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**AN INVESTIGATION OF A PARTNERSHIP APPROACH
FOR PROVIDING WATER SERVICES TO INFORMAL
SETTLEMENTS IN DAR-ES-SALAAM AND LILONGWE**

By

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Dedication:

This thesis is dedicated to Paul and Kenyon, my sons. Let them grow in wisdom and write a better thesis than this.

Abstract

This thesis investigates whether adoption of partnerships between water utilities and Community Based Organisations (CBOs) in Sub-Saharan Africa can improve water services to informal urban settlements. The study is particularly relevant because over 1 billion of the world's population have no access to clean water supply with many living in urban areas. The lack of adequate resources coupled with insufficiency of conventional approaches has rendered it impossible for urban utilities to deliver sustainable water services to all customers, including the informal settlements. The thesis proposes that partnership between water utilities and CBOs is a viable approach for improving water services to informal settlements. The thesis enhances understanding of the context in which such partnerships could be developed.

The research methodology adopted a variety of techniques to improve reliability and validity of findings, with both quantitative and qualitative methods applied during field work. Findings from Tanzania and Malawi are included in the thesis in order to provide perspectives of the partnerships in Sub-Saharan Africa. The thesis reveals that while partnerships are appropriate approaches they are not a panacea. They require time, efforts and resources to make them work. Moreover development of partnerships between water utilities and CBOs should consider proper analysis of the partnership factors including the drivers, components and facilitators. In particular, the research noted that effective communication, trust and the presence of intermediary organizations are essential factors for developing partnerships. The implications of the study highlight the need for integration of the CBO concerns into strategic planning of the water services in cities. The recommendations from the thesis include practitioners' policy changes which recognize involvement of all key stakeholders in water service delivery. Potential areas of further research were identified, which include the study of the costs and benefits of partnership for supplying water to informal settlements.

Key words: Partnerships, informal settlements, Tanzania, Malawi, Sub-Saharan Africa, water utilities, CBOs.

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GLOSSARY OF TERMS USED AS SUMMARISED FROM THE LITERATURE

Community:

A group of people inhabiting a specific geographical location linked by common interests.

Community Based Organisations (CBOs):

These are local based institutions which rely heavily on full participation of people within a defined location in decision making and implementation of projects such as a water scheme.

Community Management:

A form of community participation in which a community takes the final decision on all important aspects in the planning, implementation and management of water services such as O & M and revenue collection.

Effectiveness of Services:

Effectiveness is the extent through which service provision is delivered to the customers.

Households:

A group of people living under the same roof and sharing common provisions for housekeeping or contributing towards housekeeping

Informal settlements:

A settlement that has developed without formal planning and permission from relevant authorities. Such settlements are often characterized by haphazard layout of houses and inadequate access to social services.

Informal private providers

Informal private providers are small water providers who provide alternative water services to those provided by water utilities to the majority of the city population in developing countries.

Independent water providers

Independent water providers are those providers who are not connected to the utility network and obtain their water sources from alternative sources such as boreholes and distribute through a pipe network or through a carrier or a single point.

Intermediate water providers

Intermediate water providers are those providers who obtain water from the utility pipe network and distribute through either a network extension, or a carrier or water points.

Participation:

Participation is a process through which stakeholders influence and share control over project initiatives and the decision and resources, which affect them.

Partnership components:

Components are activities and processes that are established throughout the life of partnerships

Partnership drivers:

Drivers are critical factors which motivate water actors to develop partnerships

Partnership facilitators:

Facilitators are elements of the corporate and external environment which allow partnerships to grow and strengthen.

Partnerships:

A voluntary collaboration agreement between two or more parties in order to achieve a common purpose or undertaking.

Private Sector Participation:

Private Sector Participation is defined broadly as relying on the private sector within society, and less on government to satisfy people's needs.

Public Water Services:

Public Water Services are undertakings which have their account derived from services provided and owned by governments.

Supply Chain:

A set of three or more companies, individuals and institutions which are directly linked by the flow of products, services, finance and information from a source to a customer.

SWOT Analysis.

The process that analyses the strength, weaknesses, opportunities and weaknesses of an organization.

Water Management:

Management of water supply for domestic and / or industrial consumption. It involves the basic decision-making regarding overall operation and maintenance as well as possible expansion of the water supply scheme.

Water supply systems:

A water supply system encompasses the source works, the distribution systems and all appurtenances used to bring water from the source to the consumer.

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ABBREVIATIONS

AHA	Assets Holding Authority
BPD	Business Partners for Development
CBOs	Community Based Organisations
CCODE	Centre for Community Development
CIUP	Community Infrastructure Upgrading Programme
CCI	Centre for Community Initiatives
CWSL	City Water Service Limited
CWSS	Community Water and Sanitation Services
CWSSP	Community Water Services and Sanitation Programme
DAWASA	Dar-es-Salaam Water and Sewerage Authority
DAWASCO	Dar-es-Salaam Water and sewerage Company
DWSSP	Dar-es-Salaam Water and Sanitation Services Programme
	Environmental Health
EWAREMA	Engineering Water Resources Management Consult
EWURA	Energy and Water utilities Regulatory Authority
HNCDA	Hanna Nassif Community Development association
ILO	International Labour Organisation
IMF	International Monetary Fund
IRC	International Water and Sanitation Centre
LWB	Lilongwe Water Board
MASAF	Malawi Social Action Fund
MK	Malawi Kwacha
MOU	Memorandum Of Understanding
MOWD	Ministry of Water Development
MOWLD	Ministry of Water and Livestock Development
NGOs	Non Government Organisations
PPIAF	Public Private Infrastructure Advisory Facility
PPP	Public Private Partnership
PSP	Private Sector Participation
SWOT	Strength Weakness Opportunities and Threats
UCLAS	University College of Land and Architecture Studies
UN	United Nations
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Programme
UNHABITAT	United Nations Human Settlements Programmes
UNICEF	United Nations Children's Fund
WEDC	Water Engineering Development Centre
WELL	Resource Centre Network for Water, Sanitation and
WHO	World Health Organization
WSSD	World Summit for Sustainable Development
NGOs	Non Governmental Organisation
SUDP	Sustainable Dar-es-Salaam Project
SWEs	Small Water enterprises
Tshs	Tanzania Shillings
UCLAS	University College of Lands and Architectural Studies
UNDP	United Nations Development Programme
WEDC	Water Engineering Development Centre

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND TO THE RESEARCH

Although the world's fresh water is one of the most important resources for mankind, a report published jointly by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) indicates that we live in a world where over one billion people have no access to clean drinking water and 2.4 billion, around 40% of the World's population, lack safe and hygienic sanitation (Abu-Zeid, 1998; WHO & UNICEF, 2000). The report also shows that despite significant progress made in the 1990s worldwide about one third of Africa's population still do not have access to improved water supply and Africa lags behind the rest on the world in terms of water supply coverage (WHO & UNICEF, 2000). Furthermore, projected urban population growth in developing countries suggests that urban services will face great challenges to meet fast-growing needs.

