



Graduate School of Development Studies

**RETHINKING THE ROLE OF ALTERNATIVE SMALL-
SCALE WATER PROVIDERS IN WATER SUPPLY SERVICE
DELIVERY TO THE POOR IN PERI-URBAN AREAS OF
ZAMBIA**

A Research Paper presented by:

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(Zambia)

in partial fulfilment of the requirements for obtaining the degree of
MASTERS OF ARTS IN DEVELOPMENT STUDIES

Specialization:

Public Policy and Management

(PPM)

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The Hague, The Netherlands

November, 2009

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DEDICATION

I wish to firstly thank the Lord Jesus Christ for having opened a door for me to come and study here at ISS in the Netherlands; I wish to dedicate this work to my parents my late dad Mr. A.T. Lesa and mum Jacqueline Malama.

I also dedicate this work to my family especially my loving husband Charles Miti, for their love, prayers and for making this dream come to a reality. I thank Tapiwa my daughter for her patience for having allowed mummy to finish school and lastly, Temwani our unborn child.

ACKNOWLEDGEMENT

I wish to express my sincere gratitude to my supervisor Dr. Sunil Tankha and my second reader Dr. Erhard Berner for their critical comments and guidance for this research paper to have reached this form.

I also wish to thank the PPM staff especially our convenor Des Gasper and our administrator Karin for the support given during my stay at ISS. My friends from Zambia Lumba, Nkole, Manako, Steve and Humphrey may God bless you thank you for the support and encouragement even during times when I was almost giving up. My course mates in the PPM class and TAC team you were the best.

My thanks would not be complete without thanking my brethren in Christ especially Greaterman, Claudine and Verity and the Tabernacle of David family especially Pastor Matthias Akhideno.

My other thank you goes to my colleagues at the Ministry of Energy and Water Development especially Mr. Chundu, Mr. Maimbo Mr. Mwanza, Mrs. Balengu and Mrs E. T. Siatwambo for having allowed me to take leave off my duties at the office to come and study as well as other colleagues in the Ministry, Devolution Trust Fund and Lusaka Water and Sewerage staff for supporting me in one way or the other.

Finally I thank my family especially my husband Charles Miti, my mum, Jacqueline Malama, my mother in law Betty Mbewe, my sister Paxina and my cousin Penelope for the emotional and spiritual support and for taking care of my daughter Tapiwa while I was away and for their patience with me. I also extend my gratitude for the spiritual and moral support from my Bishop Chalwe and his wife and the Kabulonga Victors Temple family for the prayers may God bless you all.

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List of Acronyms

CP	Community Participation
CU	Commercial Utility
DTF	Devolution Trust Fund
GRZ	Government of the Republic of Zambia
LWSC	Lusaka Water and Sewerage Company
MDGs	Millennium Development Goals
NGOs	Non-Governmental Organisations
NWASCO	National Water and Sanitation Council
PUU	Peri Urban Unit
RDC	Resident Development Committee
SSPs	Alternative Small-scale Water Providers
WHO	World Health Organisation
WWGs	Water Watch Groups

Abstract

This paper examines how the role of alternative small-scale water providers who can either be formal or informal have improved water supply delivery services in peri-urban areas, which are not being serviced by water utilities due to absence of water infrastructure and unplanned nature of these areas. Using literature review, this paper examines the range of ways in which the poor access water and shows that the conventional approach of provision of water to peri-urban areas has not matched the growth of these areas. Other water providers have come in to fill the supply gap and although they are not recognised by Government, they operate along side formally recognised arrangements and are making a significant contribution in improving access to water in peri-urban areas. Rather than continue ignoring them, the key lies in Government and water utilities recognising their existence and incorporate them as partners in improving water supply in peri-urban areas by making the necessary policy and regulatory provisions to improve the hostile environment in which they operate.

Relevance to Development Studies

The commitment by countries in the world to meet the Millennium Development Goal of halving people without access to water has forced countries in the developing world to relook at their approach to water supply in peri-urban areas where majority of poor people reside. The challenge therefore for policy makers and development experts is to further understand how sustainable partnerships between Government, utilities and other stakeholders can be developed to accommodate alternative small water providers so that MDGs can be achieved by 2015 and beyond.

Keywords

Alternative small scale water providers, peri-urban areas, partnership, water supply, water utilities, water vending, recognition, subsidised connections, water tariffs.

CHAPTER 1

1.1 Introduction

The focus of this research paper is to examine the role of alternative small-scale water provider (SSPs) activities in improving water supply delivery in peri-urban areas of Zambia who take different forms in the water supply chain. Though some of their activities are not recognised or they are ignored by formal water systems and Government, they are making a significant contribution to improving water service delivery to peri-urban areas; for purposes of this research, the form of Alternative SSPs which will be considered are standpipe water vending kiosks which have a formal arrangement with the water utility and operate on commercial lines though other types of informal Alternative SSPs exist and operate side by side in the distribution chain of water though they are not recognised.

Most households in Zambia about 65 per cent in peri-urban areas are unable to afford private household connections because their incomes are unpredictable and irregular due to high levels of unemployment; and seasonal wages. Standpipes managed on commercial terms are considered appropriate for these areas because it allows them to purchase the amount of water they need and can afford; standpipes offer a flexible option for livelihood strategies for poor people in peri-urban areas. In Zambia, standpipes have been a key strategy in improving access to water services for populations in peri-urban areas. So far, approximately 300 standpipe kiosks with other related infrastructure like boreholes pipes and storage tanks have been constructed and around 500,000 residents are accessing water in 20 different informal settlements (GTZ: 2009). Water is sold by the container, usually a 20 litre container at a fixed tariff approved by the regulatory agency of €0.01 which is a cross-subsidy from water sold to individual households with piped connections and the standpipe operators are obliged to display the price at the kiosk.

Water is sold to individual consumers who come to fetch water as well as to distributing vendors though despite them engaging in these activities they are not recognised or they are viewed by the utilities as informal hence they are ignored.

The position is that, there is need to rethink the negative approach of Government and water utilities towards other alternative SSPs; they need to recognise their contribution by making the necessary adjustments to accept them and develop partnership mechanisms to strengthen their activities such as making them legitimate through appropriate legislative and regulatory frameworks which support their initiatives at the policy level to improve the environment in which they operate because they are complementing Government's effort in improving water service provision in low income areas hence they should be considered as an alternative. Utilities can engage with both the formal and informal water providers at different levels in the form of recognition, dialogue, facilitation, contracting and regulation (Samson 2006).

This paper will identify who alternative SSPs are and what their role in water supply service delivery to the poor in peri-urban areas has been in general based on literature review by Kariuki and Schwartz (2005), 10 country case studies done by Collignon and Vezina (2000), as well as case studies by Allen et al., (2006) of five metropolitan cities. Additionally, literature review was done on studies by Water Utility Partnership in nine sub-Saharan countries which tried to understand how water supply services reach the poor in peri-urban areas. Based on the findings, lessons will be drawn which can be applied more specifically to Zambia which is grappling with the problem of limited access of water services to communities in peri-urban areas. Though standpipes have been employed as a strategy for provision of water in peri-urban areas, there is need to scale up this activity by incorporating other forms of water vending which are informal and are already in operation.

There is currently a realisation throughout development literature that alternative SSPs whatever form they may take are making a valuable contribution in meeting the water requirements of the poor communities who are not being reached by water services provided by conventional methods which are generally supported by Governments. According to Njiru (2003: 1), 'Considering the number of people involve, the financial outlay required, and the prevailing economic situation, it is unlikely that urban water utilities in developing countries can, on their own, keep up with the water requirements of the rising urban population using conventional water supply infrastructure'. Evidence from studies done in different developing countries in Africa, Asia and Latin America (McIntosh, 2003) suggests that a large proportion of the poor in peri-urban areas do not have access to adequate supplies of water and are relying on alternative SSPs who have moved in to fill this supply gap. Many informal settlements in Zambia lie outside the city margins and lack conventional water supply infrastructure despite being home to large percentage of the urban population. Due to rapid urbanisation, both public and private water utilities have not been able to match their water service provision to these area yet in one way or the other, residents have been able to meet their daily water needs by buying water from Alternative SSPs.

Literature review by Kariuki and Schwartz (2005) identified that 10,000 small scale water providers existed in 44 countries in 100 locations; they mainly operate in areas where coverage levels are low with a growing gap between those customers who are served and the unserved; they are also found in areas with connections to main water utility network but with running water rationed to a few hours in a day. And lastly they are found in areas which water utilities find difficulties reaching physically due to the geography of the area e.g. hilly areas, plateaus and generally unplanned areas due to the up hazard nature in which houses have been constructed. Alternative SSPs obtain water from different sources and sell water using different means to residents without connections to conventional piped connections. In Zambia, the most common is that of both standpipes operated and owned by utilities as well as standpipes that are community owned but operated on a commercial basis and for profit (Lidonde 2008); additionally, water carriers engaged in door-to-door water deliveries are steadily increasing due to rapid expansion of new informal areas as well as individual households reselling utility water to neighbours who are not connected.

From literature review of various studies on Alternative SSPs, this paper will identify who these alternative small-scale water providers are and as they operate in Africa and other developing countries but relating it to the Zambian context and what their role has been in meeting the water supply needs of poor in peri-urban areas; further it will bring out what their advantages are; the challenges they face because of their informality, what lessons can be learnt from other country experiences and suggest what strategies can be incorporated to scale up their activities in water service provision.

1.2 Indication of the Problem Area

In recent years, there has been a widespread recognition and acceptance that traditional water utilities have fallen short in providing adequate water services to populations in their countries especially the urban poor. A large proportion of people living in peri-urban areas do not have adequate water supply services and presently the situation is that service performance by most utilities is declining because their services cannot match the rapid population growth and growing demand for water in these areas.

Over 75 percent (Collignon and Vezina, 2000) of poor people in the peri-urban areas get their water from Alternative SSPs who get water from different water sources to meet the growing demand for water; however, there is little recognition and support from both Government and utilities of their activities to improve access to water in peri-urban areas. Further, little effort has been made to develop their capacity or legalise their activities because they are considered to be too small and diverse to be regulated and illegal; formal water utilities in the past have viewed them negatively and have considered water service delivery as a monopoly. Despite the crucial role they play in water supply in peri-urban areas, their activities are discouraged and ignored (Kjellen and Mc Granahan, 2006). Additionally, banks and other lending institutions consider them as highly risky and therefore do not offer them credit facilities. There is however a re-emergence of informal alternative SSPs whose activities are more pronounced in low income areas in developing countries where the majority of the urban population reside.

Clearly, from available literature, there is a strong indication that Alternative SSPs exist and their activities have been steadily increasing in many developing countries and are responding to the challenge of water service delivery; Kariuki and Schwartz (2005) suggest that it is not possible to estimate the coverage levels of Alternative SSPs even from countries where research was done; this is because their activities are viewed as a temporary stop gap and their activities are not documented in national statistics and other documents. Their market niche are meeting the water needs of low income communities by providing water in creative ways because they increase the choice for the poor as their service delivery is tailored to meet the needs of the poor who can only afford to pay for small quantities of water. Yet little effort has been made to improve the hostile environment in which they operate and the incentives that they are offered are negligible.

