, George and Kanyama. This project was called Project for Urban Self Help (PUSH I). As community laborers (95% of the workers were women), and the project staff interacted, demands began arising. This necessitated the transformation of PUSH II to Programme of Support for Poverty Elimination and Community Transformation (PROSPECT), whose aim was to reduce poverty in peri-urban areas of Lusaka. It employed a community-based approach to carry out three types of activities: social empowerment (institution building at the local level), personal empowerment (microfinance), and infrastructure improvement (mostly water supply schemes). Under PROSPECT, more research on the felt needs of the people was done. It was now that water supply was cited as the major challenge that the community people faced in Chipata compound, (Garrett, 2004).

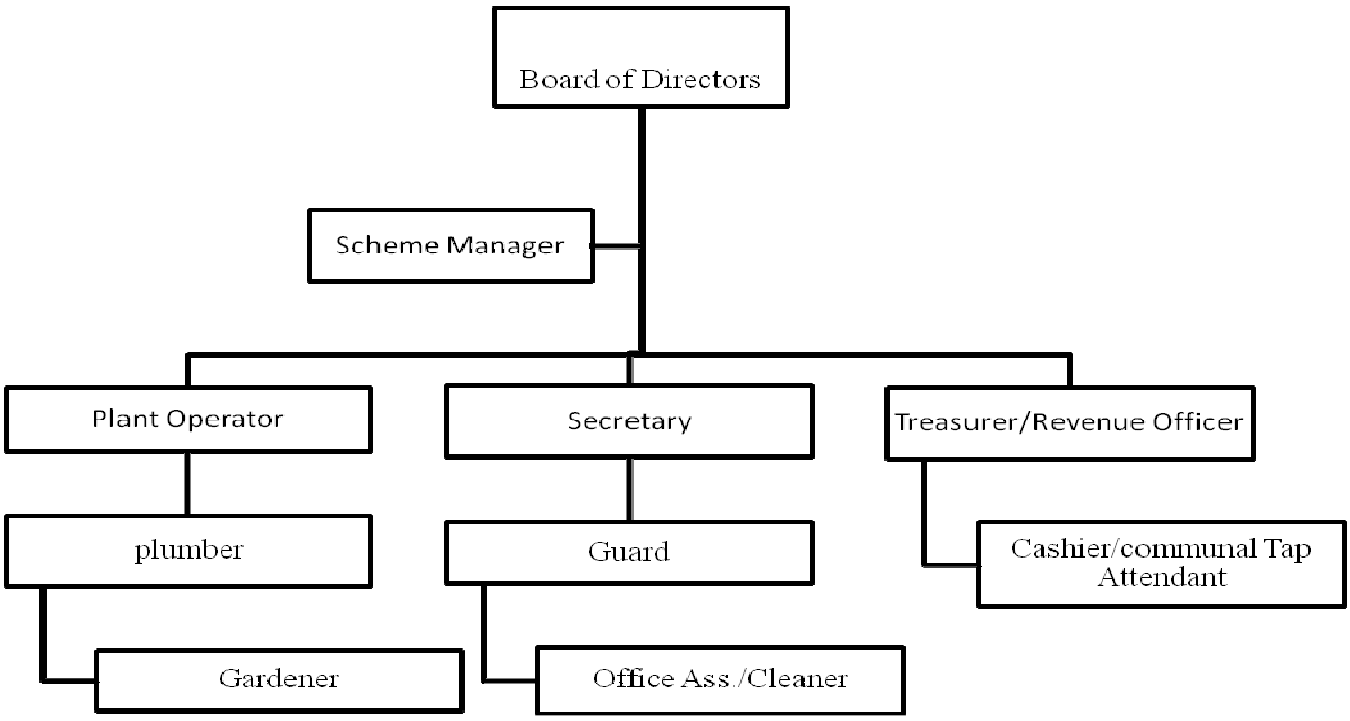
ITEM 1.3.4 JAPAN INTERNATIONAL COOPERATION AGENCY

Japan International Cooperation Agency (JICA) started its works in Zambia at the request of the Zambian government. In its quest to improve the lives of people and alleviate poverty in unplanned, yet legalized settlements, the Government of the Republic of Zambia (GRZ) asked the Government of Japan (GOJ) for technical cooperation to prepare a social service improvement plan in the Unplanned Urban Settlements (UUSs). GOJ responded by entrusting the task of implementing the master plan study called “The Study on Environmental Improvement of Unplanned Urban Settlements in Lusaka” to JICA. This was followed by a request from the government of Zambia to the government of Japan to develop a water supply system for safe and healthy drinking water, and health and hygiene education in three unplanned urban settlements UUSs which were; Ng’ombe, Freedom, and Kalikiliki and community center construction in four UUSs (the three UUSs above and Chibolya). Those projects were selected as priority projects/programs. These projects where to secure a water consumption of 30 lmm3/person/day

and accessibility within 15 minutes. It should be mentioned that the proposed functions of JICA's approach to community projects was basically top down, as it was only responding to the needs or specific areas of felt needs by the government and as such there was no full participation by community members in the communities that were involved. Through the processes of planning and implementation, JICA (representing the GOJ) worked in close collaboration with the Ministry of Local Government and Housing (MLGH representing the GRZ), (JICA 2001).

ITEM 1.3.5 WATER TRUSTS (DELEGATED MANAGEMENT SYSTEM)

The water trust now called the Delegated Management System is an innovation of CARE International Zambia. It was developed and implemented in collaboration with Lusaka City Council and LWSC. According to Mwanamwambwa and Kayanga (2005), the model is a two tier community management structure registered with the Ministry of Lands under the perpetual Succession Act of the Laws of Zambia. It has the Water board at its apex and the management team at the lower level. The management team is the one in touch with the grassroots or the community and is answerable to the Board of Trustees/Board of Directors. Below is the management structure of the Water Trust.



Source: Mwanamwambwa and Kayanga (2005)

Currently, there are nine water trusts in Lusaka's peri-urban areas only. The Water Trusts bridged the gap where there was no water supply service but were under no supervision in terms of quality and pricing of water. Consequently, service provision was compromised and the price exploitative, with some charging five times the approved tariff for similar service level. In order to address the deficiencies, NWASCO directed LWSC to sign MoU with the nine trusts to bring them under the regulatory framework and make LWSC fully responsible for their operations. The Memorandums of Understanding were finally signed in April 2008. Today, LWSC is the license holder for all the Trusts around Lusaka.

1.4 STATEMENT OF THE PROBLEM

The Zambian government, through its water policy of 2010, highlights the need for a gender sensitive approach to water management in the sector. The government further commits itself to ensuring that women are empowered and fully participate in issues and decisions relating to sustainable development of water resources, specifically in the use of water, as well as promoting effective community participation and stakeholder involvement, particularly for women and children, in the design, execution and management of water resources, programmes and projects. Additionally, the government sees it as an urgent need to promote and strengthen the partnerships between women and men in the provision of water and sanitation and ensuring the use of gender friendly technologies in water supply and sanitation (Zambia water policy, 2010). The gender mainstreaming policy in water and sanitation strategy of 2000 recommended the formulation, adoption and implementation of internal gender sensitive policies by institutions and organizations that are involved with the water and sanitation sector, (GRZ, 2000).

Despite policy being tacked on gender mainstreaming, the prevailing scenario suggests that women are being marginalized in water management issues in Zambia as was evidenced during a formative survey in a few communities. Major efforts aimed at improving and managing the water resource and extending the access to safe drinking water delineate their role of women in the whole process. Their role on the one hand, has been limited to that at household level. It is not very clear as to what specific roles they

can take other than those of being household care givers. On the other hand, in instances where major steps have been taken to involve them, women seem disinterested in taking up the challenge.

Women are not actively engaged when it comes to economic decision making and the benefits of getting them involved are not very clear. Because of the different gender roles of men and women accepted by society and the value attached to them, women in Zambia are excluded from definitions of management. Women are silent at home; community and national levels and can not explicitly speak out on issues affecting them like water and sanitation. Decision making is mainly left to the patriarchy (male dominated) because society has defined gender in that way and because of this, women's concerns are often misrepresented. It is very clear from what prevails in Zambian communities that regardless of the burdens women carry for the family, they still play a less influential role than men in the management, problem analysis and decision making related to water resource management. The questions to ask therefore are; what inhibits the women from actively participating in decision making in water management? What value can women bring to water management if their roles were extended from being home care takers to key decision-makers in water management? Is there a correlation between community participation and women empowerment?

In order to carry out this investigation, the study was guided by the following questions:

1. To what extent are women in Zambia's peri urban areas involved in water management at community level?
2. Are there any benefits seen as a result of women involvement in water management in their communities?
3. Do various stakeholders in the WATSAN have full knowledge and understanding of the Zambian gender mainstreaming policy in the sector?
4. What are the immediate and future implications of gender inequality in water management on women empowerment?
5. What strategies should be considered to enhance women participation in water management?

1.5 RATIONALE

There is little empirical research on how gender, along with other differences, affects collective action for natural resource management, especially in Sub-Saharan Africa. Therefore, it was hoped that this research work would be an addition to the already existing body of knowledge. Further, in order for policy makers to develop more sustainable and equitable policies for devolution of natural resource management, striking a gender balance can ensure that the roles and responsibilities of women and men are mobilized to best effect. However, for this to be achievable there is need for more consistent information about men's and women's formal and informal roles and strategies for accessing and managing the resources, and the factors which influence their actions. The research findings may provide a Zambian understanding of the gender roles in water resource management and also provide a further understanding of why women are failing to integrate in the water sector at all levels of society. The findings might further provide the basis for rigorous and targeted sanitizations as well as the development of evaluation tools for water policy implementers. Finally, the study was relevant because it provided the basis for future researches aimed at improving and enhancing human development without compromising or endangering the sustainability of finite resources.

1.6. GENERAL OBJECTIVE

1. To establish the relationship between gender, water management and women empowerment.

ITEM 1.6.1 SPECIFIC OBJECTIVES

1. To establish the extent to which women in Lusaka's peri-urban areas are involved in processes of water resource management at community level
2. To ascertain the benefits of a gendered approach in water management to the community in general and women in particular.
3. To ascertain possible implementation strategies for enhancement of gender equality in water management in Lusaka's peri-urban areas

1.7 CONSEPTUAL FRAMEWORK

This segment discusses main concepts and theories as an anchor of the dissertation. It discusses the theories or rather the approaches that depict the role of women in development and how these have influenced sectors of development. The theories explored here act as a basis to this research.