Various commitments and targets to address the challenge facing water services have been agreed by governments and international organizations. The UN Millennium Summit and the 2002 World Summit for Sustainable Development (WSSD) were particularly significant in setting the targets, one of which is to reduce by half the proportion of people without sustainable access to safe drinking water by 2015. The task of improving coverage levels in urban areas of developing countries is hampered by the rapid population growth and expansion of these urban areas, a trend which is likely to continue for sometime as virtually all the population growth within the next 25 years is expected to be concentrated in the urban areas of less developed countries (UNDP, 2000). The high growth rate and the lack of adequate housing for the migrants coming from rural areas into the cities has resulted in the mushrooming of peri-urban areas which in some other places are referred to as informal settlements, slums and shanty settlements (Ndebele, 1996; UNCHS, 1996). The informal settlements are characterized by a rapid growth in the number of inhabitants who live in overcrowded conditions; poor quality of housing; insecure residential status and inadequate access to social services facilities (Moser and Satterthwaite, 1985; UN-HABITAT, 2003). As a result, the inhabitants incur high costs for low quality

substitutes which lead to a lowering of the quality of life, reduced urban productivity and increased burden of health care (UNCHS, 1996).

A major challenge facing urban water services in developing countries is how to improve access to good, reliable infrastructure services for all people (Brook and Irwin, 2003). The literature is vast on many constraints that hinder efforts of various institutions to extend water services to the informal settlements. Some of these constraints include:

- Rapid urbanization coupled with urban population growth (UNHABITAT, 2003).
- Lack of land tenure which discourages water utilities to invest in infrastructure which can be expropriated at any time (Collignon and Vezina, 2000; Kariuki, 2001).
- Physical and technical challenges noted by failure of urban water utilities in laying water supply mains in the informal settlements (Kariuki, 2001; PPIAF, 2002a).
- Economic and financial constraints of poor families who cannot afford to pay for private connections to their households (Kariuki, 2001; Solo et al, 1993)
- Lack of funding for new water systems which is linked to the low priority that most international agencies choose to give to water and sanitation in urban areas (UN-HABITAT, 2003).
- Poor management of urban water supply systems which includes a reluctance of the water utilities to charge fully for water, inefficiency in collecting amounts due and failure to control water losses and wasteful use (DFID, 1998).

Within these constraints, it is unlikely that the water utilities could manage to extend water services to informal settlements. Thus, the need to design appropriate approaches for providing water services to informal settlements is necessary.

1.2 APPROACHES FOR PROVIDING WATER SERVICES TO INFORMAL SETTLEMENTS IN DEVELOPING COUNTRIES.

Provision of water services to informal settlements is a huge undertaking. During the last two decades, there have been a number of debates among water practitioners on how water services to informal settlements should be delivered (WUP, 2003). As a consequence, actors have sought to innovate, finding new technological and institutional solutions. Some of these approaches that have been used include:

- Developing flexible arrangements to allow extension of water supply pipes to informal settlements. In these situations, security of tenure is not a major constraint and there are only limited restrictions to extending water pipes to the informal areas (WUP, 2003). However, this approach has benefited only those who could afford to pay for a connection fee and other bills, which unfortunately represents only a small fraction of the population.
- Water pricing and subsidies. This method encourages the use of a tariff structure that sets 'lifeline' or 'social block'. This approach implies that the well-off customers pay more than the costs of the water allowing a lower cost tariff to be available for the poor (Foster et al, 2000). However, most people in informal settlements are not connected to a water supply system, and as a result the subsidy does not benefit them, but in fact subsidizes all consumers and may simply be covering the costs of inefficient operation and management (Brocklehurst et al, 2002).
- Slum upgrading. Slums are neglected parts of cities where housing and good living conditions are appallingly lacking (World Bank, 2003b). Slum upgrading involves regularization of land tenure and improvement of key infrastructure such as roads, drainage, sanitation and water supply (UN-HABITAT, 2003; World Bank, 2003). Despite the success of this programme, the approach has high cost and is not always sustainable for countries for scaling (UN-HABITAT, 2003).

- Application of strategic marketing. This approach involves the process of identifying groups of customers with enough characteristics in common to make possible the design and presentation of a particular water service (Njiru and Sansom, 2003). Although this approach has potential for improving urban water services, including those of informal settlements, it requires regular update of information about customers and availability of various technology options which can respond to customers' needs.

- Services promoted by informal water providers which include independent water providers which utilises water outside the utility pipe network and intermediate water services which obtain water from the utility pipe network. In general the informal water providers include; water vendors, tankers and household resellers and community-based organisation (CBOs). In some countries, these providers account up for to 70% of service provision and offer a wide range of services tailored to their customers needs (World Bank, 2001). While these providers play an important role in serving water to informal settlements, their undertakings are confronted by lack of: regulation, technical skills and capacities, financial resources and management, competition and social discrimination (Njiru, 2003).

Despite all of these approaches, it has become apparent that conventional models of water service delivery are inadequate to meet the challenge of providing services to the vast un-served populations of the towns and cities of Sub-Saharan Africa (BPD, 2002). Faced with these limitations, a key objective for the water providers is to develop appropriate approaches for improving water services to informal settlements. In this research, partnership and supply chain concepts are employed to examine how water utilities and community based organisations (CBOs) can develop partnerships for improving water services to informal settlements.

1.3 PARTNERSHIP APPROACH BETWEEN WATER UTILITIES AND COMMUNITY BASED ORGANISATIONS (CBOs).

The lack of adequate resources coupled with inadequate capacity and insufficiency of conventional approaches have rendered it impossible for the urban utilities to deliver sustainable water services to all customers in many cities of developing countries. In that situation informal settlements are the worst hit. The premise of this research is that delivering water services to informal settlements is a complex process requiring expertise and capacities that water utilities usually do not have including an understanding of the range of stakeholders who must be enabled to work together in partnerships (Weitz and Franceys, 2002). The key stakeholders include water utilities, CBOs, NGOs, Municipalities and Governments. In this research, CBOs are defined as local based institutions which rely heavily on full participation of people in decision-making and implementation of projects such as a water supply scheme (World Bank, 2005).