It is therefore, important that Government and private sector recognise

that Alternative SSPs are part of the solution and they should be strengthened in order for their activities to be scaled up to meet the challenge of water supply in low income areas and that policy provisions should be made to develop their capacity and maximise their potential to reach the unserved which has not been done up to now.

1.3 Relevance and Justification

In many developing countries especially countries in Africa, urban population is growing at a rate of 5-9 per cent (Njiru, 2005) and infrastructure development is not matching this growth. Informal settlements account for 40 to 70 per cent of the urban population; they are often on the outskirts of cities and lack basic infrastructure like proper roads, water supply networks and other social amenities because of their unplanned and illegal status. The most common problem is that of inadequate water supply. Evidence, (UCLA African studies, 2003) from many African countries shows that, the approach of having piped water connections for all residents is not achievable when large sections of low income areas are not served by existing networks. In assessing alternatives for water provision to peri-urban areas; it would be important to look at what has existed, who have been the main actors in service provision of water and how the poor have been accessing water. While there is increasing acceptance of the role that Alternative SSPs are playing in water provision, there is not always consensus on the best way to create a policy and legislative environment that can enable their recognition and contribution.

Alternative SSPs are already playing a very important role in water service provision for poor populations in peri-urban areas and will continue to do so in the coming future; hence rather than ignore or view them as informal and illegal, their capacity should be built so that they provide better services and accepting them as being legitimate (Njiru, 2005) contributors to water supply by also assisting them to improve their technology and the environment in which they operate; further, it would be of great value to consider them as an alternative to provision of water services in peri-urban areas though they need to be more organised in order for them to be regulated at different levels.

Research Objective

The objective of the research is to examine how the role of alternative small-scale water providers (Alternative SSPs) activities has improved water supply service delivery to the poor in peri-urban areas and how their activities can be strengthened drawing lessons for Zambia from literature review of their activities from other countries by various scholars in water literature.

1.4 Main Question

How has the role of alternative small-scale water providers (Alternative SSPs) activities improved water supply service delivery to the poor in peri-urban areas in Zambia?

SUB-QUESTIONS

- Who are the alternative small-scale water providers (Alternative SSPs) and what conditions do they operate in?
- What challenges do they face and what strategies and mechanisms can be put in place to address them in order to strengthen their activities in water service delivery in peri-urban areas?
- How can their activities be scaled up for their role to be enhanced through policy recommendations to improve service delivery in the peri-urban areas?

1.5 Methodology

This study was based on secondary data using desk study and evaluation of findings from literature review of studies around small-scale water providers in Africa and other developing countries by scholars such as Collignon and Vezina (2000), Njiru (2002, 2003, 2005), Kariuki and Schwartz (2005), Snell (1998), Kjellen and Mc Granahan (2006) and Allen et al (2006) as well as publications by the Water and Sanitation Program under the World Bank and Water Utility Partnership Africa Region, reports, and evaluation of baseline report (2005) by NWASCO and DTF on the water supply situation in Zambia as well as GTZ report (2009) on water kiosks in Zambia. These reports were used to answer questions on who Alternative SSPs are, what conditions they operate in. Literature review of studies on Alternative SSPs country experiences was also used to answer the question of what challenges they face and what interventions have been used to incorporate and scale up their activities which provided a basis on which lessons were drawn for Zambia.

Sources of Data

Relevant data was collected from online publications on small-scale water providers, journals, country study reports as well as other reports, articles, books and other materials from the ISS library.

Limitations of the Study

The study was limited by inadequate available reports from research done in the area of study. It is clear that documented information of activities of alternative SSPs especially in Zambia is scarce. Therefore, the study to a large extent relied on secondary sources from studies done in countries with similar characteristics as Zambia.

1.6 Structure of the Paper

The paper is structured as follows:

Chapter one gives an introduction to the topic on alternative SSPs as they relate to the Zambian context, it elaborates on the problem area and the relevance of the study. Further, the objectives and research questions are outlined explaining the method that was used in the study.

Chapter two discusses the conceptual framework and literature review covered; further it also explains the analytical framework which was used in the study. Chapter three gives the overview of the case on water vending kiosks in Zambia. Chapter four discusses the findings and analysis of the research findings.

Finally Chapter five provides the conclusion, policy implications and recommendations for improving water delivery services in peri-urban areas of Zambia drawing lessons from other country experiences in other developing countries.

Chapter 2

2.1 Conceptual, Analytical Frameworks and Literature Review

This chapter will explain and discuss in detail the different concepts that have been used in the research as they relate to alternative SSPs, highlighting their characteristics, advantages and challenges they encounter in their operations.

Overlapping Categories and Definitions of Water Vending and Reselling

Any form of sale of water can be referred to as water vending; 'in water literature, vending does not refer to utility sales but rather to reselling or onward distribution of utility water or water from other sources' (Kjellen and McGranahan 2006: 8). Zaroff and Okun (1984: 289) have defined water vending as,

the sale and distribution of water by container, it ranges from the delivery of water by tank trucks,...to carrying of containers by individuals...the water may be obtained from private or municipal taps, stand posts, rivers, or wells and sold either from a public vending station or door-to door. Vendors can either sell directly to consumers or act as middlemen, selling water to carriers who in turn sell to the consumer.

Whittington et al., (1989b) points out that all vending systems may have one or more types of vendors which include wholesale vendors who obtain water from a source resell it to distributing vendors; distributing vendors on the other hand obtain water from a source or a wholesale vendor and resell to by making door-to door deliveries while direct vendors sell water to consumers who come to buy water at the source. Kjellen and Mc Granahan (2006: 3) suggest that the most common type of water vending includes, 'direct vendors or resellers selling water to consumers from standpipes or household connections as well as distributing vendors delivering water to people's homes'. Katko (1991: 63) refers to reselling to mean, 'The owner of the water connection sells water to customers who come to fetch it'.

Direct vendors may take different forms of kiosk or standpipe operators; Collignon and Vezina (2000) divide them into three categories depending on the extent of investment, legal requirements and recognition. Based on this, they are categorised into standpipe operators who comprise small entrepreneurs who operate standpipes installed by the city water concessionaire; licensed water resellers contracted to resell water from household piped connection and unlicensed household water resellers.

A water vending kiosk on the other hand, according to Kjellen and McGranahan (2006) is any immobile water vending location which is usually strategically placed in a community which is operated by a water vendor or an attendant who works on a contract with a utility. In Zambia, standpipe water

vendors enter into a contract and operate water vending kiosks that are constructed and owned by a utility; these can also be seen as resellers or onward distributors of utility water at a price determined by the regulatory agency in the *Zambian context*. It is also important to note that in water literature, in most cases, resellers refer to households who sell water from their individual household connections while standpipe operators or kiosks most of the time are used to refer to officially recognised water resell activities (ibid 2006).

Alternative Small-Scale Water Providers

Alternative Small-scale water providers exist in many different countries and are known by different names, for some they are called independent water providers, small scale water providers, small scale informal entrepreneurs, informal water providers, water vendors, water resellers; however for this research, the term alternative small-scale water providers (Alternative SSPs) will be used. It is important to note that there is no standard definition to describe Alternative SSPs. Others use the term vendor to describe water providers who engage in door-to-door water deliveries or a person selling water including household resellers who sell water from their connections.

Literature review on alternative SSPs shows that some use the term independent water providers to describe water providers who do not have institutional relationship with a water utility; while others use it to refer to water providers who are financially autonomous and do not receive any form of subsidy; however Kariuki and Schwartz (2005) recommend that independent provider denotes water providers who are not linked physically to a water utility, they have their own source of water which they produce and sell. Alternative SSPs take different organisational forms which can be profit oriented or not. To a large extent, Alternative SSPs are established for different reasons which include responding to high consumer water demand, a water crisis or just as a business activity. Generally, Alternative SSPs play three very important roles namely, they are gap fillers in areas with low water services, they pioneer i.e. develop water systems in areas where water utility services are limited despite consumer demand and lastly, being sub-concessionaires who buy water in bulk from water utilities and sell it in turn to consumers. 'Alternative SSPs are increasingly playing the role of water service provision, compensating for or supplementing the limited financial and human resources of public sector' (ibid: 6).

Classification of Alternative Small-Scale Water Providers

Kariuki and Schwartz (2005) refer to them as small-scale private service provider's whose common characteristics should be considered using two main axes namely the relationship with the source of water and the technology that they use.

The Relationship to the source of water

- Alternative SSPs can be considered to be independent in situations where they have their own source of water supply such as a borehole or a

well;

- Alternative SSPs can be considered to be dependent if they rely on a formal water utility network as their main source of water supply; thus Kariuki and Schwartz (ibid: 12) argue that, ‘the nature of policy, legislative and regulatory frameworks for the Alternative SSPs varies according to the source of water involved’.

Technology or System

- Literature review by Kariuki and Schwartz (2005) shows that three categories can be used to describe technology used to deliver water supply which include networks with a fixed system which directly connects a customer like an individual household connection or a point source; point sources such as public taps or water kiosks where consumers purchase water using containers and lastly there are mobile distributors like water tankers and cart pushers or water carriers who engage in door-to-door deliveries.

Small-scale private service providers’ organisational characteristics have various legal frameworks under which they are established but salient features to a large extent are the strength of the profit motive as well as their legal status.

UN Habitat (2003) point out that in urban areas of Africa and Asia, water kiosks – stationary water points are particularly important. Mobile distribution water vendors obtain the water they sell from different sources and deliver to households in small quantities in jerry cans using bicycles, wheel barrows, on foot, use animal drawn carts or are mobile water distributors using water tankers. Collignon and Vezina (2000) suggest that a large proportion of population in peri-urban areas depend on water for domestic use from the informal water vendors (as they call them) who hold up to 50 to 80 percent of water supply market in these areas hence they play a very important role. This is also supported by evidence from studies by Njiru (2002) who argues that small water enterprises as he calls them are the main providers of water to peri-urban populations who make up a large proportion of the urban population. They extend water services to informal communities who are less likely to be served by water utilities; exploratory research on informal alternative shows that they are found in many African cities such as Mombasa, Accra, Nairobi just to mention a few out of the many cities.

Water provision can be considered as formal when it is provided by bodies such as water utilities or registered water associations. Formal water vendors are registered and usually have short term distribution contracts with a utility; they obtain water from the utility supply networks. Informal alternative on the other hand are defined as, ‘illicit or semi-illicit not formally recognised or formalised by Government’ (Pangare and Pangare 2008: 2). The World Bank (2003) suggests that informal alternative SSPs may vary from independent providers from the household to private entrepreneurs; they are primary suppliers and complement formal water providers. Activities of informal alternative SSPs vary in nature and scale depending on different circumstances such as topography, water resources, the regulatory framework and utility service levels (McGranahan et al., 2006).

Nature of Alternative Small-Scale Service Providers

Similar to Kjellen and McGranahan (2006) classification of Alternative SSPs, Njiru (2005) argues that small water entrepreneurs are small scale water providers who have moved in to fill the gap left in both urban and peri-urban areas by formal water utilities. They fall into different supply chains with varied functions and actors with different water sources. He suggests that informal alternative SSPs fall into three different categories:

- Wholesale vendors who obtain water from a utility's network and distribute to both distributing vendors and individual consumers;
- Vendors who obtain water and distribute it door-to-door to consumers at a price
- Direct vendors include households with individual connections who sell water to consumers who come to fetch water at the source

Typology of Alternative Small –Scale Service Providers

Kariuki and Schwartz (2005) in their review of documents on small private water providers in 44 countries all over the world found strong indications on the steady increase in activities of informal water vending; they observed that Alternative SSPs develops as an initiative from a private entrepreneur who invests in the venture using private capital and they sell water along commercial lines. They classified Alternative SSPs into:

Piped network operators:

- These have small networks with 5 to 50 connections that initially began as individual borehole owner or a utility water distributor who are more likely to have a legal status.