ITEM 1.7.1 THE EMPOWERMENT APPROACH

The empowerment approach is a direct result of "Third World" women's social and grassroots movements and their realities and experiences of mainstream development. Its roots way in Latin American social movements where educationists such as Paulo Frire and Evan Ilich used concientization as a tool of mobilizing oppressed sections. The approach emerged out of a critique of all other approaches, which were based on the expert analysis of how and what "Third World" women need to develop themselves and their communities. It questions the notion that women can be addressed as a universal category. This approach broadened the scope of development theory by addressing issues hitherto not considered relevant such as oppressive gender relations, ecological destruction, and the ethics of multinational control over the developing countries and argued that women's status could be improved by educating them

ITEM 1.7.2 GENDER AND DEVELOPMENT THEORY (GAD)

This is a theory that discards the idea that women are homogeneous. It maintains that women's situation should be seen in the context of the socio-economic, racial and other factors that shape a particular society. It points to the importance of understanding the relationship between women and men and how society influences their respective roles. The theory argues that for development to be meaningful, it has to take all these factors into consideration. More attention is given to the oppression of women in the family, within the private sphere of the household. The theory asserts that women improve their position relative to men in ways that are beneficial to the community and that the state's role is to provide social services that promote women's emancipation. In this theory, women are seen as agents of change, rather than passive recipients of development, (Coates, 1999). It advocates for the local, equitable participation of men and women in processes of decision making that concern development. It is in the interest of this

theory that women's legal rights be strengthened and that the existing power relations in society should be upsetted. It exposes and challenges the gendered power relations that perpetuate inequities. Gender analysis in this regard moves beyond the household to include the community, market, and state institutions. It uncovers differences between women, divided by other aspects of social differentiation such as class, race and ethnicity. The aim is to understand the dynamics of gender relations in different institutional contexts and thereby to identify women's bargaining position and formulate strategies to improve this. This theory was very useful in analyzing the gender mainstreaming strategies employed in the two research communities.

ITEM 1.7.3 CONSTRUCTIVIST APPROACH

This approach originally espoused by Jean Piaget in education philosophy and improved upon in development circles by Katherine Hayles. In constructivist approach, it is held that through the physical involvement of community members, including policy makers and disadvantaged groups, it is possible to enhance the empowerment of women as social actors in these communities. This is because gender is recognized as a basic organizing principle that profoundly shapes the concrete conditions of men and women in society. This approach assisted the in understanding the relationship that existed between involving women in processes of water management at community level and their socio-economic empowerment, (Hayles, 1995).

CHAPTER TWO: LITERATURE REVIEW

This chapter gives a background to the concept of gender and how it has evolved over time to the level it is now. It also examines arguments that have been presented by various scholars in favour of gender mainstreaming especially in the water sector and provides a critique or identifies the knowledge gaps that need to be covered by further research.

ITEM 2.1 THE EVOLUTION OF GENDER

The concept of gender has been around for a long time now. It has evolved over time. Moser (1989) identifies participation in community managing work as part of the "triple role" of women (along with their reproductive and productive roles), and notes that this has formed the basis for many welfare approaches to women (e.g. mothers' clubs, provision of relief, or community services such as domestic water supply or health care), which treat women's organizations as an extension of their domestic roles. Affirming to this, Bazilli (2010), notes that the first approach to gender was referred to as 'women and Gender'. During this time, development policies analyzed women's needs from the point of view that women were merely wives and mothers. This approach assumed that the benefits of macroeconomic development will trickle down to the poor and the women, as the economic status of their husbands improved. This approach held root until in the mid 1970's when the assertion that women automatically benefited from economic development as the economic status of their husband improve was being questioned.

This saw the birth of a movement for the 'Women in Development' in the late 70's. The aim of this movement was to integrate women into development processes by integrating them into specific women programmes. However, women continued to be passive recipients rather than active participants. Bazilli notes that in the water sector, water and sanitation services where defined in the context of health care and hygiene which were basically seen as women's responsibilities (ibid). It is suffice to note that despite this outcome, this approach strove to see women as active producers and increasing the income of these women. Nonetheless, the approach was criticized on the basis that it did not take into account the multiple roles of women. As was noted above, WID identified women's lack of access to resources as key to their subordination without raising questions about the role of gender relations in restricting women's access in the first place (and in subverting policy interventions, were they had to direct

resources to women). The work that was under way within various social science disciplines suggested the importance of power, conflict and gender relations in understanding women's subordination.

Gaps in the Women in Development approach led to the birth of the Gender and Development (GAD) approach in the mid 1980's. This approach argued that a more people cantered approach to development was one that did not discriminate any member of society. It espoused the values of equality between men and women in economic activities. This approach challenged the power relations that existed between men and women. According to Gender and Development approach, there was need to remove the disparities in social, economic and political imbalances if meaningful or people centered development was to be achieved, (Razavi, S., and C. Miller. 1995). This approach has been very influential in various fields of development today, including the Millennium Development Goals (MDGs) and Integrated Water Resource Management (IWRM) principles of Rio. To date, the popular topic in all circles of development is that of gender mainstreaming, a term that Anderson (2000) defines as "taking account of gender concerns in all policy, programme, administrative and financial activities, and in organizational procedures, thereby contributing to a profound organizational transformation, specifically by bringing the outcome of socio-economic and policy analysis into all decision-making processes of the organization, and tracking the outcome". This includes both the core policy decisions of the organization, and the small every-day decisions of implementation.

In December 2003, the United Nations General Assembly proclaimed the years 2005 to 2015 as the International Decade for Action 'Water for Life'. The primary goal of the 'Water for Life' Decade is to promote efforts to fulfill international commitments made on water and water-related issues by 2015, GLAAS (2012). These commitments include the Millennium Development Goals to reduce by half the proportion of people without access to safe drinking water by 2015 and to stop unsustainable exploitation of water resources. At the World Summit in Johannesburg in 2002, two other goals were adopted, these were:

1. To develop integrated water resource management and water efficiency plans by 2005
2. To halve, by 2015, the proportion of people who do not have access to basic sanitation, (Giulia 2007).

Additionally, the Millennium Development Goals (MDGs), adopted at the Millennium Summit at the UN in 2000, included goals to "Promote Gender Equality and Empower Women" (goal n. 3) and to "Ensure Environmental Sustainability" (goal n. 7).

ITEM 2.2 GENDER AND WATER MANAGEMENT

From the preceding arguments, as well as the precision of modern events, women are increasingly being seen as active agents of change and the dynamic promoters of social transformations that can alter the life of all members in society (Sen, 1999). However, the manner in which decisions and choices on water resources are handled can have great implications on women who use the technologies to get water and are the end users of water resources in the households (Rydhagen, 2002, Rodda, 1993). Gender sensitivity which involves women participation in water management is, therefore, important. According to the United Nations Development Programme (2006), the cause of the water crisis globally is believed to be far from a scarcity problem. Instead, it is as a result of poverty, inequality, unequal power relations and flawed water management policies evident in most third world countries. Perkins (2008) argues that the fact that the voices of the marginalized groups, especially women, are rarely heard by the policy makers illustrates another truth behind the water crisis. Policy constraints and gender inequalities in water management and sanitation have resulted in low sustainability of the conventional communal water supplies, leaving more people in the rural and peri-urban areas with no access to safe water for domestic use than it was in the 1990s' (Sutton, 2008).

When looking at the topic of gender and water management, it is imperative to make mention that the escalating levels of environmental degradation, excessive water consumptions by the economic sectors, water contamination, including salination of aquifers and other water bearings including rivers, lakes, and dams have contributed greatly to the existing environmental, social and economic catastrophe. This kind of catastrophe has profound effects on the availability of drinking water and, consequently, has led to the violation of the right to life, safety, food, health and education of billions of human beings. In all this, women and children pay the highest price. As the world's most poor and vulnerable, women and children, including the aged, are significantly affected when water is privatized or domestic water supply

is regulated without their consent. Inadequate access to water greatly increases women's burdens as caregivers and household and economic providers, (Obando, Ana Elena, 2003).

In most societies, women have the primary responsibility for the management of household water supply, sanitation and health. Water is necessary not only for drinking, but also for food production and preparation, care of domestic animals, personal hygiene, care of the sick, cleaning, washing and waste disposal. Because of their dependence on water resources, women have accumulated considerable knowledge about water resources, including location, quality and storage methods. However, efforts geared towards improving the management of the world's finite water resources and extending access to safe drinking water and adequate sanitation often overlooks the central role of women in water management (UN Water 2006). Despite this marginalization, it is still believed that in poor urban areas, attaining the targets of the Millennium Development Goals and of the Johannesburg Plan of Action to halve, by the year 2015, the number of people without access to safe water and improved sanitation, as well as ensuring environmental sustainability will require pro-poor gender-sensitive water and sanitation policies. The effective implementation of these policies will, in turn, require an integrated approach to water resources and waste management, gender-sensitive planning and the enhanced participation by women in decisions regarding water resources management (UN HABITAT, 2006).

There has been a growing body of evidence that just demonstrates the value and importance of an integrated approach to water management. The role that women play in the entire process of water management cannot be over emphasized. The gender roles of women make them key custodians of domestic water supply, and therefore, they should be seen as important agents in its management. Women give life and take care of families and "water is a necessity to human health, economic and social development of communities and nations around the world, (WSSCC, UNICEF, GWA, 2006). State parties should, therefore, take steps to ensure that women are not excluded from decision making processes concerning water resources and entitlement, the disproportionate burden women bear in the collection of water should be alleviated", (ICESCR, 2002).

Water resources are managed and developed by humans for humans. Both activities are an essential part of and condition for overall social and economic development. But the responsibilities, power and

interests of the people involved and concerned are not all the same. Different categories of people have different interests in and control over the use of water for different purposes: agriculture, domestic water supply and waste disposal, industrial use and aquaculture, transport, energy, ecosystems. Interest groups involve policy makers, utility managers, industrialists, rich and poor farmers, and domestic users, (Wijk-Sibjema, 1998). Therefore, benefits and costs of water use must accrue equitably to all groups of society. This is only possible if all groups are involved and their voices heard. It follows, therefore, that effective integration of women in water management will, to larger extent, result into effective solutions because, as the largest category of water users, women have significant years of experience in managing community water resources and are a huge potential resource for the planning and implementation of water projects.

It is almost indisputable that the value they place on water is a vital resource in searching for the most cost-effective solutions. This value may also lead to efficient solutions, as evidence has shown that when women and men share the costs, burdens and benefits of any given developmental project are reveraged, it deepens community involvement and optimum use of time, money and resources. It may further contribute to finding equitable solutions in water resource management because gender-sensitive water projects offer opportunities to address inequalities between women and men in access to resources, services and influence, and to promote the empowerment of women (ibid). Participatory or integrated approaches in resource management and agriculture can be more responsive to the needs of people, as they fundamentally change the respective gender roles of extension agents and clients. An agent is no longer seen as the expert who has all the useful information and technical knowledge. Individual and collective client knowledge is recognized as a major resource, and solutions to local problems are developed in partnership with all stake holders.

According to GWA (2003), women and men assume different responsibilities for the water resources. They tend to take different stakes in water and more emphasis is with regard to the reproductive roles of women to safeguard, manage and provide for the family. In this regard, gender disparities ensure that those needs go unmet, with discrepancies in the land tenure system, access to water, participation, resource control, capacity and skills development and marketing and commercial linkages", (ibid). Further studies on social stratification clearly demonstrate that intra-community differences between

sub-groups clearly exist and these differences are cross cutting in the sense that they do not only apply to a sector of development for instance, to wealth distribution but affect various aspects of both economic and human development, they range from norms and preferences to power and interests, (Bendix and Lipset, eds., 1954). Therefore, Dumont (1980) argues that priorities for use of resources and style of management are also likely to differ, as are capacities and powers to defend those priorities. Gender cuts across these dimensions of intra-community differentiation and hierarchy. In terms of access to and control of resources, gender interacts with other aspects of socio-economic differences, implying that women cannot be considered a homogeneous category in terms of their interests and needs.