The partnership approach potentially allows water utilities and CBOs to share resources and skills, and also to complement their experiences in order to improve water services to informal settlements (BPD, 2002). By recognizing the CBOs in the urban water services, it means they become officially recognized as part of the supply chain in the water service delivery. Indeed, a considerable potential for success would be achieved if the water utility could engage and form beneficial exchange relationships with the informal private providers (Njiru, 2002).

Although the partnership approach has been suggested by many as an answer to the urban challenges including water services, it remains unclear how such partnerships can be developed, particularly for improving water services to the informal settlements. Few examples of partnership between the water utilities and other providers exist, but most were developed to address specific needs. Not all examples have entailed a methodical approach for developing partnerships relationships between water utilities and CBOs. Hence, this research investigates whether the adoption of partnership between water utilities and CBOs in Dar-es-Salaam and Lilongwe cities can improve water services to informal urban settlements. No theoretical framework, particularly for improved water services to informal

settlements, has yet been developed to look into such partnerships. This research will provide additional knowledge of that partnership process. The research will examine the issues on the basis of water services literature and business partnerships.

1.4 RESEARCH AIM AND OBJECTIVES

The aim of the research is:

To investigate whether adoption of the partnership between water utilities and CBOs in Dar-es-Salaam and Lilongwe can improve water services to informal urban settlements.

Within this overall aim, the research has the following objectives:-

- To investigate the current relationships between the water utilities and CBOs and the roles of each in supplying water within urban areas.
- To investigate factors that encourages/ discourages the development of partnerships between water utilities and CBOs.
- To compare the effectiveness of water services between water schemes which have partnership arrangements with those that do not.
- To determine perceptions among stakeholders on the use of the partnership approach for providing water services to informal settlements.

The first objective considers existing relationships and roles between actors for the water services. It examines gaps in the relationships which warrant the need for actors to develop partnerships. The second objective considers the value of partnerships in the long term. Improvements to water services are likely to be gradual, and it is therefore necessary to consider both the factors that encourage the creation of partnerships and those that favour their continuation so that levels of trust can be strengthened over time. The third objective refers to effectiveness of water services. Effectiveness in this context means a measure through which the extent of service provision is achieved (Erlendson, 2002). Water services provided by partnership and non partnership arrangements are compared in order to examine the benefits of the partnership approach to the customer. The final objective refers to stakeholder perceptions. Stakeholders are referred to as key actors who have a stake in decision

making and implementation. Examining the perception is a necessary process to capture views and aspirations of stakeholders which could be considered in the development of partnerships. In this research stakeholders are confined to water utilities, Government officials and municipalities, NGOs, and CBOs.

1.5 RESEARCH METHODOLOGY:

The overall research design selected for this study is case study. The case study methodology was selected because it was the most appropriate research strategy for the key research question under investigation. Yin (1999) defined the case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomena are not clearly evident and for which multiple sources of evidence are used”. A Case study provides a rich multi-dimensional picture of the situation being studied and can illustrate relationships, corporate-political issues and other patterns of influence in the context being researched (Remenyi et al, 1998).

Case study research calls for selecting a few examples of the phenomenon to be studied and then intensively investigating the characteristics of those examples (cases). By closely examining those cases, and comparing and contrasting them, then the researcher can learn about significant features of the phenomenon and how it varies under different circumstances (Yin, 1999). Case studies can be single or multiple. When only a single case is available replication is not possible and the researcher is limited to single case designs. However multiple cases strengthen the result by replicating the pattern matching, thus increasing the robustness of the findings (Yin, 1999).

In order to collect data, it was decided that a multi-method approach including questionnaire based surveys, focus group discussions and documentary survey, should be used within the framework of a case study. The findings from the different methods and data sources were triangulated to ensure the reliability and validity of the research. It was also decided to undertake two case studies in two cities of Sub-Saharan Africa, one in Tanzania (Dar-es-Salaam) and the other in Malawi (Lilongwe).

Justification for selecting the two case studies was done in order to confirm common features and identify any local specifics of the study locations.

1.6 LIMITATIONS OF THE SCOPE OF THE RESEARCH

This research limits itself to investigating partnerships between water utilities and CBOs. The research is based on multiple case study approaches, with scope for discussing the potential and limitations of each case study. As stated, the specific purpose of the research is to investigate whether adoption of partnerships between water utilities and CBOs can improve water services to informal urban settlements. The research is guided by the hypothesis that:

Partnership between water utilities and CBOs is an appropriate approach that can be used to improve water services to informal settlements in Dar-es-Salaam and Lilongwe.

The premise of this research also limits itself in investigating provision of water services to informal settlements. In this regard the study considered all active stakeholders involved in water services delivery to informal settlements, and the research proposed Tanzania and Malawi as case study locations. Justification for choosing these two locations is given in chapter 3.

This research employed partnership and supply chain concepts in examining factors that influence development of partnerships between water utilities and CBOs. However, a number of boundaries were deliberately imposed so as to keep the research within manageable limits. Firstly the research focused only on the partnership related to provision of water services to informal settlements. Secondly, the research did not look at the wider range of Public Private Partnerships as this aspect has been amply discussed in the literature. Moreover, other types of informal private providers are not included in this investigation.

1.7 MAIN FINDINGS

The main findings from the research show that partnership between water utilities and CBOs has potential for improving water services to informal settlements. However,

the study revealed that it is important for agencies promoting partnerships to gain understanding of critical factors which encourage successful partnerships. These are drivers, components and facilitators. The research offers a methodology that utilities can use to structure their service delivery to informal settlements in developing countries. This research contributes to advancement of knowledge on management of urban water services, which may also be applicable to similar regions of the developing world.

1.8 OUTLINE OF THE THESIS

The thesis is based on a case study approach and structured in a logical order of a case investigation, findings and conclusion.

Chapter one provides the background to the problem, and introduces the subject, scope and context of the thesis. The *next chapter* discusses the major research issues, identifying the main school of thoughts and some relevant gaps within the extant literature. The research design and methodology are then discussed, highlighting the research methods used and providing justification for the choice of the methods. *Chapter three* also outlines the data collection procedure, the various techniques used in analyzing the data. *Chapters four and five* present an overview and context of the Dar-es-Salaam and Lilongwe case studies respectively indicating urban water services and activities of CBOs. *Chapters six and seven* are confined to the detailed analysis of the Dar-es-Salaam and Lilongwe case studies data respectively. Results of the quantitative and qualitative analyses are presented in this chapter. *Chapter eight* is the comparison of the analyses for the case studies of Dar-es-Salaam and Lilongwe. This is followed in *chapter nine* by a discussion of the results and implications for service provision to informal settlements; policy guidelines are also highlighted in this chapter. *The tenth* and final chapter of the thesis presents the conclusions for the research, and makes recommendations for future research.