Point Sources:

- Standpipe managers: they are also referred to as water point or kiosk operators resell water obtained from a utility and they are usually recognised by the utility; they usually have an operating contract.
- Customer resellers: an individual uses his private connection to resell water to surrounding households without connections. They charge water by the bucket; this practice is illegal but tolerated in most cities.

Mobile Distributors:

- Water carriers: these include those who operate water tanks and non-motorised carriers depending on the mode of transport they use to deliver water to their customers; they comprise street carriers who sell water by the bucket and push cart operators who sell water to customers according to consumer demands and availability of water. Kjellen and McGranahan (2006) suggest that these distributing vendors often resell water obtained from household resellers or standpoints at the same price as other households buy water for domestic use; however to a large extent, the price at which water is sold to the last consumer is determined by the cost, distance between the source as

well as effort in obtaining the water.

- Water truckers: these are found everywhere especially in areas where utility service is low as well as unserved areas, they obtain bulk water from utility network supplies and resell by the bucket or container.

Key Provider Characteristics

Snell (1998) suggests that Alternative SSPs can be individuals who are innovative and normally provide water to areas which in normal circumstances would not reach be reached by water utilities; she cites examples from Senegal, Haiti, Dakar and Kenya. Competition and pricing also plays a very important role for informal water vendors; the different water vendors can be said to have a monopoly within each area of operation and market niche which is reflected in the price of the water. For instance water truckers are mobile and have a wide choice of water sources and they set the price for the water at high prices compared to other vendors depending on distance and source of water. They target consumers who have little time to collect water and are willing to pay high price at certain times of the year when water is scarce in high, middle and low income areas.

Water kiosks are next (medium) in terms of price charged per bucket because they provide larger volumes of water, in Kenya for example, there is stiff competition among water kiosks operators for the same customers because the business is lucrative; on the other hand, resellers of water from home connections are the least expensive in terms of volume; in most cases this is because tariffs are not increased regularly and they do not cover capital costs. The cheapest source of all is water obtained from shallow wells, springs and rivers though the quality of water is poor; the water is mostly used for washing clothes and bathing.

Advantages of Alternative Small-Scale Water Providers

Van Dijk (2008) suggests that the role of Alternative SSPs is most common in Africa in areas with low coverage levels and where public water utilities are ineffective, he further points out that though they operate outside the legal framework, they complement formal water providers and they have the potential of becoming local small scale operators and can deliver water close or even at the 'doorstep' where conventional utilities have failed. Several studies done in recent times have shown that Alternative SSPs provide valuable services to the customer (Forrest 1999, Njiru 2005, Kariuki and Schwartz 2005); this is because water services provided by utilities are decreasing when compared to the percentage of urban population growth leaving many people unserved; hence informal alternative SSPs move in to fill the water supply gap. The greatest advantage they have is that they are demand responsive (Solo 1999). Most of them live in the communities they serve; they know their customers well and have rapport with their customers, they are able to adapt to the local conditions.

They offer convenient, flexible services and their prices are flexible to suit

the needs of the consumer. Their prices to a large extent depend on factors such as source of the water, distance, water availability, and water quality and consumer loyalty. Collignon and Vezina (2000) in their study of African countries showed that consumers are satisfied with their services for being time efficient and commercially sensitive to consumer feedback. 'Apart from extending water services to settlements that have little prospect of being supplied through conventional distribution systems, SWEs may even be more convenient for poor households' (Njiru 2005 <http://www.lboro.ac.uk/well/resources/fact-sheets/> accessed on 28/09/09). Alternative SSPs activities creates employment opportunities for local communities even for those engaged in mobile distribution of water; if given the necessary support by Government or utilities, they can operate efficiently and can provide water when and where it is needed but due to the informal nature of their operations; their contribution has not only been ignored but also discouraged.

Challenges of Alternative Small-Scale Water Providers

The fact that alternative small-scale water providers (Alternative SSPs) operate on a small scale puts them at a disadvantage in terms of economies of scale, they are informal by nature and are often considered as illegal; they are most of the time accused of providing water which of poor quality. Studies (Dardenne, 2006) have shown that consumers associate the quality of the water to different water uses depending on the source. Additionally because of their nature, they cannot easily access credit facilities from banks because they are considered to be high risk.

Other constraints faced by Alternative SSPs as highlighted by Njiru (2005) include the fact that they operate in a hostile regulatory environment, they have weak technical skills as well as capacity, strict business regulations deter their operations as well investment in the business. In a nutshell, constraints they face can be attributed related to factors such as unfair competition due to the nature of operating environment, inadequate financial resources, social discrimination and inadequate policy provision (Marteau 2008).

Water for the Urban Poor

Communities in peri-urban areas are often least serviced by water utilities because they are not legalised areas (Snell, 1998); it is worth noting that a large proportion of the peri-urban population purchase water for their daily use especially water for cooking and washing from water carriers who deliver what water utilities are unable and sometimes reluctant to provide. 'Given the general inadequacy of service provision in the peri-urban context, most households have to spend a significant percentage of their income to obtain water among the poor this often represents about 10-15 percent of households income' (Allen et al., 2004: 18). Compared to high or middle class households, poor people spend more on water than wealthier households. These households have normal network connections and their water supply is at a lower cost per unit volume (Bakker et al., 2008) implying that they spend less of their income for greater volume of water.

In many developing countries including Zambia, Alternative SSPs in the

form of formal standpipes operated as water kiosks are the main players in the water supply market especially in poor communities where the reach of utilities in water services is limited or absent all together; unfortunately, development planning does not recognise the existence of informal water vendors and it ignores systems that have been developed over time. 'The myth that the poor cannot afford to pay for water ... has never been widely believed by small providers; whether entrepreneurs or communities, they know people will pay for water...' (Snell, 1998:9).

Water is both an economic as well as a social good. As a social good it takes into cognisance aspects of social commitment such as quality of the water, quantity as well as the price (affordability) for every household. Yet beyond this, water is treated as any other commodity making it an economic good on the market and one gets a service which he is willing and able to pay for. Of course this has implications on populations especially the poor in peri-urban areas who cannot afford to pay for water connections because the service is not available; even if it were, the fees are unaffordable.

Water as an Economic Good

Increasingly, water is being seen to have an economic value and therefore, should have a price in the interest of its efficient management hence water services should be privatised so that people can pay in order to have access because it's produced at a cost which should be recovered. This further raises issues of willingness to pay which is estimated to be between 1 to 10 per cent of household spending; it is a common belief by private water utilities that the poor are unable to pay for water services, however, recent studies (Reddy and Vandemoortele, 1996) are challenging this and they show that the poor already pay more for the water they buy from water vendors and neighbours. The issue is that there needs to be a link between willingness and ability to pay and the two issues should not be treated in isolation. Already, in many developing countries, informal water markets exist alongside formal systems and they have different market niches.

Citizens or Consumers

A critical question that is increasingly being asked in the current water debate with regard to the peri-urban poor is whether they are citizens who have a right to water services or they are consumers in the water market who should be exposed to demand and supply forces in the market. As an official at Suez Water Company put it, 'God provided the water, but not the pipes' (Black, 2004: 68). Human rights and development theorists argue that water should be regarded as a public good and therefore even people in peri-urban areas have a right to access it and it can be best administered by the state or public sector in co-operation with the third sector or civic society. Hence when water is defined as a human right, it refers to, 'it being a legal entitlement, rather than a commodity or service provided on a charitable basis' (WHO, 2003:6). Allen et al., (2006) argues that the poor in the peri-urban context are both citizens and consumers; though constitutional provisions exist which portray water as a human right which everyone should have access to, this has drastically changed with the commercialisation of water services. This has come about because of water reforms which many developing countries implemented that brought about the total or partial privatisation of basic social services including water.

There was also a ‘reformulation of the universal right to water, at the policy level this right is often restricted to those in need’ (Allen et al., 2006: 33); further their study (ibid 2006) notes that it is important to scrutinise how these definitions affect people and the peri-urban poor in particular. In the case of the Zambia National Water policy, the stipulated objective is that of promoting a ‘sustainable water resources development to facilitate equitable provision of an adequate quantity and quality of water for all competing groups of users at acceptable costs, while ensuring security of supply under varying conditions’, (Zambia National Water Policy, 1994: 14) which clearly shows that water is being treated as a commodity in the market which should be paid for in order to access it regardless of whether one is rich in the urban areas or poor in the peri-urban area though it is difficult to tell what the phrase acceptable costs in this context means.

In comparison, for Tanzania, the Water Utilisation Act (1974) and the Water Policy of 2002 regards water as a social good in as far as provision of water through public systems is concerned. However, due to the high costs of providing safe water, peri-urban communities pay a subsidised rate for water which covers maintenance and running costs. On the other hand, informal vendors who sell water charge commercial rates because the government is unable to provide water as a social service due to the overwhelming number of peri-urban areas that have developed over time.

Why Water Utilities Do Not Connect To Poor Households in Peri-Urban Areas

This section will briefly discuss factors that can be attributed to water utilities’ failure to extend network water services to peri-urban areas. A primary factor which can be attributed to this state of affairs is that the supply of water low income areas is not a priority for most water utilities; additionally, even if the network is extended, the production capacity is outstripped by demand due to rapid urbanisation and population growth. Land use policies which are implemented in most cities of developing countries limit provision of social services including water supply to areas which are in official land development plans, peri-urban areas are considered illegal and therefore are excluded from access to social services.

The business model adopted by many water utilities in most developing countries of providing water services through conventional distribution networks is inappropriate as far as peri-urban areas are concerned, pipes are usually either vandalised or residents connect themselves illegally. Hardy and Schusterman (2000: 5) argue that, ‘There is a contradiction between the requirement of 100 per cent coverage and the prescriptive framework that proposes the use of conventional water and sanitation systems which are technically inappropriate for many low-income neighbourhoods and which imply costs that are unaffordable by low-income groups’. Distribution pipes are not replaced frequently which result in leakages; pipes bursting often the levels of unaccounted for water are high. Generally, water utilities are driven by the notion of full cost recovery and consider peri-urban areas to be ‘bad’ for business because of the myth that the poor are unwilling to pay for water services. Evidence suggests that water utilities are reluctant to extend services to peri-urban areas because they are seen to be unprofitable and risky; areas

that are not profitable are excluded from the areas to be serviced in the contract (Budds and Mc Granahan 2003).

For example Nickson (2001) in a study has shown that in both La Paz and Cartagena informal settlements were excluded from the service areas in the contract because they were situated on the city margins, additionally in Cote d'Ivoire, sparsely populated rural areas were excluded from being serviced in the renegotiated contract for a private water company. This is similar to the conclusions in the NWASCO 2007/8 report where it was said that utilities in Zambia are reluctant to extend service to peri-urban areas because they are not profitable and difficult areas to work in. Other reasons given as in the case of Córdoba and Buenos Aires city and province where low cost areas were excluded from being serviced despite them falling within areas to be serviced by the company were that the area was illegal despite the contract stipulating universal coverage.