It goes without mention that oftentimes, women's needs for water may be in conflict with those of men but women's access to the water resource is minimal. Women and children have in the past been forced to cope with disproportionate economic and natural resource fallouts like water pollution, dam constructions, inadequate domestic water supply, subsistence water supply and poor sanitation at homes and in schools, including hospitals in the case of Zambia, (World Bank Report, 2006). In Bangladesh, a gender analysis conducted in 1991 during the 1991 Flood Action Plan indicated that women do not only bear a greater burden in contending natural disasters like floods, but their normal responsibilities increase. The female headed households are marginalized with regard to relief supplies, pushing women and children to looking for alternative means for survival. From the gender perspective, it is, therefore, important that water and aquatic life be safeguarded and seen as being critical in terms of improving the women's livelihood, (Gender and Water Alliance, 2003). In another case of Nepal, Nigeria, it was discovered that women and children have to travel long distances to fetch water for their families (UNCEF &WSSCC, 1999).

Rachgeber (1997) argues that decisions about access to and use of water involve actors at intergovernmental, governmental, regional, community and household levels, especially in situations of water scarcity. She stresses that the needs of the various stakeholders ranging from small scale farmers (who are mostly women in Africa) to medium and small size enterprises can differ while at the same time, the level of commitment of the different actors to conservation practices and protection of water resources from contamination may also vary. She further argues that the prevailing power relations in

households and community level ensure that women receive low priority than men despite the fact that women's work is equally significant to economic development.

According to Isha (2008), water researchers, as well as practitioners at the community, national and international levels have become much more gender-sensitive than was previously the case. She argues that many researchers and practitioners have converged on the desirability of local-level or community participation in water management, especially women participation and these arguments in favor of women's participation in decision-making over the use and management of local water resources range from sustainable development to women's empowerment and higher status. When people are denied access to clean water at home or when they lack access to water as a productive resource, their choices and freedom are constrained by ill health, poverty, and vulnerability and while scarcity is a widespread problem, it is not experienced by all. It is the women and young girls who carry the double burden of disadvantage, as they are the ones who sacrifice their time and education to collect water (United Nations Development Programme, 2006). And yet, the issue eclipses building a global commitment, as well as politics around water management, since the crisis hits most directly the poor and women who lack the voice. Furthermore, UNDP argues that there is substantial amount of empirical evidence highlighting the poverty reduction impact of improved access to water for both domestic, as well as productive use. The association is found to be fairly diverse across regions, households, and gender. Conversely, lack of adequate quality and quantity of water may obstruct life chances, and at times, push many of them into poverty. The growing consensus world over, underlines the fact that whereas availability of water is a concern for some countries, scarcity of water is rooted in power, poverty and inequality (UNDP, 2006).

Access to adequate quantity and quality water-a basic source of all forms of life and production of food, fiber and fuel- has a significant bearing on human well-being. The two most important and inter-related routes to water induced poverty reduction are: (a) improved outcomes in terms of health and nutrition status thereby, improved quality of life; and (b) increased productivity, especially of primary products, thereby increased upward mobility-social as well as economic. Evidence from a large number of developing agrarian economies in South Asia suggest an overall poverty reducing impact of water, especially irrigation, at macro level. Poverty reduction impact of water within the production sphere

takes place through its impact on enhancing farm-productivity at household level and its impact on sustaining the overall economic growth at macro level.

ITEM 2.3 GAPS IN LITERATURE PRESENTED ABOVE

Scholars, practitioners and experts quoted above have all provided elaborative and well thought arguments for having an integrated approach that calls for gender mainstreaming in water resource management. However, the following have been identified as missing in the reviewed literature;

1. In most literature (some of which is represented here), the argument is that the failure of many community-based water resource management projects is as a result of the exclusion of women at all levels of the project, as well as the inability of project planners to take the women's knowledge and priorities into account. A number of reports by UNICEF and UN-water that discuss the water projects from Asia and Africa suggest that the inclusion of women as participants and decision-makers increase their access to, and control over, local water resources. For instance, a report from UNICEF and the Water and Supply and Sanitation Collaborative Council (1999) provides case-based evidence on women-centered participation in water and sanitation efforts from around the world. This report cites cases from Pakistan, Nepal, India, South Africa, Kenya, Tanzania and several other nations, and concludes that "placing women at the center" of water and sanitation decisions can lead to more households with access to water, more cost effective service delivery, better placement and maintenance of water infrastructure, better community health and hygiene and less corruption in financial matters. However, no literature has shown how the women's indigenous knowledge in water resource management can be used for the broader benefits of the community.
2. While it is very true that strengthening the presence of both men and women in water management and sanitation is an urgent priority, it has been shown that gender issues most often are not integrated within the norms and standards of water and sanitation service provision. Although pro-poor gender sensitive approaches are deemed an urgent priority in water resource management (which includes sanitation), literature does not out rightly outline the specific roles of women in WRM at community level or national level and it does not show how a gendered approach can enhance women empowerment in

cultured communities like those of the third world. Rather, the roles of women have been restricted to those at household level. Women's interests in water are primarily concentrated in the access to convenient and reliable safe water sources close to their homes.

3. Literature on women involvement is often times not very clear as to why participation is important, one remains wondering as to what the real goal of a participatory approach in water management is; is it to emancipate women and enhance their empowerment in the process?; is it simply to improve the women's and children's access to water sources?; is it sustainable development, or maybe a combination of all these? It is very difficult to draw a firmer conclusion on the real outcome or attribute project success to the involvement of women at various levels of project planning until project completion because most data does not quantify the participation of women at various levels. The assumption that women are 'natural' protectors of environmental resources like water by virtue of them being key custodians of household hygiene, health and water supply can also be questioned, especially that they are also tasked the responsibility of fending for their families through small scale agriculture. Sometimes their interest in water as a domestic user and as a small scale farmer can be in sharp contrast placing them in a dilemma.

4. There are a few points to note from the literature presented here that depict the importance of women involvement in water resource management and development. Firstly, though the women's role in decision making may be of immense importance to the success of water projects, it should be borne in the minds that effective community participation does not always require women to play a central part. In fact, in most African cultures, women are known to be the voices behind the scenes. They make things happen with no recognition. Secondly, when considering the topic of women involvement or community participation, it should be realized that participation may have many connotations, depending on the level at which one is making an analysis. For example, at low levels of power, participation can mean donating labor, passively participating in decision making through attending meetings without necessarily speaking

up or donating other material requirements of successful project implementation. At higher levels, it can mean active involvement in the process of decisions making.

It is clear that there is need for further empirical or evidence-based studies that show the relationship between gender, water resource management and how it affects the socio-economic empowerment of women as well as how women contribute to the management of water resources. There still exists a gap in the evaluation of the extent to which women can be involved or can contribute to sustainable water management at community level. Furthermore, there are gaps in assessing the level of women involvement in water management. It is imperative therefore that, research that incorporates such vulnerable groups, especially women, their knowledge and needs be conducted to aid achievement of sustainable solutions towards the water problem and its impacts on these vulnerable groups of people in the peri-urban areas of Zambia.

CHAPTER THREE: METHODOLOGY

This chapter gives a detailed explanation of research techniques that were used in the data collection.

ITEM 3.1 RESEARCH DESIGN

The research was explorative in nature and focused on exploring the 'What' and 'how' questions with the goal of understanding the contemporary discourse in water resource management, and developing pertinent hypothesis for further inquiry on water management (Yin, 2003).

The study employed multiple research methods which were both quantitative and qualitative. Quantitative information was used to measure the degree of gender influence on women involvement in decision making and implementation of the peri-urban water management programmes and schemes. However, such information alone would not have been sufficient in measuring the quality of participation and or the level of influence women have when participating. Qualitative information, therefore, was needed to measure women's actual participation and how this translates to improved water management and their empowerment (women's confidence and capacity to participate in socio-economic activities aimed at improving their livelihood).

ITEM 3.2 SAMPLING AND SAMPLE SIZE

For both areas, a combination of cluster, simple random and purposive sampling was done. Cluster sampling was used to come up with the census areas from which communities were purposively selected on the basis of their participation in the PROSPECT and JICA's community interventions for improved access to improved water services and accessibility of selected communities by the researcher. After the selection of the communities, the researcher then listed the households and used simple random method to select households. Due to financial constrains, the researcher was restricted to a small sample size of 100 households per community and a total of 5 key persons from implementing partners. This sample size was thought of as being representative because of the similarities that occur in terms of the social, economic and demographic characteristics among Zambian peri-urban communities.

ITEM 3.3 DATA COLLECTION TOOLS

The tools that were used extensively were questionnaires as well as FGDs. All these tools where developed on the basis of the research questions generated to investigate the research problem.

ITEM 3.4 DATA ANALYSIS

The collected data was analyzed using SPSS and the traditional KAPS matrix. SPSS is the statistical data package that gave the researcher a statistical background or understanding of the findings and the KAPS gave a qualitative understanding to the findings. Data was then triangulated to give a more comprehensive understanding to the findings. The graphs where generated in excel.

ITEM 3.5 LIMITATIONS

There were a number of limitations to this study.

1. The compounds were divided into zones. In Chipata compound, each zone had slightly different experiences in water management, making data synchronization a challenge. This lead the research to divert from the initial plan as she now had to purposively sample the zones from the sampled community.
2. The nature of the housing system in both communities made it extremely difficult to collect data from one source. Often, the next door neighbor would chip in to provide his or her opinion. It was under strain that the researcher managed to only engage one interviewee on one to one interviews and the crowd from gathering during focus group discussion.
3. Additionally, this study was limited to the available budget. This led to a reduced scope.

ITEM 3.6 ETHICAL CONSIDERATIONS

The observation of the ethical issues in the field made this study successful. The researcher followed all community and organizational protocols before doing the data collection. Once permission was granted to go ahead with the research, the researcher built mutual relationships with the interviewees by being sensitive and giving respect to the cultures of the people in these communities throughout the research