A schematic diagram of how the thesis has been structured and links between the chapters in the thesis is shown in Fig 1.1

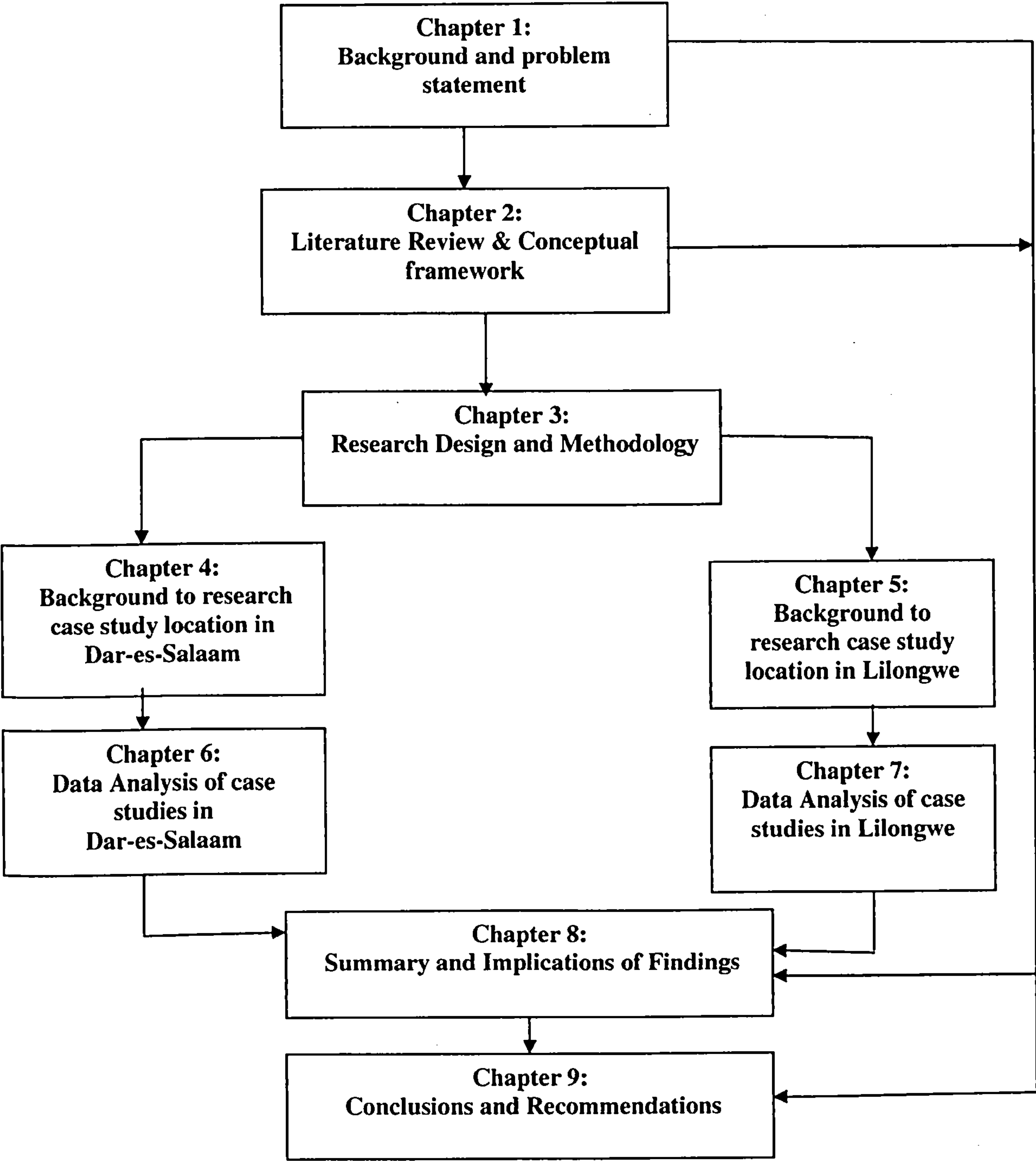


Fig 1.1 Structure of thesis

1.9 CHAPTER CONCLUSION.

This chapter has provided the background of the research indicating various challenges affecting urban water providers in delivery of water services to informal settlements. These include: the physical and technical challenges, economic and financial challenges and institutional and structural challenges. The chapter has also summarized the approaches which are implemented by water providers in providing water services to the urban poor. Despite these approaches, the challenge is still enormous.

This chapter also highlights justification for this research, and its purpose, which is to investigate whether adoption of partnerships between water utilities and CBOs in Dar-es-Salaam and Lilongwe can improve water services to informal urban settlements. The research aims to advance knowledge about the extent to which water services to urban informal settlements can be improved. The next section reviews available literature that is relevant to the research topic.

CHAPTER 2

LITERATURE REVIEW

2.1 CHAPTER OUTLINE

This chapter provides a review of relevant literature on key issues around which the research was developed. It starts by discussion of informal settlements, and then considers various institutional approaches for urban water services in developing countries with a focus of how such approaches have supported the informal settlements. The concepts of partnerships, together with their applications and relevance in urban water services, are also presented. This is then followed by discussion of the conceptual framework which served as the guideline for the implementation of the research. Finally, the chapter concludes by highlighting key points of the literature, identifying information gaps in the existing knowledge and setting the stage for the research.

2.2 REVIEW APPROACH

The main purpose of the literature review is to explain related concepts and to find out research gaps in the proposed field of study. To discover the key area of research, relevant publications in journal and periodicals, internet sources, reports and books were studied through literature search engines. At the onset of the study, through MetaLib, abstracts from different research databases were reviewed and summarized using different combination of keywords: urban poor; informal settlements; partnerships; supply chain; CBOs; and urban water services. Quite often a Google search also proved useful for finding electronically published information. The literature sources were managed by using ENDNOTE 5 and are presented in the list of references.

2.3 THE INFORMAL SETTLEMENTS

Developing world cities are divided into two distinct sectors: formal and informal, or urban and peri-urban. Peri-urban and informal settlements are also commonly referred

to as squatter settlements, marginal settlements, shantytowns, urban slums, or illegal settlements (Cheema, 1986). A consensus definition of informal settlements has been difficult to achieve among practitioners and researchers; however, there is general agreement that informal settlements include areas which: are marginal to the physical and regulatory boundaries of the formal city; are inhabited by the very poor who have no access to tenured land of their own; and who experience overcrowding and inadequate access to safe water, sanitation and other infrastructure (Hogrewe et al, 1993; Mussa, 1999; UN-HABITAT, 2003).