Another factor can be due to the fact that private investors are not given economic incentives by Governments and regulators to invest in low income areas hence they fail to extend their services; also incentives related to tariffs may be another factor; 'banded tariff structures with a rising block tariff beginning with rates below production cost create a disincentive for providing direct network connections to poor customers, who pay lower amounts per unit volume; large numbers of poor customers thus threaten to decrease water company revenues, and could theoretically result in revenue per unit volume falling below marginal cost' (Whittington, 1992 in Bakker et al., 2008: 1901). Additionally, there is an absence of appropriate social policies, inadequate experience in the given area on the part of the investor as well as inadequate proven models that have worked in similar areas.

It is crucial to bear in mind that a concession contract for a city with low-income areas cannot be socially and economically sustainable if it provides a single homogenous service with no variation in levels of service throughout the area covered by the contract. A pro-poor concession should offer different levels of service at different prices and the contract should include provision for subsidies... Mechanisms to enable other actors, such as non-governmental and community organizations, to become involved and contribute the resources they have available should also be considered (Hardoy and Schusterman 2000:67).

Further, it is important to note that the population to be served comprises of residents who are heterogeneous with different sets of water needs; however, if on the other hand they are seen as a homogenous group having similar characteristics, the water service provider will work within a set tariff by the regulator and service provision naturally will be concentrated in areas with the highest return for their investment. Lastly, it is not possible for private water utilities to extend water services to low income areas without the political will and participation of Local Government.

Privatisation of Water Services

Privatisation and private sector participation are linked to neo-liberal reform strategies which put emphasis on the importance of the market, the reduced role of the state, financial discipline, deregulation and trade and investment from opening up markets to the outside world. The World bank has defined

privatisation as,

a transaction or transactions utilizing one or more of the methods resulting in either the sale to private parties of a controlling interest in the share capital of a public enterprise or of a substantial part of its assets, or the transfer to private parties of operational control of a public enterprise or a substantial part of its assets (World Bank 2005 in Pamacheche and Koma 2007: 3).

Forms of Privatisation

Privatisation can take different forms such as:

Service contract is where a private utility undertakes to provide technical and tasks in administration repairs, meter readings and payment collection. This type of private sector participation does not bear commercial risks in water supply; the contract lasts for not more than two years.

Management contract is a form of private sector participation where the private provider assumes operation and management responsibilities; the contract lasts usually between a period of three to five years and the provider does not bear any commercial risks.

A lease contract is one in which a private provider takes responsibility over operation and maintenance functions as well as billing and revenue collection, the private operator pays a lease fee to the public sector while the remainder is kept (Budds and Mc Granahan 2003; Pérard 2008).

Under concession contract, the private provider takes over management of the utility including operation and expansion and takes on commercial risks of the utility. The contract lasts for a period of between ten to fifteen years; when the contract comes to an end; the assets are given back to the state or the contract is renewed.

Build-own-Transfer (BOT) contracts are those where the private provider builds and manages the water infrastructure; when the contract expires, assets are either returned to Government or they remain with the private provider.

Divestiture model is one where Government changes ownership of water infrastructure and management on a permanent basis by selling all or some of a company's shares to a private water provider. Lastly, Joint venture is a form of private sector participation where a private company comes together with the public sector and forms a company which takes a contract for the management of the private utility with the participation of private investors (Budds and Mc Granahan 2003).

Policies limiting welfare state and flexible labour market are given priority over social policies. As part of the liberalisation policies implemented in the early 1990's, private sector participation it was argued would bring the much needed investment in the water sector and improve and increase access to water supply in developing countries.

The World Bank and other financial institutions argue that developing countries lack funds to invest in infrastructure development hence private sector participation would bring in investment and improve efficiency as well as extend services based on market principles; this would in the long run relieve Government of the financial burden of budget deficits. Further, their view is that water should be treated as economic good which people should

pay for. The public sector was thought to be too bureaucratic, inefficient and prone to corruption. It is claimed by proponents of privatisation that private sector participation in the provision of water supply services was a more appropriate way to supply water services to the poor at a reasonable price.

Bakker (2003: 329) noted that, 'at the beginning of the 1980s, private management of water supply was an exception rather than the rule. Two decades later, the water supply systems of over one hundred cities in developing countries are now managed by one of a handful of private multinational companies'. The shift towards more private sector participation in water supply was a reaction to the withdrawing of the state from provision of such services which was left to the dictates of the private sector. While focus at the global level was on larger water companies to provide this service, at the local level, smaller and more flexible providers responded to this need in the form of small-scale water providers. To a large extent, participation in the provision of water services depends on the local water resource endowment of a location as well as the regulatory environment; the approach then would either be to redistribute water through the conventional piped network of consideration or alternative means like boreholes.

Opponents in the privatisation debate are of the view that water is a common good and therefore should not be left in private hands. They argue that water should not be treated like any other good based on market principles. 'The private sector cannot be expected to apply just criteria to the satisfaction of this basic human need. In any case, access to water is a human right and it is the government's obligation to provide such a vital resource to everyone. This implies that the state has the capacity as well as the duty to deliver water services to everyone' (Prasad, 2006:2). However, Mehta (2003) argues that water is not a public good but rather, it should be seen as an impure public or common good 'a common pool resource that is non excludable but rival in consumption' (ibid:3) due to competing demands among different users. It is important to note that issue of water are highly localised with its availability depending on different factors varying over time and region.

Problems of Privatised Networks

Evidence from literature (Kirkpatrick and Parker, (2006); Lobina, 2005) shows that in many developing countries, privatisation has not been effective; there is no statistical evidence (Bakker et al., 2008) to show that there is a significant difference between publicly and privately operated water utilities. To a large extent; utilities depend on frequent tariff adjustment to recover costs. Connection fees are too high for low income households in peri-urban because it is beyond what they can afford. The institutional capacity of water utilities in many developing countries; as well as regulatory frameworks have serious weaknesses, which need to be readdressed at the policy level if these problems are to be overcome. This is why most utilities concentrate their services in urban areas where they are assured of recovering their costs.

'Unless explicitly specified, private utilities are not normally obliged to extend provision to residents without tenure. Clauses in concession or lease contracts which specifically require the extension of services to informal settlements were generally absent from most of the contracts negotiated in the 1990s' (Mc Granahan and

Satterthwaite, 2006 in Dagdeviren and Robertson, 2009: 12)

Why Then Is There A Need for State Intervention in Water Supply

Dagdeviren and Robertson (2009) argue that states need to play an active role in water supply because to start with, positive externalities are associated with universal access to safe drinking water which usually can be seen from reduced incidences of water borne diseases like trachoma, cholera, and malaria and child mortality rates. 'The return on every US dollar invested in water is more than US\$ 5 in sub-Sahara Africa and South Asia , more than US\$ 10 in the Arab States and East Asia and more than US\$ 35 in Latin America' (ibid 2009: 10). Water supply requires huge financial investment and they similarly have huge sunk investment costs; most counties lack the funds to invest in the sector, in many cases, there is no welfare and social security systems in place which puts the poor at a disadvantage placing constraints on the sustainability and financial viability of privately operated water systems.

Experience of water privatisation in developing countries has shown that it has not yielded the intended results; Nickson and Vargas (2002) have shown, 'how vested interests, combined with politics, lack of proper communication and street protests, managed to cancel the Cochabamba water concession projects in Bolivia' (Nickson and Vargas 2002 in Prasad, 2006 : 683).

Privatisation has not addressed issues of increased access to water and equity. Over the years, studies have shown that due to the nature of water markets, private water companies tend to have monopolies and they face little competition hence they are not responsive to needs of different water users though they have competing demands. Private companies do not have incentives to invest in peri-urban areas which are seen as 'bad for business because the poor cannot pay', however research has shown that the poor are paying as much as 10 times for water compared to rich people who only pay one tenth of their income for water (Mehta, 2003). Private sector participation in water supply tends to focus more on provision of water to people in urban areas where the risks are much lower than in peri-urban areas in because cost recovery is guaranteed through billing though also this depends on collection efficiency. The commodification of water has eroded people's rights to free water; this brings in the issue of willingness to pay for water.

There has been a recognition recently by the World Bank that privatisation as prescribed "one size fits all" may not work in certain contexts and there is increasing agreement among experts that, 'regardless of who provides the services, whether it is public, private or community based, the policy should be to ensure the financial viability of the provider' (World Bank, 2004b: 1).

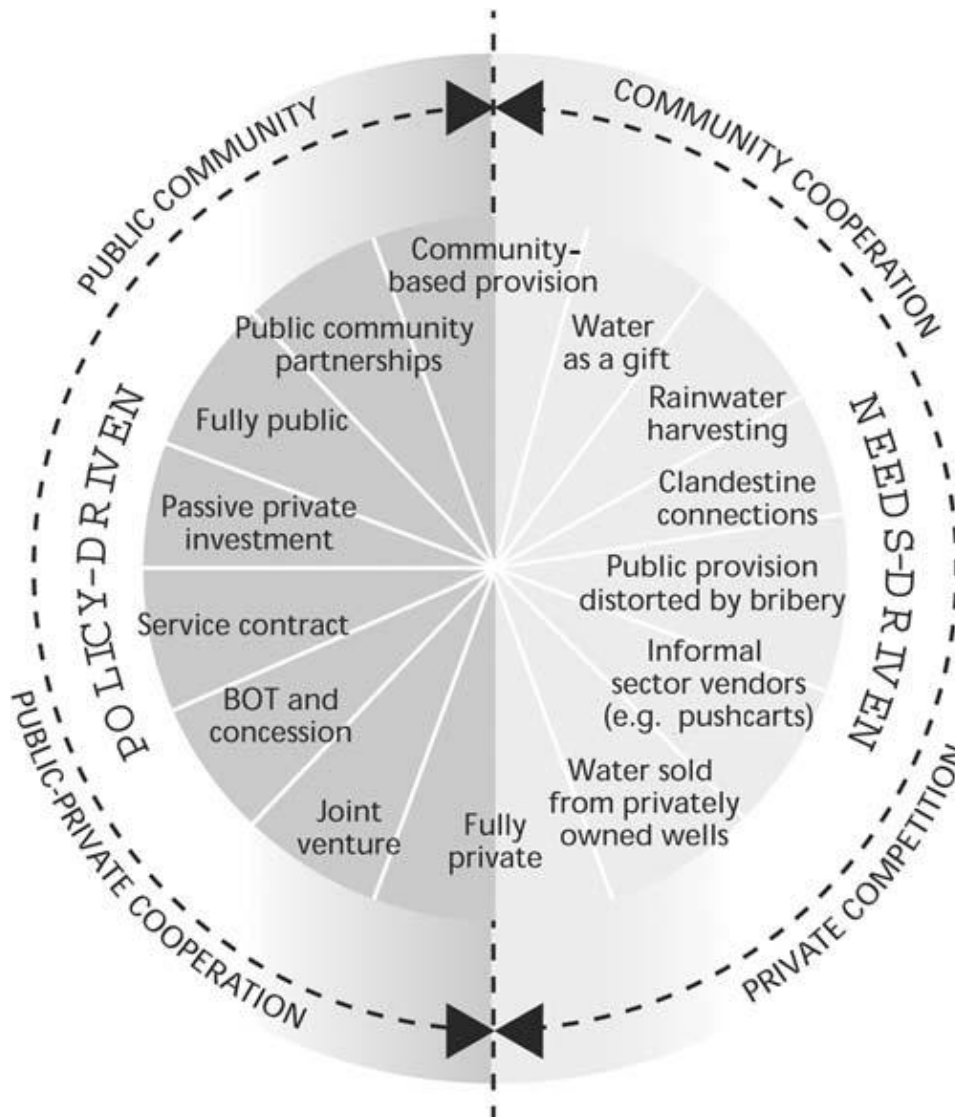
2.2 Analytical Framework

The Water Wheel is the analytical framework that will be used to analyse how formal and alternative SSPs interact as they deliver water services to the poor as adopted from Allen et al., (2004); it looks at the practices and arrangements which exist in the supply chain of water, some of which are backed by formal institutional arrangements which can be referred to as policy-rooted or policy-driven mechanisms; for example piped water provided by water utilities including water kiosks while others are more unofficial and are guided by informal rules of that society e.g. water carriers (Allen et al., 2004); these

mechanisms are characterised as practice-rooted or needs-driven and relate to arrangements by which the poor gain access to water supply in peri-urban areas in most cases with little or no support from central Government. The two sides of the wheel are also referred to as formal for recognised forms of water provision as represented on the left side in the different forms of privatisation which have already been discussed under chapter 2.