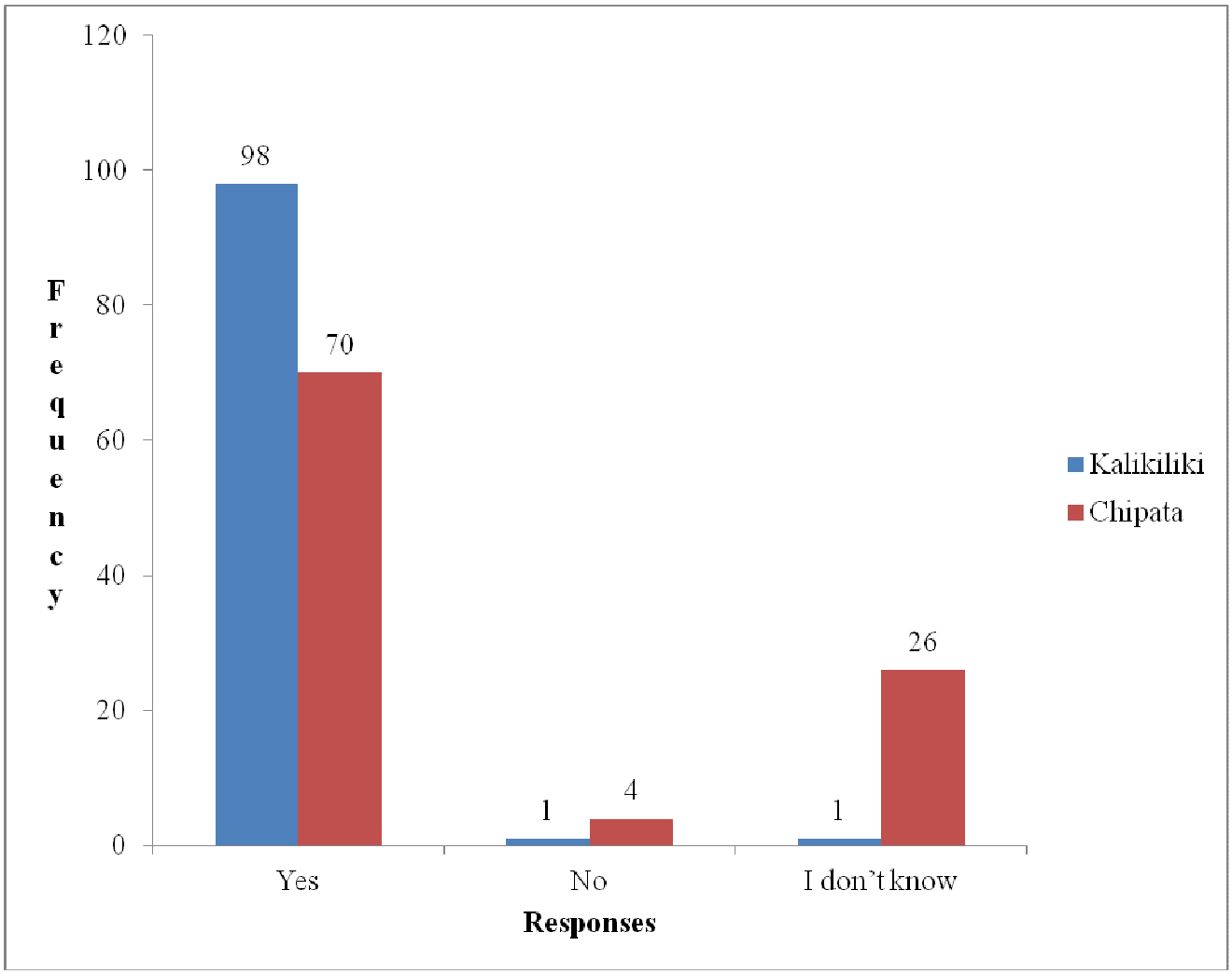
process. No research participant was forced to participate in the research. Because of recognizing the local authorities in the areas, the community leaders became very helpful, especially in mobilizing people for focus group discussions. By consulting and recognizing the input of the people in these communities, the researcher is highly committed to creating knowledge that is expected to contribute to their empowerment in society.

CHAPTER FOUR: PRESENTATION OF FINDINGS

The findings on the involvement of women in water management in peri-urban areas of Lusaka in Zambia were quite revealing. This chapter is divided into several themes guided by the set objectives.

ITEM 4.1 LEVELS AND EXTENT OF WOMEN INVOLVEMENT

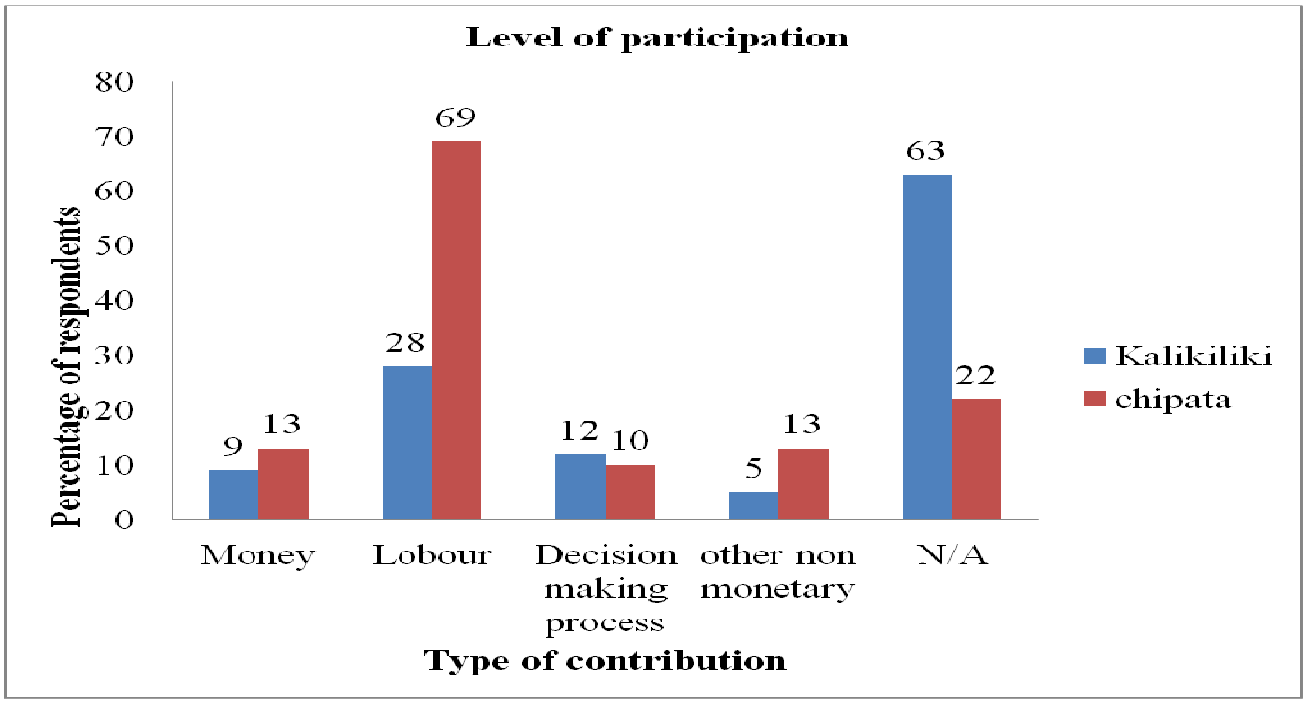
***chart 1*. Women involvement in WRM at community level**



The above chart shows that 98% and 70% of the women (respective of Kalikiliki and Chipata compound) were involved in the implementation of water systems in their communities.

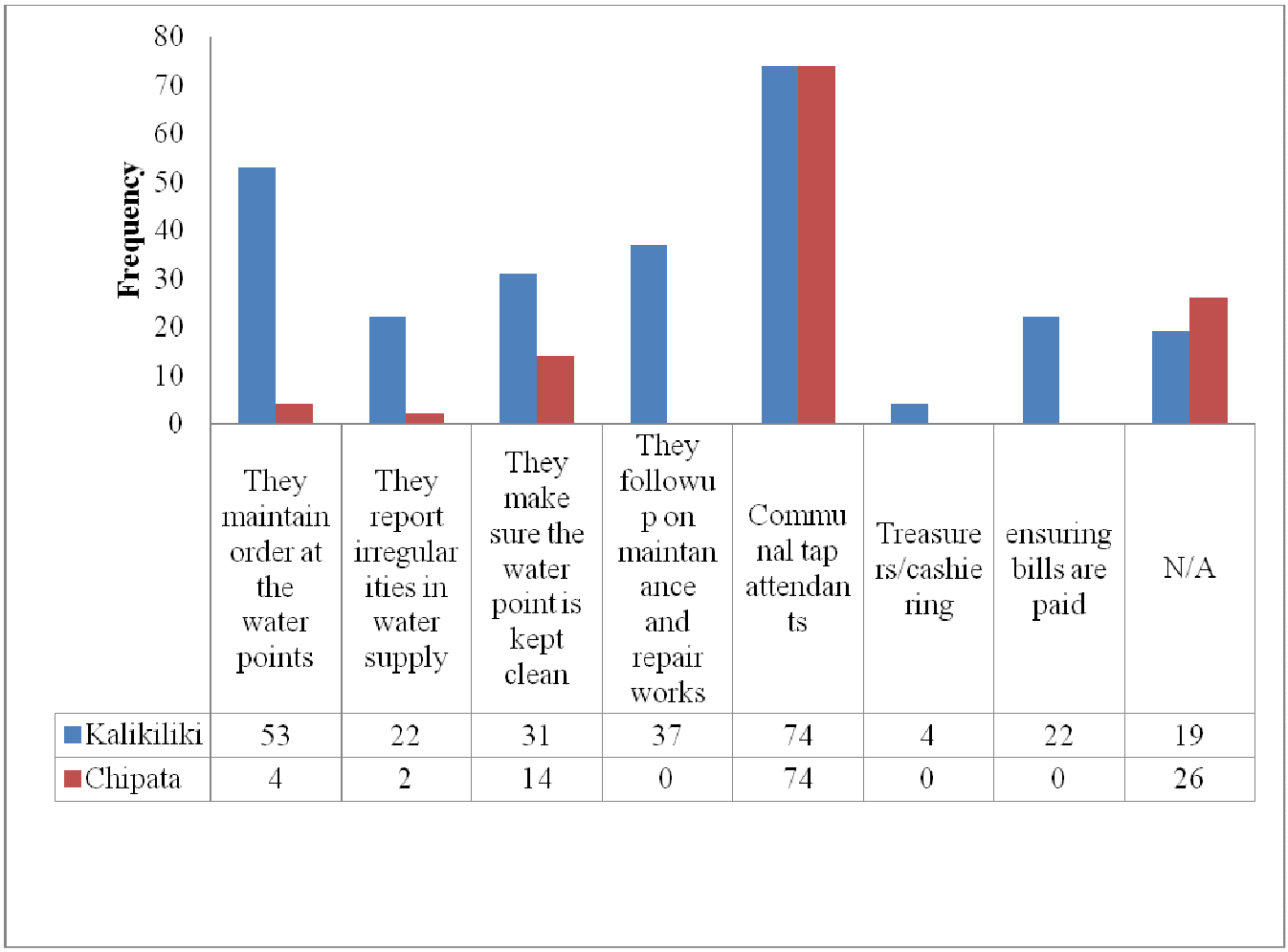
In the focus group discussion 30 participants in Chipata compound were not sure of who manages the water points and 10 said there was a structure in place which incorporated selected community members, water trust and LWSC. 5 said they saw elderly women sweeping and cleaning the water points but were not sure on who does the general works in issues of water management. In Kalikiliki 10 participants were not sure on who really is involved in water management issues but they acknowledge that they saw women working at the water points, 8 participants said there was a management team employed to address issues of water management including the water points. However, they were not sure of whom the employer is. 2 said there is a committee that constitutes zone leaders, Lusaka Water and Sewerage Company and JICA representatives

Chart 2: **Level of participation**



The above chart represents the level of involvement. From the focus group discussions, participants from Chipata compound stated that community involvement in aspects of decision making was not a common practice. Whereas in Kalikiliki, participants stated that participation was there, though not direct. They stated that they participate through the chosen zone representatives who are mostly women.