Informal settlements largely develop outside of government control and do not follow strictly formal urban planning and development processes. Many informal settlements begin as land invasions with families illegally squatting on the land. Other informal settlements begin with the legal landowner illegally subdividing and selling the land without formal land registration or basic service provision. Families often pay the former owner or occupant the full purchase price, but receive in return no registered title to the land (Hogrewe et al, 1993). Indeed, as more people settle in these areas, it is important for municipalities and water utilities to enhance knowledge of the characteristics of informal settlements. This will help design appropriate and affordable service delivery to all people.

2.3.1 Why Informal Settlements?

Rapid growth of the world's population has been one of the most visible and dramatic changes to the world over 100 years (UN, 2003). The world population reached 6 billion in 1999 and is estimated to reach 7 billion soon after 2010 (UN-HABITAT, 2003). A significant proportion of this population increase has been and will be absorbed in urban areas. Twenty years ago, there were 245 mega-cities around the world and today, there are 375. It is estimated that by the year 2015, 40% of the world's urban population will live in mega-cities (UN-HABITAT, 2003). These figures in the developing world are even more dramatic. Urban settlements in developing countries are growing at five times the rate of those in developed countries. According to the population Division of the United Nations, by 2015 the urban

population in developing countries is expected to reach 50%. Table 2.1 shows distribution of urban population in (UN, 2003).

Table 2.1 Distribution of urban population in more and less developed regions

Distribution of urban population in developed and developing regions			
	1975	2000	2015
Developed regions	734 millions 70%	898 millions 75.5%	954 millions 78.6%
Developing regions	809 millions 26.5%	1,965 millions 40.4%	2,915 millions 48.6%

(Source: UN, 2003)

These figures reflect the high migration of people to cities as well as natural population increase among the urban residents. It also indicates the emerging challenge that urban authorities will have to address in the near future. The high levels of urbanization rate and slums have also been examined by UN-HABITAT, 2003. Table 2.2 shows the proportion of people living in informal settlements in selected regions.

Table 2.2 Proportion of informal settlements in selected regions

Proportion of people living in informal settlements in selected Regions	
Region	Proportion of people living in informal settlements (%)
Developing Region	43
Sub-Saharan Africa	71.9
North Africa	28.2
South- Central Asia	58
East Asia	36.4
Western Asia	33.1
South East Asia	28
Latin America & Caribbean	31.9

(Source: UN-HABITAT, 2003)

It is evident that among the regions, Sub-Saharan Africa is the region with the highest proportion of informal settlements with 72% of the total population. Furthermore, it is estimated that around half of urban dwellers in developing countries do not have a safe and protected supply of water; and one-third lack basic sanitation facilities (UN-HABITAT, 2003). Based on these facts, it is clear that the populations of informal settlements particularly in Sub-Saharan Africa warrant better attention in basic service provision such as water supply.

2.3.2 Characteristics of Informal Settlements

Informal settlements have a number of unique characteristics that distinguish them from formal urban and rural areas. The literature is vast on the different characteristics of informal settlements and these characteristics are reviewed below.

2.3.2.1 Poor physical conditions and complicated site layout

Poor urban families searching for a plot of land to build a home are strongly influenced by existing market prices for urban land; inevitably the land that is most desirable for construction is the most expensive (Hogrewe et al, 1993; Mussa, 1999). As a result, the poorest people opt for more affordable areas that are undesirable for formal development, such as those located on steep slopes, along gullies, on soil that is too rocky to excavate easily, or in areas prone to flooding. Poor households move onto these settlements because they are relatively cheap to purchase or because illegal occupation of such sites is less likely to be challenged. However, since informal urban settlers lack expertise on planning and technical know-how, they often develop their settlements haphazardly, without allowing adequate space for installing infrastructure lines (Hogrewe et al, 1993). This trend leads to physical and technical constraints for the urban utilities to install water pipes and other services. Innovative methods and flexibility are required by the water utility to provide water services in these areas.

2.3.2.2 High density population and poor access to basic services

The lack of adequate housing for the migrants coming from rural areas into cities has resulted in the mushrooming of informal settlements (Ndebele, 1996). Most of these settlements have a high population density, often greater than 400 people per hectare (Mussa, 1999). UN-HABITAT, (2003) argues that many slum dwelling units are overcrowded, with five or more persons sharing a one-room unit, used for cooking, sleeping and living. Due to their illegal status, many of these settlements are not catered for by provision of services such as water supply, sanitation, drainage systems, transportation service and refuse collection services (Addo-Yobo, 2006). In many informal settlements, people living in the informal settlements purchase water at

higher prices from water vendors and also spend a lot of time and energy collecting water for their home (Collignon and Vezina, 2000; Jonsson and Satterthwaite, 2000). High population density without basic infrastructure entails greater health and environmental risks than those found in rural and formal urban areas (UNCHS, 1998). There is no doubt that poor access to basic infrastructure and services have contributed to the poor health conditions and well being of people in these areas. In the author's opinion there is a need for, policy makers and practitioners to be aware of this fact, and incorporate the aspects of rapid population growth within the city planning.

2.3.2.3 Organization of Communities and Social Characteristics

Informal urban settlements, in general, are not homogeneous with respect to ethnic background, income level, language, and social norms. Most people have migrated to these settlements from various parts of a region or country. This heterogeneity often leads to misunderstandings and distrust among neighbours and may result in minimal contact between neighbours. Consequently, a broad-based sense of community is often lacking in informal settlements. Moreover, different groups and the busy bustling demands of urban life have contributed to a situation where social cohesion is weak compared with rural communities (Baharoglu and Kessides, 2001). The nature of support networks based on family, kingship and neighbourhood are generally different in urban areas and less effective in providing support and assistance when needed (UNCHS, 1996). Furthermore in the informal settlements there is little stability due to transient populations who are constantly changing as they search for suitable accommodation and income generating opportunities.

As a result, urban dwellers, especially these informal settlements, "tend to lack communal assets to fall back on in terms of hardship, a situation that affects their ability to withstand or cope with unexpected mishaps" (Addo-Yobo, 2006). Despite the general weakness of social cohesion that exists in urban areas, some communities have succeeded in mobilizing themselves to provide financial assistance to one another and in some places undertake community action. For instance community organization can and does exist, often formed around an issue of universal interest in the settlement, such as school construction or water projects (Mussa, 1999). Thus

with significant support from agencies, it may be possible to organize urban communities to achieve their intended goals. In the author's opinion there is a need for implementing agencies to enhance understanding of the social dynamics of urban communities which is critical for the projects implementation such as water scheme.