Policy-driven mechanisms can also be viewed from extraction, treatment and supply of water, while on the right side of the wheel, needs-driven mechanisms can be seen from the viewpoint of distribution of water supply and ways in which the poor access water which can be from other Alternative SSPs like water carriers, household resellers or water purchased from privately owned networks. This is where most of the activities of Alternative SSPs are and they are mostly in water distribution to consumers who are the urban poor. The water supply wheel also shows the roles of the stakeholders which include public, private and community and the extent to which they interact based on co-operation at different levels. These sectors are heterogeneous; for example, the public sector can exist in the form of decentralised structures while the private sector can work with licensed water operators at the local level or Alternative SSPs in informal settlements. The community sector may also have arrangements which are both formalised and informal; such as water scheme supported by an NGO or the community itself operating for either profit or not profit oriented. Allen et al., (2004) has illustrated with an example from Dar es Salaam, where a community project on the development of water kiosks grew out of needs-driven arrangement, but over time, became formalised through the support of Government.

Figure 1 Water Supply Wheel



Source: Allen, A (2004), "Governance and service delivery in the peri-urban context: towards an analytical framework".

Why This Framework Is Relevant For the Peri-Urban Context

Allen (2003) argues that, 'there is an increasing recognition by development institutions that urban and rural features coexist in peri-urban areas', and that the urban-rural dichotomy deeply ingrained in our planning systems is inadequate to deal with processes of environmental and development change in the peri-urban context (Allen 2003 in Allen et al, 2004:7). He refers to the coexistence of urban and rural features in informal settlements as the peri-urban interface which has environmental, socio-economic and institutional dimensions. For purposes of this research, only the socio-economic and institutional dimensions will be discussed.

From the socioeconomic point of view, the uneven process of urbanisation often leads to illegal land development, shifting economic activities with an emergence of illegal activities resulting in a social composition that is highly heterogonous. 'Small farmers, informal settlers, industrial entrepreneurs and urban middle class commuters may all coexist in the same territory but with different and often competing interests, practices and perceptions' (ibid: 8). Peri-urban interface is often characterised by institutional fragmentation; there is weak co-ordination between institutions and limited capacity especially at the local Government level which do not effectively address poverty and sustainability concerns especially in peri-urban areas. In Zambia, most local authorities do not have adequate finances to provide services to peri-urban areas.

Chapter 3

3.1 Case Study Overview

This section will discuss the institutional arrangements in the water sector in Zambia, the process of water reforms and discuss water vending kiosks as a strategy for provision of water to the poor in peri-urban areas; further financing arrangements will be described.

3.2 Water Sector Reforms

In the late 1980s, the Government of Republic of Zambia (GRZ) began both a policy, legal and institutional reforms in the water sector which resulted in the development and adoption of the National Water Policy of 1994 (Mwanza et al., 2007) which provides the overall policy framework for the water sector. The main objective of the policy is that of promoting ‘sustainable water resources development to facilitate equitable provision of an adequate quantity and quality of water for all competing groups of users at acceptable costs, while ensuring security of supply under varying conditions,’ (Zambia National Water Policy 1994: 14).

In Zambia, the water sector is under the responsibility of two ministries namely the Ministry of Energy and Water Development which is responsible for overall water resources management in terms of planning, development and regulation while the Ministry of Local Government and Housing is responsible for water supply and sanitation delivery and it works through local authorities and commercial water utilities.

The reforms were aimed at improving urban water supply which was neither sustainable nor equitable. There was also a separation of regulatory and provision of water supply and sanitation services. The new Water Supply and Sanitation Act No. 28 of 1997 gave way for the establishment of the National Water Supply and Sanitation Council (NWASCO), a regulatory agency that regulates the provision of water supply and sanitation services in Zambia. There was also a provision in the Act for the creation of 11 commercial utilities in urban centres which operated as water companies with local authorities being sole shareholders. However, ‘the quality and reliability of services had deteriorated in the period before the commercial utilities were formed. The local authorities lacked the resources and management to properly operate and maintain the water systems which resulted in continuous deterioration in ageing infrastructure and high levels of losses’ (Robinson, 2002: 853).

For the connected households, services were inefficient and unreliable and the most affected were the poor in peri-urban areas where often there was no network extension hence they had no access to clean water. To a large extent, the poor in peri-urban areas depend on Alternative SSPs for their water supplies who take the form of standpipe kiosk operators which are owned by the water utility or those owned and operated by the community called water trusts, resellers of water from households with connections and hand carriers

who obtain water from different sources such as utility network supply, standpipe water kiosk, streams and boreholes and deliver water for domestic use. Other sources which they use include shallow yard wells; water from this source is mostly used for washing clothes and bathing while that for drinking, cooking and washing plates is purchased from standpipe operated water vending kiosks.

Urban Water Situation

Zambia's urban areas are divided between fully planned and established areas and peri-urban areas which are unplanned and informal settlements. Planned areas are serviced by conventional water distribution networks while peri-urban areas have a mix of communal taps, point sources of water, boreholes and streams; this state of affairs was as a result of governments policy to discourage rural-urban migration and so social services were not extended to these areas which were considered as 'illegal' (Robinson, 2002). Currently, there are about 372 peri-urban areas in the country with the capital city having about 40 informal settlements.

There is a huge gap as far as provision of sustainable water supply services is concerned and Alternative SSPs have moved in to fill this gap. Formal Alternative SSPs in Zambia take the form of standpipe water vendors who operate kiosks which are either owned by the water utility or standpipes owned and operated by the community called water trusts, while informal Alternative SSPs take the form of distributing vendors i.e. hand carriers who either use wheel barrows or just walk on foot and deliver water from door-to door to regular customers and resellers of water from individual households who are connected. Official Government documents do not acknowledge activities of informal water providers except those who operate standpipes that are owned by utilities and have contractual agreements, the NWASCO 2007/8 urban and peri-urban water supply and sanitation report, documents that three main types of providers supplying water to urban areas include commercial utilities, local authorities, and private schemes owned and operated by private companies (private companies develop water networks and connect them to their workers' homes, offices and farms).

National Urban Water Supply Coverage

Zambia has a population of 11 million, out of which urban population stands at 5,104,741 (NWASCO 2007/8); the total urban population which is serviced by conventional distribution networks is 3,503,441. Further, it is estimated that about 2.4 million out of 3.8 million people in peri-urban areas do not have access to sustainable water supply (NWASCO 2007/8). National urban water coverage stands at 68 per cent implying that about 32 per cent is being filled by Alternative SSPs though their activities are not documented.

A large proportion of the urban population about (65 per cent) reside in peri-urban areas; in Zambia these are situated on the outskirts of towns, cities and municipalities; they are characterised with high population densities, high incidents of poverty and inadequate or non-existence of basic services such as water supply, sewerage networks, proper road network and solid waste disposal. As has been mentioned before, the main sources of water for

residents in these areas are communal taps which are managed by the community, water obtained here is paid for and they are usually metered; public taps which offers water for free of charge and are mostly not metered. Thirdly, standpipes are of two types, those that are owned by the utility but managed by kiosk operators who usually work for a commission which is agreed upon with the utility; and those standpipes called water trusts that have been set up with the assistance of an NGO but managed by the community. The standpipes owned by the utility operates under a formal arrangement and these operators are recognised, the water kiosks are either connected to the main network supply or have a standalone borehole which is usually installed and maintained by the utility, the kiosks are metered and consumers have to pay for water according to consumption usually at a fixed social tariff approved by the regulatory agency.

Lastly, traditional unprotected shallow yard wells are used as an alternative as well as rainwater harvesting; currently the existing water systems are inadequate to satisfy the increasing demand due to rapid population growth in these areas. Where water is available from a conventional network, it is rationed for a few hours daily and is often of low quality due to intermittent supply.

In the Zambian context, around 73 per cent of the population is classified as poor, to this effect, poverty relates to the lack of access to basic social services, income, and employment opportunities (Zambia demographic and health survey 2007). Most households have low incomes (usually below US\$ 1 a day) and are female headed, and most residents are poor and vulnerable including orphans, widows, the terminally ill and persons with severe disabilities. There is limited supply of water in these areas because the water utilities have not been extending their networks to service these areas.

Patterns observed in six major towns of the country indicated that the water situation in most towns is similar to that of the 4th largest city in Zambia called Kabwe in the Central province of Zambia, from the 2001 household survey (DTF, 2005); major sources of drinking water were as in the table below:

Table 1: Sources of drinking water

Important source of drinking water	Type of housing								Total	
	High Cost		Medium Cost		Low Cost		Peri-urban			
	No.	%	No.	%	NO.	%	No.	%	No.	%
Own House connection	221	87.4	207	77.2	70	16.2	8	.7	506	24.9
Connection of others	14	5.5	26	9.7	19	4.4	20	1.8	79	3.9
Communal	2	0.8	5	1.9	7	1.6	115	10.6	129	6.3

tap										
Public tap	2	0.8	7	2.6	17	3.9	311	28.7	337	16.6
Open well	3	1.2	20	7.5	313	72.3	533	49.3	869	42.7
Hand pump	6	2.4			5	1.2	78	7.2	89	4.4
Windlass well	3	1.2					3	.3	6	.3
Other	2	0.8	3	1.1	2	.5	14	1.3	21	1.0
Total	253	100.0	268	100.0	433	100.0	1082	100.0	2036	100.0

Source: GKW Consult (2003)

From table 1, it can be seen that a high number of people in peri-urban areas use water from primary source such as the open well as well as from communal and public taps.