Chart 3: **The roles women now play in water management at community level**

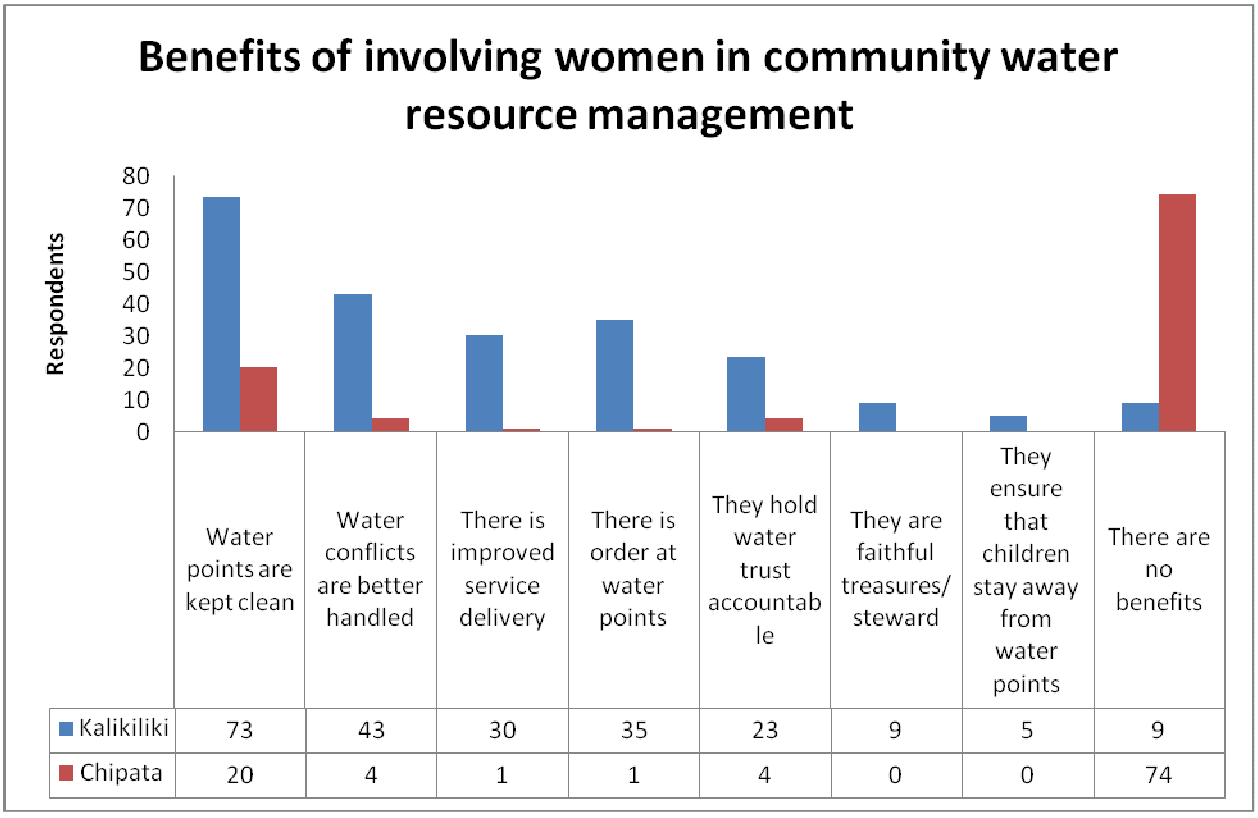


	They maintain order at the water points	They report irregularities in water supply	They make sure the water point is kept clean	They followup on maintanance and repair works	Communal tap attendants	Treasurers/cashiering	ensuring bills are paid	N/A
Kalikiliki	53	22	31	37	74	4	22	19
Chipata	4	2	14	0	74	0	0	26

ITEM 4.2: PERCIEVED COMMUNITY BENEFITS OF A GENDERED APPROACH IN WATER RESOUCE MANAGEMENT

The charts below portray community's perceptions of having a gendered approach to community water resource management. As could be seen, Kalikiliki residents to a larger extent feel that it is beneficial to have women integrated in the water management system. Though women's roles are aligned to what is socially acceptable as women's roles within the cultural framework, their contribution has led to general improvements according to respondents.

Chart 4. **Benefits of involving women in water resource management**



In the above chart, it is indicated that a gendered approach is more appreciated in Kalikiliki, as compared to Chipata compound, where 74% felt that there was no benefit. 73% of respondents in Kalikiliki attributed cleanliness of the water points to the presence of women in the management because they are the custodians of health and hygiene practices. 43% further stated that women are peace makers and hence they manage conflicts better, 30% acknowledged women for their commitment to good service delivery, making them good water watch dogs, and 35% said that women are systematic and orderly. It is rare to find confusion at the water point when it is a woman manning it. They always want to see things done rightly and orderly. All these aspects are what bring efficiency and effectiveness in water management.

When asked in the focus group discussion what roles women play in community water resource management and why they take up such roles, it was confirmed in both communities that women were the communal water point attendants, cleaners and water vendors. One man in Kalikiliki stood and said:

"It is demeaning for a man to take up such responsibilities, those are women's duties, and how can I, the head of the house, be looked at by my friends if they saw me sweeping at the tap, aikona."

Women were quick to defend the men by saying that it was culturally incorrect to let men do a woman's duties;

"Yes men can help with issues of repairing, chairing a meeting, calling for a meeting or representing the community in meetings, mwati ni kupyanga pa pompi olo kutapiza manzi? Iyayi!"(Not sweeping at the water point or being the water point attendant, No!); one woman said.

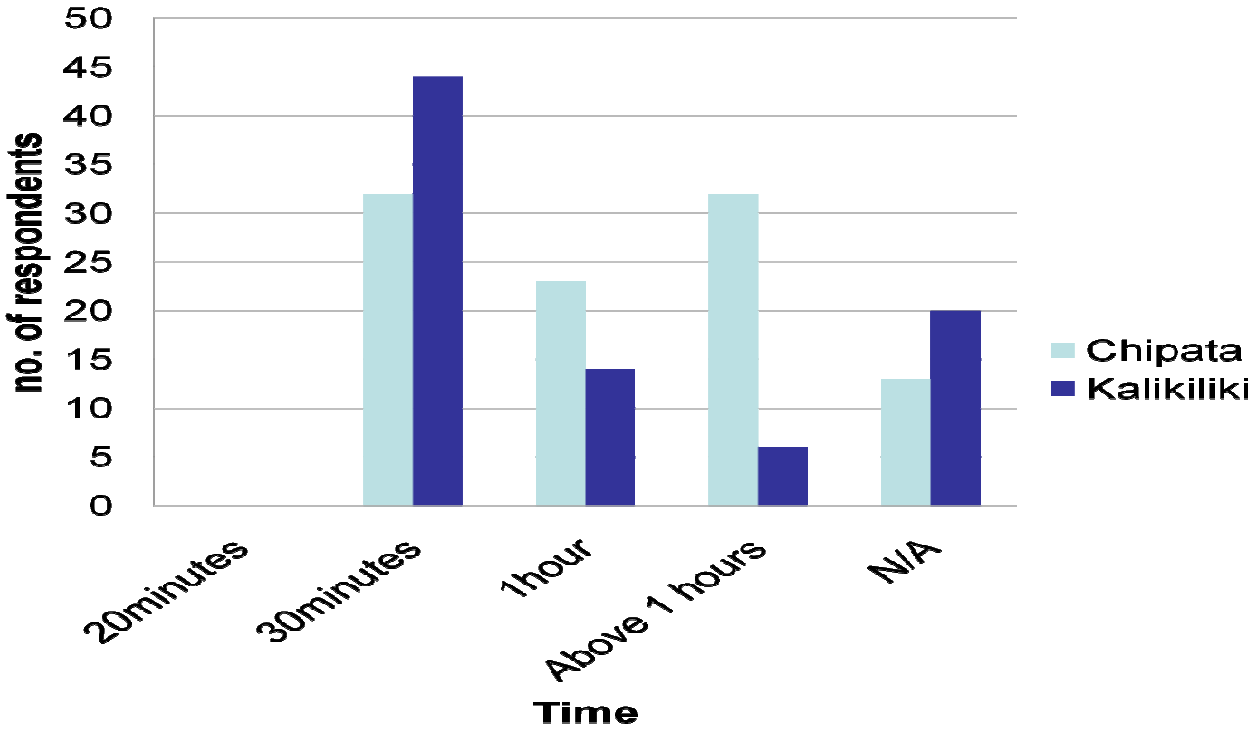
Other findings from the discussions in both communities were that women had the time, patience and commitment to good service delivery. An elderly lady of about 60 years old in Kalikiliki gave further insight into the more reason why men no longer work as communal attendants. She said;

"*initially, men were the ones manning the communal taps, but they started abusing their powers by showing favoritism and sexually harassing women (especially the young girls and young adults), some women would even go back home without drawing any water because they found no favor in the eyes of these men. That is when the system now changed, instead of men, we started using women as tap attendants and sanity downed at the taps".*

ITEM 4.3: IMPLICATIONS ON WOMEN EMPOWERMENT

Because women are not very involved in key process of WRM, it is very rare that the confidence in the skills and knowledge they posses are built. It came to the attention of the researcher that women were unwilling to contribute their knowledge because every time they tried to share their views, they were sidelined. Women and children suffer from time poverty which inhibits them from engaging in other productive activities and school (education). Often the needs of women for water are in sharp contrast with those of men who are usually key decision makers. This is seen in the times water is allowed to run at communal taps. The time water taps are opened from the source and the location of communal taps causes women and children to wake up very early and walk considerably long distances to fetch water. Further, time spent queuing up for water inhibits women/children from engaging in other productive activities.

Chart 5: **Time spent queuing up for water**.



The above tabulations represent the number of individuals who face challenges with water management in Kalikiliki area. These have been aggregated by sex in order to show which sex is most affected. Please bear in mind that the challenges being referred to here are directly related to water supply, for example, the distance to the water point, the time spent on the queue due to too many people being serviced by one water point or because of delayed supply at the tap, water tariffs and other challenges associated with drawing water from an alternative source and water scarcity.

It also came to light that in both communities, both men and women were concerned at the timings that water was available at the communal taps and the short time it was left to run before closing. They further expressed concern at the distances the women and children had to cover to the alternative water source, especially in the dry season. They argued that the time spent in queues and walking to and from water points affected their other productive and reproductive duties. Additionally,

> *"The time we have to queue up for water is a serious threat to our lives because we risk being attacked by thugs or being bashed by buses. Here in Chipata, buses are in a rush, taking people*

for orders, and 16:00hrs -17:00hrs are equally rush hours, as people are rushing back to their homes," said one woman in Chipata compound.

It was discovered that process of participation empowers women as it is a platform for social capital formation. As the women meet and interact with others during the meetings, they identify like minds and team up in order to better their status as was seen in a case of some women in Chipata compound where a few women grouped up to form a social network where they assist each other in getting around the water problems during water scarcity period (October to February). Additionally, participation enables women to acquire new knowledge and skills in the field where they are involved. This was confirmed in the case of women of Kalikiliki who through their participation were oriented and equipped with knowledge and skills they have continued to use. Further, it enables women to break the cultural barriers that enable them to be assertive and use their skills for the benefit of the general community. The commission or allowance gotten from rendering the service as water vendors and water point attendants enables these women to meet other needs, e.g. buying exercise books for school going children.