2.3.2.4 Lack of Security of Tenure

A number of definitions consider lack of tenure as the central characteristic of informal settlements (UNHABITAT, 2003). In most developing countries, lack of any formal documents entitling the occupant to occupy the land or structure is evidence of illegality and slum occupation. In most developing countries, the existing legal, formal land development market is subjected to over-regulation and its corresponding costs. This has been the major contributing factor to the creation of illegal and informal settlements (Mussa, 1999). In the author's opinion there is a need for municipalities and land officers to ensure that flexible arrangements on land regularization and land tenure are easily processed. This will enable easy acquisition of land tenure and may allow development of infrastructure to the urban poor, although utilities may be reluctant to invest in some locations.

2.3.2.5 Low income and reliance on the informal economy

As noted above, families settle in informal settlements areas for rational reasons, primarily because land prices or rents are low. A significant percentage of the population of informal settlements cannot afford the formal sector housing, even when the costs are cut to a bare minimum (Hogrewe et al, 1993; Mussa, 1999). Also many households in informal settlements do not enjoy a regular income, and large numbers of informal settlements households are headed by single women who in turn tend to have the lowest income levels. In contrast to families in rural areas, whose economy is based more on agricultural subsistence and wage labour on the land, most families living in formal urban areas operate in the cash economy as workers and have access to steady jobs, pay taxes, and so on. In informal settlements, households are also in cash economy but their workers rely mainly on the informal economy (for example, carpenters working out of their backyards or women selling groceries in the market)(Hogrewe et al, 1993; Mussa, 1999). In this regard, the economy of

households living in informal settlements is not stable and varies considerably. In the author's opinion there is a need for practitioners to consider innovative ways of helping the urban poor economically. This should also consider the pro-poor design of infrastructure services in these areas.

Summary of characteristics of informal settlements

This section described aspects of informal settlements. Informal settlements are areas not clearly within the physical and regulatory boundaries of formal cities characterized by poor people who have no security of tenure, and who lack access to infrastructure services. The characteristics of informal settlements include.

- Poor physical conditions and complicated unplanned site layout.
- High population density and poor access to basic services which has a detrimental effect on the health and well being of the poor.
- Lack of homogeneous communities leading to misunderstanding, distrust among neighbours and lack of social cohesion.
- Lack of security of tenure which is a major factor contributing to the creation of illegal and informal settlements.
- Low incomes and reliance on an informal economy resulting in instability of the income of the people living in informal settlements

2.4 INSTITUTIONAL APPROACHES FOR URBAN WATER SERVICES

The previous section discussed the context of the urban poor in Africa. This section reviews institutional approaches for urban water supply services which are currently being implemented in many cities of developing countries. The review includes discussions on Public water services, Private Sector Participation (PSP), and the informal water providers. Within each institutional approach, discussions on the challenges of providing water services to the urban poor are also presented. Finally a summary of key findings from the literature review is presented.

2.4.1 Approaches through Public Water Services

Public Water Services are broadly defined as “undertakings which have their own accounts derived from charges for services provided, and are wholly owned or majority controlled by central, regional or local government” (Lobina and Hall, 2000). In this approach, governments of many countries have put in place monopoly utilities to run water supply and sewerage systems. This is due to the belief that the nature of the infrastructure required and the large economies of scale mean that these services are most efficient if operated by a single entity, which in most cases has been owned and run by the government and also often a belief in the right for water (PPIAF, 2002). Other reasons for establishment of the public water services include realization of public health benefits of water supply for the people and inability of the majority of their citizens to pay for the services (Katko, 1986; Kayaga, 2001).

Municipal water works department

In municipal water works, the water utility is a part of the local government system, forming a municipal or district agency, service or department. In this approach the managers of the water services are given much autonomy and authority to manage which gives them the room and flexibility to make improvements. However, many urban water utilities in developing countries still face chronic financial shortages and inadequate management capacity leading to poor performance (Edward et al, 1993; PPIAF, 2002).

Corporate utility model

The corporate utility model operates as a quasi-corporation. The water utility in this form is variously called a water board, a corporation, or authority, and in some places is known as a parastatal (Blokland et al, 2000). These types of model face the same challenge of political interference from government officials, as the board members are selected by the government ministry responsible for water. Corporate utilities are particularly prevalent in Africa and Asia (Blokland et al, 2000).

Public Water Private Limited

A Public Water Private Limited Company refers to a mode of organization where the water utility is incorporated as a limited company under company law, enjoys all the

autonomy ensured by the statutory provisions governing the company and is financially responsible for the operation of water services (Lobina and Hall, 2000). Public water companies are quite common in Western Europe, where they can be found in Germany, the Netherlands, Belgium and Scandinavian countries, and in the United States (Blokland et al, 2000).

2.4.1.1 Challenges of Public Water Services to serve the informal settlements

The discussions above have outlined types of public water services. Clearly these face enormous challenges due to lack of autonomy which affect their ability to operate commercially. Most governments and municipalities providing public water services have retained control in recruiting staff and setting of water prices (Edwards et al 1993). In these countries, water is provided for free or at a price much below the full provision costs, leading to poor performance of the public sector and many public water utilities (PPIAF, 2002). Indeed, these challenges affect ability of public utilities to manage existing water systems and also to extend water services to informal settlements. Due to these challenges, Private Sector Participation (PSP) has been recommended as a substitute for the public water services.

In summary, although Public Water Services have been reported to be performing well in developed countries, in developing countries the situation is different. Most Public Water Utilities face challenges due to lack of autonomy to set realistic tariffs and management practices. As a result, many public water services do not provide satisfactory services. However, it has been shown that with proper systems for accountability and governance of the Public Water Services it is possible for the management of water services to be improved.

2.4.2 Approaches under Private Sector Participation

Private Sector Participation (PSP) is the involvement of the private sector in an otherwise public sector domain such as provision of infrastructure services (Crosslin, 1991; Njiru, 2002). Private sector Participation (PSP) is a general term which could involve simple privatization of government services where the private company

provides government services for a fee. The shift to the private sector was prompted by poor performance of the monopolistic public utilities and the huge investment needed for services improvement and expansion (Johnston and Wood, 1999; Nickson, 1997). Public utilities in many developing countries were characterized by overstaffing, low cost recovery, mismanagement and corruption (DFID, 1998). Hence involvement of the private sector in the water sector was viewed as an appropriate means to improve efficiency through good management practice, and injection of large-scale investment into the sector (Johnston and Wood, 1999; Nickson, 1997).