The table 2 shows results of a survey on the daily per capita consumption at kiosks and public taps in selected towns of the country:

Table 2: Daily per capita consumption at kiosks and public taps

Town	Water Outlet	Payment	Per capita consumption
		Yes/No	Litres/person/day
Chipata Eastern Province	Kiosk	Yes(Per Container)	4-7
Monze, Southern Province	Kiosk	Yes(Per Container)	3-5
L/stone Southern Province	Kiosk	Yes(Per Container)	14
Kabwe, Central Province	Public Tap	No	9-12
Nampundwe, Central Province	Public Tap	No	12-16
Kitwe, C/belt Province	Yard Tap	Yes (Per Month)	12
Solwezi, N/W Province	Various	No	6-11

Source: GKW Consult (2003)

Consumption patterns of water from kiosks and public taps from the survey in peri-urban areas varied largely due to seasonal changes, availability of alternative sources, walking distance from the household to the water sources and the price. On average, a household comprising 5 family members buy water depending on financial resources around 20 to 40 litres of water a day for the whole household. Standpipes operated by utilities sell water per 20l for €0.01 and depending on the availability of water and the distance, the price charged may go up to US\$0.60 for those buying water from water vendors

who engage in door-to-door deliveries. Most of them are hand carriers who may carry four containers per trip and can make several trips in a day. The water sources serve both ordinary consumers and those buying water for resell like the distributing water vendors, price charged for the water varies depending on the source, distance from the water point and availability of water; water obtained from kiosks fetches a higher price compared to that obtained from other sources like open wells. Water prices are continually adjusted by informal water vendors in peri-urban areas in any case to reflect changing conditions in the market they operate in and also based on past rapport with customers, some of whom are in a permanent relationship with the dealers while others fluctuate depending on circumstances and ease of obtaining water.

It can therefore, be argued that alternative SSPs are playing an important role by providing water where and when it is needed by people in these areas. Although they are viewed in a negative way by policies, rules and practices that support formal systems (Allen et al 2006), they can be seen to be effective in providing water supply to the poor in peri-urban areas who lack reliable sources of safe water supply. They can be supported institutionally by enhancing their access to reliable good water supply as well as ensuring that there is adequate regulation, incentives and competition to prevent price fixing which may put the poor at a disadvantage. This can only become a reality once Government acknowledges that it cannot alone manage to provide water supply to populations in peri-urban areas and by recognising that informal water vendors exist and they are already filling the gap and are so far making a valuable contribution.

Status of Small-Scale Water Providers in Zambia

The status of Alternative SSPs in Zambia varies from being illegal, contractual and legal.

Illegal:

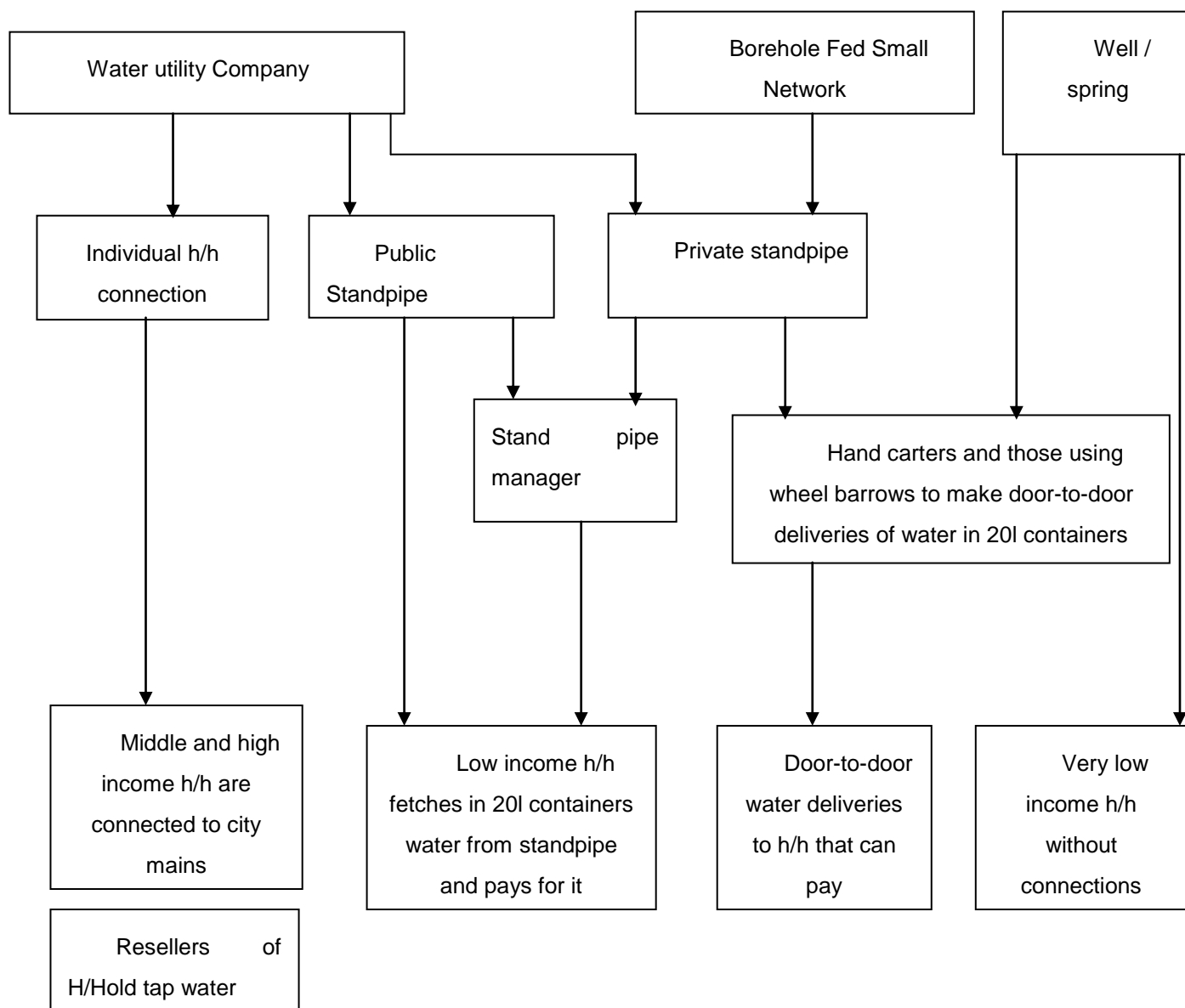
- those who obtain water from illegal water connections from utility networks and resell the water;
- Resellers of water from household connections to mobile water distributors and directly to consumers, this activity by Zambian law is prohibited but law enforcement by the water utility is weak;

Legal:

- Operating within a contract: In Zambia, standpipe operators work within a license with the water utility.

The utility constructs and maintains the water kiosk and contracts a water vendor who signs a contract and works for a 40 per cent commission based on total monthly sales; hours of operation and resale price of water are set and approved by the regulatory agency.

Figure 2: Water Supply and Distribution Routes



Source: Collignon and Vezina (2000)

The chart above shows the different sources of water as well as how it reaches the consumers; in areas supplied by normal water utility networks, it is the middle income households who are connected and they resell water to poor households who come to fetch water. In informal settlements, the picture is quite different; there tends to be a variety of sources of water including water sold by the bucket or jerry can at standpipes which serves both individual consumers and distribution vendors, other sources are private boreholes, well and springs. A poor household with very low income usually obtains water from wells and springs free of charge though the quality of the water is of very poor quality. Most of them are constructed near pit latrines

hence they are contaminated resulting in a high incidence of water borne diseases.

Role of Small- Scale Water Providers in Zambia

Following commercialisation of water services in Zambia, there was a decline in the number of households with piped connections and an increasing number of households began depending on water kiosks, public taps, yard wells as well as boreholes. In terms of the proportion of population with access to safe water, figures declined from 72 percent in 1992 to 57 percent in 2002 at the national level (Dagdeviren and Robertson, 2008).

Collignon and Vezina (2000) argue that in all African cities where they carried out their research, demand for purchase of water in small quantities is high because most residents in peri-urban areas are not in permanent or formal employment with regular income; they choose where to get water as it becomes available on a daily basis. Their surveys indicated that residents in informal communities manage to meet their daily water needs even if they are not able to make bigger payments for individual connections. The most important point to note is that Alternative SSPs whatever forms they take provide water when it is needed usually in small quantities between 20 to 100 litres in a day which is affordable. The most common practice in Zambia is that of water sold at the standpipes which are managed by the community; as well as those that are constructed by the utility and operated by attendants who are contracted by the utility. Water sold at these outlets is considered to be much cheaper because individuals fetch it themselves which makes it much cheaper compared to that provided by door- to- door carriers.

3.3 Water Vending Kiosks as a Strategy for Provision of Water to Informal Settlements in Zambia

Generally in Zambia, the conventional approach of providing water to households using piped connections does not reach the peri-urban areas and extension of supply to these areas is limited. There are around 372 peri-urban areas in the country with the capital city having 40 peri-urban areas. The most feasible option which has been developed for water supply to these areas is that of standpipe water vending kiosks which are owned and operated by the water utility Lusaka Water and Sewerage Company (LWSC) which are operated on commercial terms. The Peri-Urban Unit (PUU) in the utility is responsible for the management of kiosks and supervision of standpipe operators. The company is working in partnership with donors such as German Development Co-operation and Danida, it also supports the regulatory agency- the National Water and Sanitation Council (NWASCO) and also for the operationalization of the Devolution Trust Fund (DTF), a basket fund which assist commercial utilities to extend water services to peri-urban areas through construction of water kiosks and extension of water supply networks.

Standpipe operators sign a contract with the water utility which stipulates the rights and responsibilities of the two parties and it is renewable based on performance with agreed times of operation, they are also trained to

take meter readings before starting the days sales and at the time they close for the day, they also make daily cashing to the cashier of the utility at the office in the area who issues a receipt for each deposit. The operators are required to pay the water utility according to the monthly meter readings; they work for a commission of 40 percent for every cubic meter of water sold based on the total sales for the month. The water utility calculates the figure which includes a pre-determined percentage of overall sales (GTZ 2009). The most preferred operators contracted are women of ages between 20 and 45 years because of the perception that they are less dubious, hence around 50 percent of operators who have been contracted are women with the consent of the community, as an incentive, they are allowed to sell other products in the kiosks like soap, sugar, salt and other basic groceries with an exception of food items such as meat and fish and others specified in the contract so that they have an extra income. Standpipe operators are monitored and supervised by an Officer from the Peri-Urban Unit of the water utility assigned to a given peri-urban area who makes regular monitoring visits. The Officer ensures that action is taken against operators who fail to make daily cashing and if such a case arises, the operator is given three days to settle the outstanding bill and in the event that he or she fails, the contract is terminated and a replacement is found.

Community Participation (CP)

For purposes of this study, community participation will be used to mean the extent to which residents participate in planning, decision making and mobilization. Further, community participation will be taken to mean a process which enhances the capacity of individuals to improve their own lives and facilitates social change to the advantage of disadvantages or marginalised groups (Cleaver 1999). Community participation is encouraged in the early stages of planning and implementation of the standpipes.

Task forces comprising all stakeholders i.e. representatives from the local authority, Resident Development Committees (RDCs), health board, Non-Governmental Organisations (NGOs), the Police and residents especially women, this is because women and girls are the ones who bear the burden of fetching water and have to travel long distances in places where there are no kiosks nearby. RDCs comprising representatives from within the community (about 9), together with other Community Based Organisation (CBOs) as well as community members participate on the selection of sites for the water kiosks as well as sensitisation campaigns in the community on the health benefits of using water from the water kiosk because residents also use other sources of water other than the kiosk like shallow yard wells for washing and bathing while water obtained from the kiosks are used for drinking, cooking and washing plates. This also ensures that the community as consumers from an early stage accepts the technology for sustainability in the target areas. 'a step-by-step approach is taken to stakeholder participation starting with data collection, community meetings, determination of zones(water kiosk catchment areas), zonal meetings, kiosk locations and the sensitisation of residents through drama groups, posters, announcements, presence of media at inauguration ceremonies, followed by planning, designing and construction of the kiosk as well as the training of kiosk operators' (GTZ 2009:7).