ITEM 4.6: STAKEHOLDERS' AWARENESS AND THEIR GENDER MAINSTREAMING STRATEGIES

Five key informants were interviewed instead of the proposed ten individuals. This was due to the financial and time constraints faced by the researcher. From the five that were interviewed, two were from the delegated water trust in the two communities, two were from the two partner organizations (JICA & Care International) and one was the Public Relations Officer from Lusaka water and Sewerage Company. From the findings, there was some agreement among the respondents that community participation with particular interest in bringing women on board in water management was a critical factor that would enhance sustainability of the water supply and sanitation service provision, as a well as emancipate women through social capital formation. The most important factors identified were; the ability of project planners and implementers to ensure active participation by both men and women in their catchment areas, willingness of community members to go above cultural barriers that hinder women from fully participating in discussion/decision making in the presence of both sexes, proactive network repair and maintenance, willingness of community members to cooperate with the instituted

water trusts, increased access to support from donors and government departments with the technical knowhow and exploration of more water sources to meet increased demand.

Regarding the existence of a gender strategy, it came out clearly that there was no deliberate strategy by JICA and CARE to enhance women participation in decision making with regards to water management. However, both JICA and Care International were quick to state that: they involved the communities at different levels of project planning and implementation. CARE Regional Programme Manager stressed that in fact, the birth of the Chipata water project was as a result of consultative meetings between the community members (mostly women). She further stated that women were employed as water vendors, as a way of improving their income base after realizing the vulnerability of most women as key custodians of family health and hygiene. To ensure sustainability of the project, CARE, through the leadership of the Regional Programme Manager, instituted the Water Trust Model that ensured community ownership of the project. Representatives from the community were elected to sit on the water trust board. Additionally, the community was mandated to report all leakages in the area, safeguard the water infrastructure from vandalism, maintain the surrounding of the water infrastructure, especially the water points and provide labor for other works that may be required.

LWSC PR Officer explained that the company has a gender strategy in place that caters for the gender issues that arise in water management. He stated that part of the strategy was to ensure that the majority of water vendors are women. He also stressed the fact that when advertising for key positions such as scheme manager, women applicants were mostly encouraged to apply.

CHAPTER FIVE: DISCUSSION OF FINDINGS

This chapter discusses in detail the findings of the study. The findings discussed here agree with most of the literature reviewed in the earlier chapter. These findings were quite revealing and useful.

ITEM 5.1: LEVEL OF WOMEN INVOLVEMENT

The findings revealed that the levels of women involvement at community level in the two communities were very different. Though there was community participation during project planning and implementation in Chipata compound, there has been less involvement after the water project was handed back to the community. Community women indicated that they were only employed as volunteer water point attendants and water vendors and survive on a commissioned allowance which was not even enough to boast their economic status. Key positions (for example managers) in water management are filled by men who are recruited through a competitive process by Lusaka Water and Sewerage Company. This clearly indicates that women do not take up roles in decision making in this community. The composition of the water trust is also biased to men taking the leading roles with only one woman employed as the treasurer of the trust. Similarly, women in Kalikiliki are involved as water vendors and communal water point attendants, with only one woman employed as the Scheme Manager. However, what differentiates the two communities is that, Kalikiliki has a well established system of community representation in processes of decision making, which makes the community more appreciative of the water projects (initiatives). Chipata also has a system in place; however, the feeling from the community is that they still feel they are not well represented. This ties in to what Francis (2003) highlighted as women's needs being misrepresented often times.

From LWSC's perspective, there was little the company could do to actively engage the women despite their realization that a gendered approach is key to sustainability. It was stated that key positions such as Water Trust Manager and Operations officers are filled through a competitive process and women are encouraged to apply. It was further stated that the as a license holder, Lusaka Water and Sewerage company's main role is to provide technical support (e.g. help solve engineering or plumbing problems). It was expected that Lusaka Water Sewerage Company, being the license holder for the Trusts, could

deliberately ensure that gender strategies are being implemented within the Trusts' structures. However, they argued that during initial implementation of the water projects, it was evidenced that women were more proactive than men in Chipata compound for CARE and in Kalikiliki for JICA. Going by the stakeholder's experience, this involvement of women could be attributed to the fact that women felt the urgent need for reliable water supply services so that they can reduce on their burden to draw water from neighboring communities and minimize on the incidences of water borne diseases like diarrhea in children.

ITEM 5.2: WOMEN'S ROLES IN WATER MANGEMENT AT COMMUNITY LEVEL

As people who rely on the water resource daily for food production and household water supply, rural and peri-urban women are a valuable resource in water resource management (United Nations Development Programme 2003; Francis 1998). From the preceding, one would automatically assume that because of the central role of women at household level, they have vast experience and knowledge in water management and that this knowledge can and should be tapped to benefit the community. However, the findings of this study revealed that women in Chipata and the minority women in Kalikiliki underrate the value they can add to the management system, if they engaged themselves even at lower levels of just providing checks and balances for the water management teams. The general feeling in Chipata (about 89% of respondents) was that the tacit and indigenous knowledge that is passed on from one generation of females to another in relation to hygiene, sanitation and water management was insignificant. According to some respondents, they felt this way because every time they have tried to provide suggestions on issues that concern them, their suggestions are discarded by those with the ability to influence policies and policy implementation.

On the contrary, all stakeholders, including LWSC, stressed that women had very useful tacit knowledge in water management that needs to be harvested, documented and disseminated with the view to improving the water sector in Zambia. One respondent said,

"I was so amazed at the high levels of knowledge and wisdom of these women who have never been to school. I have no doubt therefore that they can exhibit the same even in the water projects if they are given the right platform."

Because of the afore mentioned, women have limited themselves to mostly being passive participants in decision processes. Actively they take up roles that are in tandem with the cultural connotations of gender and gender roles.

ITEM 5.3: GENDERS, WATER MANAGEMENT AND ITS IMPLICATIONS ON WOMEN EMPOWERMENT

According to Gender and Development approach (GAD), there is need to remove the disparities in social, economic and political imbalances, if meaningful or people centered development is to be achieved, (Razavi, S., and C. Miller. 1995). The same principle holds true in water management, especially that water is essential for human life and cuts across all issues of economic development. As the United Nations Development Programme (2006) highlighted that in times of scarcity, it is not everyone that experiences the burden of looking for water; rather it is the women and girls. This came out very true in this study. In both communities, issues of domestic water supply and sanitation were seen as a women's responsibility by both men and women. Though they are not the key decision makers at household level, the responsibility of ensuring that there is adequate water supply at home is solely on them and their daughters.

Pictures 1 and 2: The big girl in a black top was in grade 7 and the small girl in a pink top was in grade 3, whereas the girl seated on top of the drum was in grade 6 at the time these pictures were taken in September, 2011. They have abandoned classes to help with fetching water so that their mothers can concentrate on other productive activities. These girls had been at the tap for close to an hour just waiting for water to be opened at this alternative water source in Kalikiliki.

Source: Hellen Shula Kasongamulilo, Sept 2011

Something worth noting is the fact that in both communities, women are not just custodians of household water supply but are also key home providers of food security. Women carry a dual responsibility for the home. And though their level of integration in water management is seemingly different, they all acknowledge that decisions on what time water is supplied and for how long affects them in the negative sense. The common sentiments were that because they have to ensure that the house has food and water at the same time is no simple feat. The time spent collecting water affects the time spent on raising money for the family. There also a concern with water reticulation, it was indicated that the time water was opened, endangered their lives (especially in Chipata compound). One woman narrated how she almost lost her life on her way to drawing water at dawn.

> *"My name is Alineti*, I am 53 years old. I live down the road just a few houses to the water point. You know, here water is a problem and the supply point is opened early in the morning and only for two hours, sometimes if we get lucky they close after three hours. People wake up early to make a queue before the supply point can be opened at 06:00hrs. It was that fateful*

morning, I decided to wake up early so that I could queue up because I had some business to do around 08:00hrs. I wanted to draw water early so that I didn't compromise my 08:00hrs programme. Unfortunately, that morning around 04:00hrs, as I was approaching the tap, two young men jumped into the road from the flowers nearby, they wanted to rape me but one said; 'iyayi boyi ni banknote aba'(no my friend this is an old lady) let's just teach her a lesson not to be moving this time, I started retreating but before I knew it, I was stripped and a knife was in my thigh, I was served by other women who were coming to the tap. When these boys heard the voices, they ran away."

Alineti's story is just one of the many sad stories that depict the plight of women and children in these communities.

United Nations Children Education Fund (2006; p23) notes that "years spent carrying water over long distances can inevitably result in physical damage to the back and neck, as the loads are often very heavy". According to Lusaka Water and Sewerage Company's (LWSCo) Public Relations Officer, women and children in these communities suffer the most in times of water scarcity. He was quick to add that this suffering is not only in terms of drawing water for the household but also in terms of maintaining personal hygiene. Women and children needed to be up at dawn to go and queue up for the water whose supply point is only opened for one to three hours in the morning and one hour in the afternoon, otherwise the household operates with no water because one water point serves approximately a minimum of sixty to hundred households. For Chipata, there was a concern that it was difficult to afford water for the normal running of a home. They felt that they should have been consulted before introducing the tariff system. On the contrary, in Kalikiliki, their tariff has been welcomed and most members preferred the card system because it gave them enough time to save up for next month's payment. The preceding is confirmed in the statement by WEDO, (2003') that

> "When water is scarce, polluted, or unaffordable, women suffer most acutely. As economic providers, caregivers, and household managers, women are responsible for ensuring that their families have water for daily living, and ensure that their families have food security the whole period of the year."

On the other hand, from Kalikiliki point of view, though there were other challenges that impacted on the aspect of women socio-economic empowerment, women involvement in water management was seen as an empowering process in the sense that women acquire new knowledge. For example, when JICA completed their works and handed back to the government and the community in particular, they

realized that there was a knowledge gap in terms of maintenance of these water facilities. This prompted the design of a software package to accompany the hardware component. This soft ware package involved knowledge and skills transfer from the JICA technical team to the community members who would be responsible for taking care of the system. Additionally, a few water vendors talked to stated that despite the commission they got being small; its impact at household level was felt. They argued that normally, they save a little per month as capital or for school fees for their school going children, a thing they stated to be a farfetched dream if they had no such opportunity. Furthermore, working as water vendors and water point attendants allowed them enough time to be with their small children, since they do not have to work for long hours.

ITEM 5.4: BENEFITS OF GENDERED APPROACH IN WATER MANAGEMENT AS PERCEIVED BY THE TWO COMMUNITIES

The respondents in Chipata expressed that they never felt any positive impact of having women on board at whatever level and thus argued that it was pointless to have women involved because even those involved as zone representatives were only concerned about their well being, rather than the broad community concerns. One respondent put it this way,

> *"Bena bali ibikila ama tap pamayanda yabo ukufumya pa CARE elo fwebambi tufwile ukuyatantamina, ngatwalomba ati tutapeko pa mwabo bena batulipilisha ama K500 per 20 liters, inga nililya amenshi yafwa balatulipilisha na ma K1000 per 20 litres. (Those with the opportunity to be involved have taped water from the CARE water points to their homes and charge us K500 per 20 litres when we ask to draw at their homes, in times of scarcity, we are charged K1000 per 20 litres, or we are left with no option but to just go and queue up at the communal tap)".*

The responsibility of caring for the water was thrown to the water trusts, NGOs and government. It was plainly indicated that even those who were employed as water vendors and communal tap attendants did not add value to the way community water systems operated and the way they were managed.