2.4.2.1 Options for Private Sector Participation

The Private Sector Participation in the water sector has taken several forms ranging from service contracts, management contracts, lease contracts, Builds Operates and Transfers (BOT), concession and divestiture. PSP management options are described below.

Service contract

In a *service contract*, a publicly owned entity enters into a contract with a private sector assistant for performing specific tasks such as installing or reading meters, monitoring losses, repairing pipes, or collecting accounts (PPIAF, 2002). These contracts are somewhat similar to traditional consultancy and construction contracts widely used for implementation of infrastructure projects (World Bank, 1997; Nickson, 1997; Blokland et al, 2000).

Management contracts

The *Management contract* transfers responsibilities for the operation and maintenance of a government-owned business to a private operator. This involves paying a private operator a fee for performing managerial tasks. In this contract, the public sector remains as the asset owner, but provides the private operator with a contract for the operation and maintenance of a water and/or sanitation business (World Bank, 1997; Nickson, 1998; Blokland et al, 2000). The advantage of this approach is on increasing efficiency in the management of the system.

Lease contracts

In a *Lease contract*, the public sector remains the asset owner, and the private operator leases assets from the existing owner, taking responsibility for operating and maintaining them. The private company designs the tariff structure and collects its revenue directly from customers and is required to pay a rental fee to the government for use of the assets. The fee is usually a proportion of the total revenue and is supposed to cover the administrative and investment costs of the public sector that owns the assets (PPIAF, 2002; World Bank, 1997; Blokland et al, 2000).

Concession

In the concession contract, the public sector remains as the asset owner, but a private operator is given the right to use the assets for a fixed period of time. The concession therefore provides the private operator with responsibilities for enhancing investment to the water systems as well as establishing operation and maintenance systems for the assets (PPIAF, 2002; World Bank, 1997; Nickson, 1998; Blokland et al, 2000). Unlike management and lease contracts, the private operator in the concession contract makes income directly from revenues and has responsibility for planning and funding new investment (PPIAF, 2002). The advantage of this approach is that the water utility is responsible for funding expansion and incentive to add customers.

BOT contracts

BOT stands for Builds, Operates, and Transfers and this describes a contract in which a private company Build and Operate and then Transfer the ownership to the public sector. In this type of contract, the public sector retains ownership of all existing assets, and is responsible for the provision of water and sanitation services to the customers. A private operator is given responsibility for financing and constructing a specific infrastructure facility for a specified period of time following construction, and it is then returned to the state for a nominal cost (PPIAF, 2002; World Bank, 19997; Nickson, 1998; Blokland et al, 2000).

Divestiture

In this type of contract the private company purchases the assets from the government and takes over their operation and maintenance as a business on a permanent basis, but under strict commercial rules. The government only maintains a regulatory role,

although this can be very strong, as in England and Wales (PPIAF, 2002; World Bank, 1997; Nickson, 1997; Blokland et al, 2000). This model has only been adopted in England and Wales, apart from a few other small and isolated instances.

2.4.2.2 Challenges of PSP Approaches to provide water service to informal settlements

While Private Sector Participation (PSP) has been considered by many to be the only means of raising the enormous amounts of capital required to meet demand and improve the quality of water in cities, it has also been controversial (Brook and Irwin, 2003; UNHSP, 2003). Privatization entails a more commercial approach to provision of water services, which can lead to: the withdrawal of subsidies, an increase in price, more frequent disconnection of non paying customers, and a reluctance to connect new customers unless they are profitable (Brook and Irwin, 2003). As a result, observers have raised concerns about its effect on the poor, despite its possible benefits in other respects. Many examples exist which show that providing water and sanitation services for the urban poor can be particularly challenging for the water utility companies (Weitz and Franceys, 2002). As a result, many private water service providers have shown little interest in expanding water services in areas of low or zero return on capital (UNHABITAT, 2003). There is a need to develop approaches which will motivate the private sector to provide water services to informal settlements.

In summary, due to challenges of managing urban water services, many governments have considered PSP options to bring technical & managerial expertise; economic efficiency and capital investment. However, despite its potential, PSP faces challenges in bringing water services to informal settlements. This is because PSP entails a commercial approach leading to low interest in investing in informal settlements where the return on capital investment could be minimal.

2.4.3 Approaches based on the Informal Water Providers

Unlike cities in developed countries where there is often a single source of water supply serving all residents, cities in developing countries have a wide variety of water sources and supplies (Plummer, 2002a). In some countries, these informal private providers account for up to 70% of service provision and offer a wide range of services tailored to their customers needs (World Bank, 2001). The informal private providers are small scale operators, often referred to as independent water service providers or intermediate water service providers (Njiru, 2003; WUP, 2003). Independent water service providers are those providers who are not connected to the utility network. They generally obtain their water source from alternative such as borehole and distribute through a pipe network or a single supply points. On the other hand intermediary water services providers are those providers who generally obtain water from utility network and distribute through either a network extension, water points or by carriers (WUP, 2003; Sansom, 2006).

The wide range of informal water providers include:

- “Wholesale vendors (tankers users) who obtain water from a source and sell the water on to consumers and distribution vendors;
- Distribution vendors who obtain water from a source or from a wholesale vendor and sell the water directly to consumers, via door- to-door;
- Direct vendors who sell water directly to consumers who come to collect and pay for water at the source. These include household re-sellers, private operators, and community managed water kiosks” (Albu and Njiru 2002).

Informal water providers are well placed to provide water services to informal settlements (Njiru, 2003). The importance of informal water providers include: provision of water and sanitation services to a very large proportion of low-income urban households; often they serve people living in areas that are difficult to serve with a conventional water distribution network; they also provide their services for profit often within competitive markets with no subsidy (Albu and Njiru, 2002; Solo, 1999).

Despite the importance, authors have also noticed a wide range of constraints facing informal water providers in their operations. These include: lack of recognition because of their small in size which makes difficult to regulate their operation; limited technical skills and capacities; the lack of financial resources; competition and social discrimination (Albu and Njiru, 2002; McGranahan et al, 2006). These factors undermine their potential to make a significant contribution to provision of good affordable water services to their customers (Njiru and Smith, 2003). Therefore, there is a need for urban water utilities to recognize this role and learn how to develop beneficial relationships in provision of water services to the urban poor (Njiru, 2003). Water providers include: provision of water and sanitation services to a very large proportion of low-income urban households; often they serve people living in areas that are difficult to serve with conventional water distribution network; they also provide their services for profit often within competitive markets with no subsidy (Albu and Njiru, 2002; Solo, 1999).