3.4 Financing Mechanisms of the Standpipe Water Vending Kiosks

In Zambia, commercial utilities are assisted financially through the Devolution Trust Fund (DTF) to extend water supply services to low income areas; it is a multi-donor basket fund which was established with the passing of a Statutory Instrument 65 in 2001. It operates independently from the regulator agency (NWASCO) though 90 percent of its funds are from external agencies like German development Co-operation, DANIDA and the European Union. Government also gives them a grant. The DTF has capacity to handle investment funds of between US\$ 2.5 to 3.5 million each year. The DTF assists utilities in constructing water supply infrastructure by setting and issuing detailed binding guidelines for the use of its funds as well as service provision to the poor communities in low income areas.

Chapter 4

This section will elaborate on the main findings which are based on literature review of baseline study by the NWASCO in 2005 in collaboration with DTF as well as studies by GTZ (2009) on water vending kiosks in Zambia; lessons will be drawn from other studies in Africa by Allen et al., (2006), Gulyani et al (2005) and Collignon and Vezina (2000).

4.1 Main Findings

The National Water and Sanitation Council (NWASCO) in collaboration with the Devolution Trust Fund (DTF) in 2005 carried out a baseline study to assess the water supply and sanitation situation in Zambia in peri-urban and low cost areas. 372 peri-urban areas were surveyed including 198 low-cost areas. Low cost areas had a population of 824,585 while the 372 peri-urban areas, had a population of 3,071,021. Out of the 372 peri-urban areas, only 191 had legal status and 23 percent of residents lived in rented accommodation while 33 percent were found to be renting in low cost areas. The average household size for peri-urban areas was five while for low cost areas; the average household size was six. The study however, did not cover high and medium cost residential areas as well as industrial and commercial urban zones. It also showed that the main sources of drinking water were yard well, someone else's connection and own connection.

The study also showed that 50 percent of households in the peri-urban areas and 85 percent of the households in low cost areas were using piped water respectively, while 49 percent of households in peri-urban areas and 59 percent of households in low cost areas indicated that they purchase water on a daily basis which they use in the house and they have to decide where to buy from whether from a neighbour with an individual house connection or from a kiosks depending on available resources. 53 percent of peri-urban areas had individual connections while 79 percent of low cost areas had individual connections.

GTZ (2009) on the other hand in one of their case studies on water kiosks in Zambia found that the total urban population serviced by the commercial utilities is 92 percent while on average 70 percent of households in peri-urban and low income areas use water kiosks if available. The report further suggests that the total urban population as a percentage of total population is 43 percent while the urban population with access to safe water stands at 68 percent; it is estimated that a single kiosk can serve up to 1500 customers assuming that it is functional and the pressure is high and average water consumption at the water kiosk is 20l per capita per day. Though the report mentions informal water service providers, it is not clear exactly which form they take and it suggests that the water they provide is 10 times more expensive than that provided by the water kiosks and it is of poor quality.

Service levels

More than half of the respondents expressed dissatisfaction with the service levels of standpipes water kiosks, who rated the service levels of the water utility as low as 9 per cent; 'the level of service provided by a water system is a function of the price, quantity, quality, reliability, and convenience that it provides to the user' (Gulyani et al 2005: 18). The baseline survey by NWASCO and DTF (2005) showed that water from water vending kiosks was available for less than 9 hours a day; for areas with individual connections water is rationed and it is available for 5 hours in a day. Almost all the respondents indicated that they store water for home use in drums an equivalent of five 20l containers, 5 litre containers and buckets.

Hours of operation

Water supply is intermittent for households with connections to the water utility and low income areas, it is rationed with supply of water only for a few hours (5 hours); if available the respondents indicated that the pressure was usually very low so most of the time they depended on water from shallow wells which was of poor quality because it is contaminated.

Most people expressed dissatisfaction with the hours of operation of kiosks because respondents indicated that they failed to get enough water for home use by the time the standpipes were closing; in most cases, operators would open as early as 5am when the pressure was high so that people could get water though the agreed time was 6am. However, this is not safe especially that 50 percent of operators are women as well as those who go to fetch water because majority of them are women and young girls of school going age, most of these areas are crime infested and they risk being attacked by thieves worse still killed. Further, some respondents who expressed dissatisfaction were temporary workers who left home early for work in high residential areas and they would only come back home at the time when the standpipes were closed after 6pm.

The study found that they purchase water from neighbours with piped connections who charge US\$ 0.05 per 20l which is more expensive than the price charged at the standpipe for a 20l containers (€0.01); on average, they spend around US\$ 0.72 per month which most of the respondents indicated was expensive for the very poor households; others indicated that they spent an average of US\$ 0.36 for a whole month which indicates that to a certain extent there is a cut on water use in the home; many revealed that bathing was once a day for all members of the household (about 5 members using water from the well) and only if there was a patient in the house would that person bath twice. Washing clothes was once a week and waste water was used to water the garden or the yard.

Time spent collecting water

Depending on the location, some kiosks have more people coming to buy water than others so in cases where there are many people coming to buy

water at a particular location, on average, more than half of the respondents indicated that they had to wait for between one to two hours for them to collect water from a water kiosk. For kiosks that are not very crowded, customers spend 15 minutes from the household to the standpipes implying that the standpoints are not far off from the homes.

The distance

Customers in areas with standpipes owned by the utility walk a distance of less than 200m to and from the source of water compared to a kilometre for those in areas without water kiosks. Ordinarily, the utility has calculated that the walk to the kiosk should take about 5 minutes maximum but for some this is not the case, they have to walk about 10 minutes to get to the standpipe and wait for 15 minutes and in extreme cases the wait is up to between one to two hours before they can get a chance to purchase water.

Price

Standpipes owned by the utility sell water for €0.01 per 20l container; while for household resellers sell a 20l container of water at US\$ 0.05 per 20l container. For those obtaining water from distributing vendors, the price can go up as much as US\$ 0.60 depending on the distance and availability of water at the kiosk or other sources like water purchased from individual households. On average, the standpipe operators collect an equivalent of US\$ 6 a day and in order for them to make more due to competition amongst themselves, some open earlier around 5 am in the morning.

Quality of water

The water utility undertakes routine water quality testing to ensure that the water is safe for households hence the quality of water sold at kiosks is good though the risk of contamination arises if containers used to draw water are dirty. Kiosks operators are required to display sensitisation posters on the dangers of using dirty containers and residents who come to purchase water are encouraged to chlorinate their water.

Respondent's perception of water kiosk

Generally, residents in peri-urban areas accessing water from standpipes operated the utility were not satisfied in terms of quantity available because most of the time the pressure was low, in terms of reliability, the standpipe kiosks use stand alone boreholes powered by pumps that run on electricity. They do not have individual generators and due to load shedding the study found that there were frequent power cuts especially in peri-urban areas where the power company does not have a scheduled time table for these areas. In terms of convenience the respondents indicated that the standpipes were conveniently located though some had to walk more than 100 meters to reach the location and the price was affordable though some indicated that they

depended on their neighbours who had connections though they had to pay a higher price than that charged by the water kiosk, the price went up to US\$ 0.05.

Water availability by source

As earlier mentioned, more than half of participants in group interviews carried out by NWASCO and DTF (2005) indicated that the residents depend on one more than one source for their daily water needs. Some indicated that during the rainy season they harvest rainwater for domestic use like washing plates and clothes. For the very poor, they let it settle and use it for drinking and cooking. Piped water purchased from kiosks was mainly used for drinking and cooking, while water for bathing and washing was obtained from yard wells. Similarly, from the survey carried out by Care Zambia (2004) it was found that 66 percent of households from a survey of 801 households have more than one source of water depending on the use. The water obtained from the standpipes was mostly used for drinking and cooking while that for washing was fetched from a well. Additionally, households store water in homes for later use.

Customer satisfaction

More than half of the respondents from the baseline survey by NWASCO and DTF (2005) indicated that they were not satisfied with their primary source of water which is supplied at the standpipe operated by the utility. They suggested that there was need for more kiosks to be installed because currently, the ones available were not enough to cater for the many people who came to fetch water which resulted in long queues. Though some of them said (14 per cent) they would have preferred private connections their housing situation cannot allow this because most of them rent one or two rooms and do not own the whole plot. One kiosk services about 1500 residents most of whom are distributing vendors who buy up to four 20l containers per trip. They sell their water to shop owners who operate hair salons, restaurants, and brick making locations and rented toilets and wash rooms at the market place.

Employment levels

Many residents livelihood have been improved in terms of local employment because job opportunities have been created for standpipe operators, plumbers, cashiers. Also, there is a strong indication of an increase in distribution vendors who sell water at the market place, restaurants, hair salons and so forth. Most standpipe operators work with renewable 1 year contracts, depending on the performance of the attendant, a contract may or may not be renewed by the utility. Job opportunities in the utility have also been created for staffs in the Peri-urban Unit who have to attend to more technical issues.

Community participation

For purposes of this study, community participation will be used to mean the extent to which residents participate in planning, decision making and mobilization. Zones are represented at monthly meetings by resident development committees who are elected from among community members; the community's concerns are then forwarded the utility and concerns are dealt with administratively. Resident development committees (RDCs) provide feedback to the utility as well as the community. The agency has also established sub-structures at the community level consisting of volunteers known as Water Watch Groups (WWG). These represent consumer interests and also attend to consumer complaints; their functions include:

Awareness creation among consumers in the compounds of their rights and responsibilities, handling of unresolved consumer complaints, they give feedback to the regulatory agency and the facilitate communication between providers and consumers.

Capacity building

Standpipe operated water kiosks are lacking in this area in terms of technical capacity; the operators, do not have the technical skills to repair a broken down system, in the event that this happens, they are trained to report to the zone offices for the utility and each zone have plumbers assigned in order to ensure that supply is not disrupted.

Sustainability

Findings of the study in terms of sustainability of the infrastructure were that due to the high number of people served; there was a high rate of wear and tear and a lot of water was being lost due to leaking taps.

Tariffs

The regulatory agency NWASCO applies social tariffs using increasing block rates so that service provision is targeted to the poor. During tariff negotiations, the agency offers utilities incentives such as adjustments to tariff levels in certain brackets which facilitates cross-subsidisation to encourage the extend services to peri-urban areas; the NWASCO also ensures that tariffs are set according to poor kiosk customers willingness and ability to pay.

Lack of reliable information on informal settlements

The study by NWASCO and DTF (2005) found that out of the 372 peri-urban areas that were surveyed, only 191 had legal status. Land tenure is often not granted by the local authorities because of illegal encroaching of private or public land and to a large extent the building standards do not conform to urban planning regulations.