On the contrary, for Kalikiliki settlement, over 90% of respondents indicated that women were highly involved in water management and their impact was felt by the general community. There was great improvement in the way water points were kept, how water conflicts were resolved and there was sustainability. Though women are employed as volunteer water vendors and communal tap attendants

like in Chipata, they were more proactive in ensuring that water systems that are in place operate to the satisfaction of the community, while ensuring sustainability of the water points. According to the operations officer of the Water Trust, this proactive action taken by volunteers was as a result of detailed orientation on their job description and the fact that each zone has representation in the meetings concerning water management. It was the zone representative's duty to get views from the community and present them in the meetings and also make follow ups if community recommendations are not being considered. Some respondents attributed the smooth management to the presence of a female water trust manager.

> *"Mukazi aka nkala mukulu wa nchito makamaka yo onela pa manzi, amaikilako nzelu maningi, cifukwa aziba kuvutika kwa ba zimayi banzake ngati kulibe manzi. Muziba namayo aziba kuti manzi ndiye umuyo wabantu, amaikilako nzelu maningi kuchila azibambo,"one woman said. (When a woman becomes the water manager, she pays attention to water problems because she realizes the suffering of other women when there is no water. she knows that water is life, so she really pays attention to water issues).*

It is clear from the findings that people in Kalikiliki have understood the value of an integrated approach to water management and attributes it greatly to the improvements in service delivery and sustainability of the communal water points. Women in particular have realized their potential in providing guidance and direction on key issues affecting them. However, in most cases when meetings that involve both men and women are called, women opt to participate in silence because this is culturally accepted and in fact demanded. This is the case even for Chipata compound women. The women, therefore, preferred attending meetings that were chaired by fellow women and where the majority participants were women. It was also realized that women have wisdom and intelligence that is useful in water management. For example, it came out strongly that because of women manning the water points; water conflicts are resolved amicably, especially in times of water scarcity. The women ensured that water for households was rationed to the benefit of everyone. Suffice to note was the fact that in both communities, women have coping strategies to water scarcity. The only difference, however, was that in Kalikiliki, the coping strategy was beneficial to the general community (i.e. water rationing at water points) whereas in Chipata knowledge was guarded and only used to the benefit of a few, for example, those who were friends and were willing to work together formed small networks after the *'chilimba'*

principle where they draw a certain amount of water for one household per day until everyone in the network had enough basic supply for at least one week.

CHAPTER SIX: GENERAL OBSERVATIONS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the general observations, conclusions and recommendations drawn from the study**.** The observations presented here also hinge on other inter-related issues of gender and water management

ITEM 6.1: GENERAL OBSERVATIONS

It was observed from this study that women supplemented their husband's incomes by engaging in non-formal activities, like small-scale businesses. Most of the women talked to are either street vendors or had a stand in the local markets selling vegetables, fish, and other items like beans and so on and so forth. All the listed items depend on the availability of water, for example, water for agriculture, water for aquatic agriculture (fisheries) and aquatic life. This shows that the interest of women in water management should not and must not be limited to domestic water supply. World Fish (2010) argued that formal statistics rarely review the extent and nature of the essential contribution of women to men's pursuit of fisheries as a livelihood in low developing countries, when in the actual sense it becomes comprehensively difficult for men to continue their work in aquatic agriculture or fisheries without the women's hidden, under-enumerated and under-valued work.

The perceived gender roles have a greater influence on the differing levels of responsibilities between men and women in the community. The socializing of girls in both communities was different from the socialization of boy children. It was observed that at a tender age, girls were made to realize that it was their responsibility to take care of the household. This was evidenced by the fact that, unless in households where they had no girl child, girls were given the responsibility of helping their mothers fetch water for the family, cook, clean up the surrounding and help at the market, while boys were left to do their own things without much concern from their parents. What was shocking to the researcher was that girls were demanded to show respect to their brothers and put the needs of these brothers before theirs. They were encouraged to obey orders from brothers (especially those slightly older than them)

without questioning. Such socialization impinges efforts to allow men and women to co-exist as equal partners in resource management.

There was inconsistent flow of information from the higher authorities (Lusaka Water & Sewerage, NWASCO) in the water sector (especially in Chipata), which made it practically difficult for community members to make well informed decisions for the betterment of water supply systems in their communities. People expressed alarming ignorance on water management issues. Some even argued that they did not understand why they had to pay for water, a resource that is God given to them. They did not see how the revenue collected from water is used. Most people don't know who to hold accountable for transparency issues pertaining to the revenue collected because there is no communication on the right channel or procedure. This scenario perpetuates suspicions in the hearts of the general population and in turn affects the people's willingness to pay for the service and commodity.

The water tariff associated with the quantity of water drawn at both the communal water points and privately owned water points affects women more than men. Often time's women did not have money to pay for enough water that can sustain a home throughout the day. This leads to one other important point, "willingness to pay does not mean ability to pay". Women, especially in Kalikiliki, expressed that they had no problem to pay for the water they use because they understand that it is from such revenue that the community water systems are sustained. However, they expressed concern that sometimes money is really hard to come by, such that there were times when they could only afford 40 litres of water, especially in times of water scarcity, when they had to depend more on privately owned water sources and were charged K500 per 20 litres.

Water is a potential source of conflict at community level, especially in times of scarcity. Therefore, care should be taken in how water scarcity is managed and in how conflicts were handled. To help community members copy with water scarcity in the dry season, Lusaka Water Sewerage Company provides water through water bowsers to the affected areas. The company has now committed itself to addressing the water problem, not only in the two communities but to the entire Lusaka community.

According to the Public Relations Officer, the company recently signed a MoU with Millennium Challenge Cooperation to implement a water and sanitation development (LWSSD) project worth USD 355 million in Mtendere East and other parts of Lusaka. He further added that though it sounds like a lot of money, more investment is required to cover other areas like Chipata compound.

ITEM 6.2: CONCLUSIONS

When the community is involved in decision making or any activity, there is more acceptance, greater participation, willingness to support and strong sense of ownership. Community participation becomes a process of partnership, as those involved turn to develop a sense of responsibility, as well as ownership. As understood by the policy makers at national level, community participation is seen as a basic right of people, a fundamental principle of democracy, a prerequisite for service sustainability and a catalyst for community self reliance (MLGH/PUWSS, 2005). The study found that community participation in water services is becoming more understood and appreciated by project implementers. For instance all stakeholders talked to acknowledged working with the community leadership where the input of the community was required. One would further conclude that since water is a community resource, community participation is needed at all levels if water and sanitation services have to be sustainable because without it, the users will feel left out, hence may not be willing to safe guard the resource and the infrastructure. This study has clearly shown the benefits of an integrated approach to water management especially in the case of Kalikiliki, where participation was strengthened after the implementing partner handed over the project.

The women are perceived to face the hardships associated with water due to poor coverage and quality of service. Their involvement in water issues was found to be at the lowest level. Of the two water trusts, it was found that it was only in Kalikiliki where the trust was managed by a woman. It was also observed during the visits that the water points were mostly manned by women in both areas. Women and children were also found to be the main collectors of water at most water points. This shows women involvement at community level. Their status in decision making at this level still remains low. In as much as they maybe the watch dogs (in Kalikiliki), their influence on policy direction with regards to

the local water facilities is still very limited. The case is not very different at national level, as confirmed by policy makers in the MLGH. It is acknowledged that although women are generally the key users of water, they are not always well presented in decision making over water issues in Zambia (MLGH/RWSS, 2005). Another study revealed that women are not adequately consulted when water supply and sanitation services are planned, designed, and implemented (MLGH/PUWSS 2001).

It was, however, interesting to find that up to now the gender policy in water and sanitation is still undefined. Nonetheless, it is consoling to note that stakeholders like JICA, CARE and LWSCo have realized that in order for them to enhance service delivery to peri-urban areas, both men and women should play an equal role in management and maintenance of water sources, especially communal systems. This sentiment is also contained in the fifth national plan of the Republic of Zambia, (MOFNP, 2006). JICA, LWSCo and the Kalikiliki water Trust's strong inclination to community involvement has made the community members to have that sense of ownership which has made them to view the project as their own. This is confirmed by Reed (2001) who concluded that since the international drinking water decade, it has become accepted that if water and sanitation services to the poor are to be sustainable, the community must be involved in the provision of services.

In cases where women are failing to step up and make a difference in the way water is managed, it is because they have not fully understood how their skills, abilities and innate knowledge can be used for the advancement of improved water management systems. It is also as a result of the socialization process of women when they are still young girls. Once women are fully empowered with knowledge on how they can make a difference in water management and sustainability, they become serious agents of change with regards to water resource management. It can be deduced that there is a very strong relationship between gender, water management and women empowerment. This relationship is three fold;

1. Women working as volunteers are empowered through orientation on the job description. This translates into the general smooth running of the management system and

consequently trickles down to the women in the community who now have enough time to engage in other productive activities or vice versa.

2. The distances and time used to draw 200 liters of water for a person walking a distance of 45minutes to 1 hour to and from a water source affect the time that person will have left for other economic activities. Not to dispute the fact that both men and women play multiple roles (productive, reproductive, and community management) in society, while men are generally able to focus on a single productive role, and play their multiple roles sequentially, women, in contrast, play these roles simultaneously and must balance simultaneous competing claims on limited time for each of them. Women's labor time and flexibility are, therefore, much more constrained than is the case for men. The World Bank (2006), therefore, notes that time poverty is a key component of the more traditional poverty problem, and one which deserves more attention in poverty diagnostics and Poverty Reduction Strategy Papers. In other words, it is practically impossible for anyone to address women empowerment through participation in water management while neglecting the topic of time management and multiple tasks of these women that compete for this vital yet fixed time.
3. Thirdly, a gendered approach provides the platform for social capital formation which is very vital in the process of both social and economic empowerment for both men and women. Such forums build the esteem of the weaker members of society, as they see others engage themselves actively.

From the case of Kalikiliki, it is clear that women's presence in management leads to efficiency and effectiveness in how the resource is safe guarded. It is also reflected that women make better managers of resources that they feel are cardinal for human survival. From the stakeholder point of view, there is increased awareness on the need for a gendered approach; however, there are no specific strategies (for most of them) that are aimed at getting all community members involved in the water sector. where available, these strategies do not bring out the role of both sexes in the water sector and their implementation are left so much to the delegated water trusts who also lack detailed understanding of why a gendered approach should not be overlooked. However, credit should be given to the Government

of the Republic of Zambia for the progressive strides made towards provision of water services to rural and peri- urban areas through the development and implementation of water sector reforms. According to the study by WSP (2006) "Zambia has the potential to achieve the MDGs for water supply. It has a sound enabling environment of reformed institutions, policy and strategy, and commitment to developing coherent WSS programmes". However, success depends, to a larger extent, on whether the current policies and strategies are implemented and momentum maintained through community involvement and other stakeholder involvement.

ITEM 6.3: RECOMMENDATIONS

1. Zambia has potential to achieve effective gender mainstreaming in WRM, except success depends to a larger extent on whether the current policies and strategies are infused in existing cultures. There is need for policy makers to further understand the various cultures, norms and beliefs at play in different contexts before developing policies. That way, more specific and easy to implement policies will be developed. Furthermore, there is need for relentless focus on emancipative cultural changes that give rise to gender-egalitarian attitudes and self expression values, (Inglehart & Welzel, 2003). Suffice to note is the fact that rising emancipative values almost automatically lead to increases in women empowerment, both social and economic.

2. There is need for evidence-based policy in the water sector to ensure gender equitable outcomes in the pursuit of water management strategies leading to the well- being of households and women empowerment. This, in fact, is more urgent in dealing with gendered impacts of and responses to climate change. Left as it is, current gender disparities will be worsened by economic and social costs to water management anticipated from climate change.