Challenges

The main challenge is that there is need to find a long term solution to inadequate supply of water in peri-urban areas, even with the water kiosk concept this is only a quick fix in the short to medium term, there still remains a huge gap to be filled hence there is need for a sustainable long term solution. Further, another issue is that improving communication channels among all the stakeholders involved starting with the utility itself, the DTF and the community. Structures like the RDCs at the local level are weak and they have very little capacity to deal with issues of conflict, misconduct on the part of operators, theft, vandalism because for now, all they do is to report such cases to the utility; they need to be strengthened in terms of training on resolving conflict, issues of transparency and accountability to both the utility and the community they are serving or representing because there is a likelihood of the committee constituting members of a privileged few and they may be prone to manipulation, political interference, nepotism, and corruption by the local leaders in the community so there has to be a system of rotation of membership.

Currently, it appears that the utility staffs are overwhelmed because apart from their normal workload of repairs, disconnections for defaulting customers and door-to-door delivering of bills, operation and maintenance of kiosk installations are incorporated into the utility's daily workflow and most of the officers shun working in peri-urban areas because these areas have poor environmental conditions and their unplanned nature makes it technically difficult to work; there are frequent breakdowns due to poor workmanship on the part of utility staff.

Financial sustainability of the DTF for the water kiosk system is another very important challenge. As has been discussed earlier in the paper, 90 percent of the funding is external and Government only allocates very little financial resources to the water sector. In 2005 when the baseline survey was carried out, about 2.4 million people out of the 3.8 million people in peri-urban and low cost areas did not have access to sustainable water supply; the target that has been set by the DTF for utilities is to reach 2.85 million people in low income areas by 2015 and this requires huge financial investments. A financial target of €72.6 million has been set till 2015, but as of 2008, only €11 million has been sourced giving a funding deficit of €61.6 million for this programme hence Government has to look at sustainable means of funding this programme. It has been acknowledged (GTZ, 2009) that incomes for standpipe kiosks operators are not enough and they are not sufficiently motivated, they lack the necessary capital to purchase other items for sale in the kiosk because they are allowed to sell basic groceries to increase their turn over from water sales hence the need to look into the possibility of micro-credit.

The water kiosk operators themselves are diverse and not organised in any form of association. They vary in years of experience, gender and age and also in their performance. At the moment, there is no organised way in which they can meet and dialogue over their concerns apart from the monthly meetings that they have with the RDCs and regular contact they have with the officers

from the utility's PUU. There is a great need for them to be more organised and to bring on board other vendors like the resellers from individual households and the distributing carriers of water; this will help to strengthen their voice and also to improve their services to reasonable standards.

In terms of sustainability with regard to consumer loyalty, despite massive sensitisation campaigns discouraging people from using water from shallow wells, this practice has still continued despite people being aware of health implications of using contaminated water because most of the shallow wells are constructed near pit latrines.

4.2 Analysis of Findings

This section will provide an analysis of the findings using the water supply wheel. Additionally, findings from literature review of baseline study done in Zambia by NWASCO and DTF in 2005 to assess the water supply situation on peri-urban and low cost areas was used. Other studies looked at are those by Collignon and Vezina (2000) and Dagdeviren and Robertson, (2008).

As was discussed before under the analytical framework, poor people in peri-urban areas gain access to water through different arrangement which can be both formal and informal. For the most part inadequate water supplies in peri-urban areas has meant that poor people have to decide daily on where to get water supplies and the mostly get it from informal water suppliers in the form of distributing vendors (water carriers) and resellers from individual households with connections; where they often pay prices 10 times higher than piped water supplied by utilities. Some have used this as an argument to show that poor people's ability to pay has often been underestimated and that they are able and willing to pay for a higher service if offered by the private sector; non payment for water is often associated with poor services offered by water utilities rather than high prices as has been confirmed by similar conclusions on willingness to pay studies (Serageldin, 1994).

Service levels

One indicator that can be used in assessing service levels in the number of hours that a given system provides water, the study by NWASCO and DTF (2005) found that availability of water at water kiosk and even for those areas with individual connections was for a few hours i.e. less than 8 hours in a day; the implication of this is that households have to cut down on water use in the home due to limited water availability and have devised ways of coping with this shortage by storing water.

Customer satisfaction

Findings in the study showed that more than half of the respondents were dissatisfied with the water kiosks; access to water, service and water availability influence household satisfaction which in this case is low. The study found that residents access water from other sources like household water resellers and water carriers.

Price/Willingness and ability to pay

From the study it can be concluded that households are willing and able to pay for improved services even from kiosks. This is confirmed by a study carried out by Mulenga (2005) in Lusaka and Kitwe in Zambia on the water reform process and its impact on access to water supply in peri-urban areas, showed that communities in peri-urban areas are aware that they have to pay for improved water services, however, as was noted from a focused group discussion in Lusaka, one participant said that, 'We need to pay because it costs money to bring water from Kafue River.' Another one said, 'If we don't pay the services will be bad like they used to be during the time that the Council provided free water,' (Mulenga, 2005: 12).

It is however important to note that even if poor people end up paying high prices for water, these are for small quantities of water mainly for drinking especially in times when water is in inadequate supply. Bennet (1998) notes that the poor access water from informal water vendors like water carriers because they provide a reliable and efficient service even in difficult circumstance. 'High water payments can put pressure on already very low incomes, which does not imply that households are not suffering as a result' (Budds and Mc Granahan, 2003:98).

Lack of Information on informal settlements

Lack of information on informal settlements as well as activities of both formal especially informal Alternative SSPs are scarce and are often excluded in national statistics; this often results in contradiction in coverage figures. Reported figures are not disaggregated to show access for peri-urban low, medium and high cost urban areas, as well as rural and urban areas, for example baseline carried out in 2005 reported that peri-urban and low cost piped water coverage was 34 percent (DTF 2005) while urban coverage was reported to be 47 percent, on the other hand, for the same year NWASCO the regulatory agency in its 2005 report that water urban coverage was 67 percent. Additionally, literature review showed that lack of information on peri-urban areas is often as a result of lack of tenure and this has repercussions in terms of obligations of water utilities to these areas; local authorities data on residential areas is based on registered estates and other administrative records; available information on existing settlements is outdated because these areas are expanding rapidly.

Tariffs

Studies (Gulyani et al 2005; Robinson 2002) have shown that the policy of keeping tariffs artificially low does not benefit the poor. Their findings show that poor households often pay several times the unit price paid by households with normal connections while using only a fraction of the amount of water used by the connected. The result has been massive and poorly targeted subsidisation of services that more often than not has benefited the poor. This has affected the financial viability of the utility and has led to the deterioration

of service they provide, they argue that low tariffs in themselves are a limited tool for water service delivery because they rarely cover capital costs and they often fail to cover operation and maintenance costs additionally, strong institutional arrangements are needed to determine the outcome of tariffs.

Community Participation

The study by NWASCO and DTF (2005); GTZ (2009) showed that community participation was very important in the implementation of water kiosks as was evidenced from the presence of RDCs and WWGs at the community level though they were weak in terms of the extent to which they could resolve conflict issues.

Sustainability

Abraham (1998) has shown that in water infrastructure sustainability should be viewed as sustained flow of water benefits from installed infrastructure over a period of time; but due to the limited number of kiosks available the taps do not function that well due to wear and tear because they are constantly being removed and put back.

Overall, water kiosks have a potential of improving access to water in peri-urban areas, however, in order to scale up, there is need for co-ordination with the Alternative SSPs who are already in the area so that they work together and this can only be achieved if they are officially recognised and accepted so that responsibilities are shared in order to achieve the same objectives of service provision hence the need for dialogue among the different water providers. It is also important to note that though interests of utilities and Alternative SSPs do not coincide, alternative water suppliers should not be suppressed.

Chapter 5

5.1 Conclusions

This aim of this paper was to examine how activities of alternative SSPs have improved water service provision in peri-urban areas and how they can be strengthened in order to improve water service delivery with a focus on activities of standpipe water vending kiosks that have a formal arrangement with the water utility as they operate in Zambia. Increasingly, there is growing consensus world over in the water sector that has started emerging that in developing countries; the existing water utilities will not be able to provide the services that will meet the demand for water in order to meet the Millennium Development Goals (MDGs) especially in low income areas (Schwartz 2008). Cooperation through partnerships between the different actors/providers in the water sector at different levels in the water supply chain will make the achievement of MDGs and beyond 2015 possible because a sustainable solution to increasing access to water services in peri-urban areas should not just be in the short term or temporary but long term focused. Njiru (2003) suggests that in many locations where Alternative SSPs operate; opportunities exist for utilities and authorities to form mutually benefiting partnerships with interventions that offer business opportunities and incentives because the market already exists.

Despite the fact that the Zambian Government is already making strides to this end through the water kiosk concept, sustainable solutions need to be developed especially in the area of developing mechanisms to incorporate other forms of small-scale water providers like household water resellers and distributing water vendors who are already exist and are making a significant contribution in providing water to communities in peri-urban areas with some degree of regulation in terms of prices charged and quality of water provided; lessons can be drawn from Senegal (Collignon and Vezina 2000) where households resellers are given operating licences by the utility and are organised in associations. Secondly practical efforts should be made to increase the national budgetary allocation to the water sector increasing finances to the water supply sector. Since Zambia has chosen the option of extending water services through kiosks, a practical solution would also be to increase the number of kiosks as well as kiosk connections by subsidising connections with innovative payment arrangements.

5.2 Policy Implications

Zambia is already implementing the Peri-Urban Water Supply and Sanitation Strategy for improved service delivery in informal settlements; the strategy has identified regulation, cost recovery and financing as major challenges hence Government needs to address these challenges. Literature review further shows that, peri-urban households perceive economic benefits from improvements in water kiosks therefore, Government through DTF should

increase the number of water kiosks as well as sink more boreholes depending on local circumstances so that supply constraints are removed as well as incorporate other alternative SSPs enabling peri-urban residents to have more time to engage in other income generating activities; institutional and political constraints should therefore be addressed (Gulyani et al., 2005).

National policies on infrastructure services especially water services in reality have failed to recognise or prevent the recognition of unbalanced development such as urban or rural biases in development plans and programmes, ‘a simple rural-urban dichotomy fails to take into account the institutional vacuum in which peri-urban households and small-scale water providers fall which is often reinforced by donors and external agencies’ (ibid: 89). Therefore, a balanced approach in the way national programmes are developed and the way in which services are provided needs to be adopted. The Zambian Government through the Ministry of Local Government and Housing has started a pilot project of providing occupancy licences by registering housing units under ground rent in order to give residents security of tenure in peri-urban areas starting with three largest informal settlements in the capital city. This will be extended to other areas in future and will certainly contribute in improving service provision in these areas.

Government needs to start planning ahead of growth (Dagdeviren and Robertson 2009) with which peri-urban areas develop though this requires huge financial resources which is lacking instead of adapting to the circumstances ex-post, broader policies and strategies should begin with thinking outside the ‘water and sanitation box’ by addressing issues of urban planning, housing and infrastructure; many developing countries including Zambia’s lack long-term and low interest finance for households to purchase houses. There is need for political will on the part of Government at the policy level to deliberately design policies that will encourage partnerships between utilities and Alternative SSPs which are informal in a manner that will not endanger the reform process so that they are recognised as partners in water service delivery.

5.3 Recommendations and Lessons Learnt

Practical recommendations and lessons learnt are:

Pro-poor pricing policy

Utilities should use tariff structure and cross-subsidies to improve affordability and subsidise connections for households in peri-urban areas.

Adequate Regulation

It is important that regulatory capacity for utilities is improved so that regulation can be carried out at different levels so that prevailing local circumstances are addressed.

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