3. Safe spaces where women meet to discuss their concerns on water management, their role and their empowerment should be created. These spaces should, if possible, be chaired by a female There should be an independent regulatory wing that would regulate all stakeholders on issues of gender in water and sanitation. It should ensure that all

implementing partners including private water utilities adhere to the tenets of gender mainstreaming in the water sector and engage in the bottom-top decision making processes.

4. Lastly, but not least, there is need for government ministries like MMEWD,MLGH, Ministry of Gender, Child health and community development, NGOs and water utilities to work hand in hand, if Zambia is to see a day when both men and female complement and affirm each other in safeguarding the water resource.

ITEM 6.4: FUTURE RESEARCH

The researcher is convinced that dissemination of information with regards to the role of women in water management and benefits of a gendered approach in the water sector has been neglected. There were inadequate research materials, especially locally in relation to gender, water management and women empowerment, indicating that there either has been not much research conducted to explore the top or there has been no proper documentation of research papers pertaining to the same. Possible areas of further research may include evaluating the gender mainstreaming policy in the water sector of Zambia. If policy is there and people are enlightened, where is the missing link?

It would also be interesting to do a longitudinal study to assess if reverting the socialization process of school going children can have a different influence on their ability to take up certain roles and responsibilities as boys and girl, and also ascertain if these boys and girls can be used as agents of change in the way communities look at gender in water management.

Lastly, further research is needed to focus on how women knowledge in water management can be translated to community and national benefits.

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Appendix 1: Questioner for Water Trusts

Section I

Name of community ……..

Title of respondent …….....

Section II. Management and maintenance

1. What is the composition of your management scheme?
    1. 50% men, 50% women [ ]

2. 75% women, 25% men [ ]
3. 75% men, 25% women [ ]
4. 100% men [ ]
5. 100% women [ ]

2. Who is responsible for the management of the source e.g. cleaning and repairs incase of any breakdown?
    1. Men [ ]
    2. Women [ ]
    3. Community [ ]
    4. Other (please specify) ……..
3. Who are the main decision makers when it comes to operation and maintenance of the water facilities?
    ……
    ……. ……
4. What are the functions of the main management teams if any?
    .....
    .....
5. Are women involved in the management team?
    1. Yes [ ]
    2. No [ ]
6. If yes what roles do they play in the management and maintenance of the source?
    ……
    ……
7. How do you feel about involving women in water management?
    .....……
8. Is there any difference in terms of improvements recognized by involving women in the management and maintenance of the source?
    1. Yes [ ]
    2. No [ ]
9. If yes please specify……
10. How is the maintenance cost met?…….
11. Are there any challenges you have faced with the management of the water system?
    1. Yes [ ]
    2. No [ ]
12. If yes please specify ……
13. In your opinion what do you feel is lacking and needs to be improved in the management of the water system? .....

Thank you for your time.

Appendix 2. Questionnaire for JICA and Care

Section I: Respondents identification

Institution……..

Name of respondent (optional)…….

Sex……

Position held in the organization …….

Date of interview……..

Section II: Project planning, implementation and evaluation processes

1. In proximity, what is the total area and population covered by your project?

    a. Area …….

    b. Population …….

2. What is the population distribution in terms of sex?

    1. Men……..
    2. Women……..
    3. Children below 18years……..

3. What methodology was used during the planning phase of the water project in the area under mention?

……

…….....

4. Who was involved in the implementation process?

    1. Men from the community and other stakeholder e.g government, donors [ ]
    2. Women from the community and other stakeholders [ ]
    3. Both men and women from the community and other stakeholders [ ]

5. If community members were involved, what were their specific roles?

    1. Men.....
    .....
    2. Women……
    ……..……
    ……

6. Between men and women, who contributed the most throughout the project life?

1. Men [ ]
2. Women [ ]
3. None [ ]

7. In your opinion, why was it so in 6? ……

8. If community members were not involved, please explain why……

9a. Has the project yielded expected results?

1. Yes [ ]
2. No [ ]

9b. if no, why?.....

10a. From your evaluation, has the project satisfied the recipient or beneficiaries expectations?

1. Yes [ ]
2. No [ ]

10b. if yes please explain in terms of socio economic benefits

……

……

……..

11a. have you recorded any notable benefits of involving women in your water project?

1. Yes [ ]
2. No [ ]

11b. if yes, kindly list the benefits in order of importance

……..

……

Section IV: Water use and techniques

1. Why did you set up a water project in this area?

1. To improve domestic water supply in the area [ ]
2. For commercial use e.g for agriculture, fish farming [ ]
3. Others please specify.....

2. Is the water available enough to meet the demand?

1. Yes [ ]
2. No [ ]
3. Partly [ ]

3. What water technology have you put up in the area?

1. Borehole [ ]
2. Hand pump [ ]
3. Piped water to home taps [ ]

4. Is the technology user friendly to women and children?

1. Yes [ ]
2. No [ ]

5. What criteria were used in choosing the technology?

1. Cost effectiveness analysis [ ]
2. benefit-cost analysis [ ]
3. Community preference [ ]
4. Others (specify)……..

6. Approximately how many households share the same water supply facility?

.....

Section V: Policies and strategies

1. What support do you provide and what criterion was used for allocating the support?

……
……

2. Are there any existing policies and strategies adequate enough for the involvement of women in the decision making and management of the water resources?

1. Yes [ ]
2. No [ ]

3. Which management strategies do you think are necessary to improve water supply and women's involvement in water management in the area?

……
……

4. In your own opinion what do you think should be taken into consideration when analyzing the impact of gender in water management and sanitation?

……
……
……

Thank you so much for your time.

Appendix 3: Questionnaire for Lusaka Water and Sewerage

Section I: Respondents identification

Institution……..

Name of respondent (optional)…….

Sex……

Position held in the organization …….

Date of interview……..

Section II: Service Coverage

3. How many peri-urban areas are serviced/receive support from the water utility? …… ……..

4. What is the population of the utility service area?

   1. Chipata Compound
      a) Men…….
      b) Women ……..
      c) Children ……

   2. Kalikiliki Settlement
      a) Men……
      b) Women ……
      c) Children ……..

Section III: Water resources and the area

5. How do you describe the two areas in terms of water availability?

   1. Very good [ ]
   2. Good [ ]
   3. Erratic [ ]

4a. Do season variability affect water availability in the mentioned areas?

   4. Yes [ ]
   5. No [ ]

4b. If yes, what season is characterized by water problem?

……..

5. Which groups and/or gender is affected the most during this period?

1. Men [ ]
2. Women [ ]
3. Children [ ]

6. What do you do to help the water users cope with the challenge?

……

7. What strategies have the LWSC put in place to improve the water supply and sanitation services in Chipata compound and Kalikiliki?

1. Chipata Compound ……
2. Kalikiliki ……

Section IV: Water management and sustainability

8. Who are the other stakeholders involved in the management of water and sanitation services to Chipata and Kalikiliki?

1. Chipata……
2. Kalikiliki……

9. What is the utility currently doing to help these water trusts improve their performance in water management?

……

10. What role did LWSC play in setting up the water trusts?

……

11. What factors make service provision and water management more sustainable in the mentioned areas?

……

……

12. What measures has LWSC put in place to ensure long term sustainability in the provision and management of water and sanitation services in the mentioned areas?

……

13. Could you please comment on the sustainability of the water management system in the two communities in terms of service reliability, technical and financial support?

……

14. What support is LWSC giving to the water trusts in the two communities?

……

Section V: Policies and strategies on gender

15**.** Does the company have a strategy for gender issues that arise in water service management?

1. Yes [ ]
2. No [ ]

16. If yes, could you please elaborate further?

……

…….

17. Are there any existing policies and strategies adequate enough for the involvement of women in the decision making and management of the water resources?

1. Yes [ ]
2. No [ ]

18. If yes, could you please elaborate further?

.....

.....……

19. Which management strategies do you think are necessary to improve water supply and women's involvement in water management in the two areas?

……..... .....

20. In your opinion, what do you think should be taken into consideration when analyzing the impact of gender in water management?

……

Thank you very much for your time and cooperation.

Appendix 4: Questionnaire for community members

Dear respondent, you have been randomly selected to participate in a small scale research under the title: The role of women in water resource management in Zambia's rural setting. This research is meant to inform relevant stakeholders on what is prevailing in the community with regards to integration of women in water resource management. Therefore you honesty will be highly appreciated.

Section I. Demographic data

1. Age of respondent ……..
2. Sex of respondent ……
3. Occupation of respondent…….
4. Income of respondent……..
5. Size of respondent's household……
6. How many adults are in this household? ……
7a. How many children are in the household (below 16yrs)……..
7b. How many of these children are between the ages 1day to 10yrs……

Section II. Understanding women's roles in WRM at household level.

1. What is your relationship to household owner?
    1. Head of the house [ ]
    2. Wife [ ]
    3. Daughter [ ]
    4. Niece [ ]
    5. Mother [ ]
    6. Grandmother [ ]
    7. Aunt [ ]
2. Who is key decision maker in the household?
    1. Myself [ ]
    2. My Husband [ ]
    3. My mother [ ]
    4. My aunt [ ]
    5. My grandmother [ ]
3. Who ensures that there is constant water supply at home?
    1. Myself [ ]
    2. My husband [ ]
    3. My mother [ ]
    4. My aunt [ ]
    5. My grandmother [ ]
    6. My niece (s) [ ]
    7. My nephew(s) [ ]

4. Where do you draw your water from?
   ……..
5. How far is it from your house?
   ……
6. Do you experience water shortage in your area?
   1. Yes [ ]
   2. No [ ]
7. If yes in 6 above, what is your alternative water source?
   ……..
8. How far is your alternative source from your house?
   …….
9. How does this affect your productivity in other socio-economic areas?
   ……
   ……
   ……

Section III. Understanding of women's role in WRM at community level

1. Do women take up active roles in WRM at community level in your community?
   1. Yes [ ]
   2. No [ ]

2. If yes in 1 above, what roles do women play?
   ……
   ……
   ……
   ……
   ……
   ……

   3. Why do women take up such roles?
   ……
   ……
   ……
   ……
   ……
   4. If no in 1 above, why are women not taking part in WRM?
      ……
      ……
      ……
      .....

   5. Are women part of the broader water management team of community water resources?
      1. Yes [ ]

2. No [ ]

6. In your opinion, are there any benefits of involving women in the management of water resources in your community?
   1. Yes
   2. No
7. If yes, what are the benefits?
   ……
   ……
   ……
8. If no, why do you think so?
   ……
   ……
   ……

Thank you for time.

Appendix 5: Focus Group Guide

Good afternoon? My name is Hellen Kasongamulilo, a student from UNZA. I am collecting information on women involvement in water management in your area. Therefore, I am kindly asking for your cooperation and honesty. The information collected here will be treated with the confidentiality it deserves. Saying your name is not necessary in this case.

1. What do you understand by water management? *(probe further)*
2. In your opinion, who should be involved in water management in your community and why? *(probe further)*
3. Are you as community members consulted when major changes that affect you directly are made and implemented in water management?
4. Are you happy with how water is managed here? If not why? If yes what really impresses you?
5. What role do women play in the water scheme and why? *(probe further)*