A further discussion on the Community Management approach or known as CBOs as a form of informal water providers is described below.

2.4.3.1 Community Management Approaches

Community Management has become the leading concept for implementing water supply projects in rural areas in developing countries (IRC, undated). Consequently, there is also a growing trend to encourage the use Community Management in managing water schemes in small towns and informal urban settlements (Wegelin-Schuringa, 1998; WSP, 2005). Community Management is defined as a “form of community participation in which the community takes the final decision on all important aspects in the planning, implementation and management of the water supply systems”(Wood, 1999 and Wegelin-Schuringa, 1998).

Throughout history, communities have organized themselves to address collective and individual needs. In some locations, this has encouraged the community to create Community Based Organisations (CBOs) to address common problems affecting them. In the water sector, CBOs are known for their role in planning and management of the water systems. CBOs can be formal or informal. While informal CBOs such as

women's group and water committees pursue joint interests and often appear more accessible to support the poor, the formal CBOs have legal status, formally stated rights and responsibilities and a legally binding governance structure for recruiting members, selecting leaders and conducting affairs (World Bank, 2005).

Although CBOs water schemes have potential benefits in service delivery, it also has some constraints. Cotton and Tayler (1994) in a study to investigate the potential of Community Management in an urban setting concluded that successful Community Management is more feasible when the population of households is small because it is easy to mobilize the community. This observation is also supported by Doe and Sohail (2004) who argue that the size of community has implications for the success of community management. They noted that Community Management is not equally applicable in all community settings and that success is more likely in smaller communities.

Another constraint facing CBOs managed water schemes is homogeneity of community. A community is homogeneous if it has people within a shared heritage and shared characteristics of interests (WSP, 2005). Among the factors that promote homogeneous communities include existence of strong social relationships between members, and in most cases members may be linked through family ties. Furthermore in a homogeneous community, people tend to share common goals and priorities; for instance most people are farmers; and traditional social structures still exist (WSP, 2005). These factors are most prevalent in rural areas which are the main reason why community management in rural areas has been successful.

However, social conditions in an urban context tend to be quite different from a rural pattern, leading to a diverse population which makes it more difficult to identify a community that can manage water services. Communities living in urban informal settlements often have a high population density consisting largely of migrants from different rural areas. The populations may be too big for effective accountability to a community managed water scheme. Moreover, the settlements have a high transient population who may have wider priorities than developing a community development initiative (Batchelor and Scott, 2001). These arguments are also supported by WSP (2005) who argues that the inhabitants of small town and urban informal settlements

have more diverse and different interests because of their varied economic activities, and therefore community management becomes less feasible. These factors can lead to difficulty in promoting community management of water and sanitation in small towns and informal urban settlements (Njiru and Sansom, 2002). In the author's opinion there is a need to investigate how a Community Management approach can be sustained in the urban setting.

Sustainability of Community Management could be achieved through partnerships. Bolt and Schouten (2001) argue that sustainable community management requires a partnership which allows scope for shared responsibilities between the CBOs on the one hand and water utilities on the other. These arguments are also supported by UNDP (2004) and UN-HABITAT, 2003 who suggests that improvement of water services to informal settlements should require a partnership arrangement. This research examines how water utilities and CBOs can develop partnerships for improving water services.

Due to the various challenges the water utilities are not serving water to the majority of the urban population in developing countries. As a result the informal water providers have stepped in to fill the gap. Among the informal water providers are CBOs managed schemes, which despite their wide acceptance in the urban setting, face constraints due to the lack of the homogeneity of community. The literature suggests that in order to enhance sustainability of Community Management, partnership arrangements between the CBOs and water utilities should be promoted.

2.5 THE PARTNERSHIP APPROACH TO WATER SERVICES

2.4.4 Summary of the Institutional Approaches for urban water services

This section has reviewed various institutional options for providing urban water services. This has included discussions on public water services, private sector participation and informal water providers. Key issues which were noted in this section include.

- The review of the public water services noted that many of the public water services are challenged by insufficient finance, low effectiveness and

insufficient funding for maintenance, leading to deterioration of assets. This has affected the ability of public water services to manage properly the existing water systems as well as extending the service to informal settlements where most of the urban poor live.

- The review of Private Sector Participation observed that, although private sector participation is considered by many to have potential for improving urban water services, it also faces numerous challenges. Privatization entails a commercial approach to provision of water services; and there are concerns this can lead to an increase in price and the utility giving lower priority to serving the urban poor.
- The review of informal water providers indicated various constraints. These include limited technical skills and capacities, financial resources and management and lack of recognition by the water utility.
- Moreover, the viability of Community Management in the urban setting is challenged by institutional and management factors. The review noted that achieving sustainability in community management requires a partnership approach which allows scope of shared responsibilities between local management organizations of the community and the public/ private sector.

The next section discusses the partnership approach and its applications for providing water services to informal settlements.

2.5 THE PARTNERSHIP APPROACH TO WATER SERVICES

2.5.1 Introduction

Following recommendations from the WSSD Summit (WSSD, 2002), the United Nation's Urban Program has been largely supporting the development of innovative partnerships in cities around the world (UNDP, 2004). Governments, businesses, non-governmental organizations, and other institutions have been encouraged to promote a sustainable partnerships model in urban areas to address infrastructure and environmental problems. This innovative mode of service delivery is based on ideas

of broad participation, a shared responsibility and local ownership among the interested partners (Paskaleva-shapira, 2001). This implies that environmental and social problems are better resolved through partnerships (Eweje, 2007). These types of partnerships are entering a new stage of development with an increasing degree of interaction.

2.5.2 Defining Partnership

Partnership has been categorized in various perspectives by different school of thoughts. One of the perspectives is primarily promoted by advocates of NGOs which suggests that partnerships should seek to maximize equity and inclusiveness (Brinkerhoff, 2002; Malena, 1995). Another perspective emphasise the importance of collaboration of actors. This is evident with partnerships by international donor and governments (Brinkerhoff, 2002). The other stream views partnership as a tool to reach objectives, and to improve efficiency and responsiveness (Brown and Ashman, 1996; Brinkerhof and Brinkerhof, 2001). There is also a category that addresses equality in decision making of the partner organizations and utilises skills on supply chain (Lambert et al, 1999). Another category examines inter-organisational relations, particularly between the public and private sectors, and includes partnerships within aspect of political economy (Agranof and McGuire, 1999).

Partnership has been defined in various ways by different authors. One definition of partnership is “a voluntary collaborative agreement between two or more parties in which all participants agree to work together to achieve a common purpose or undertake specific tasks and to share risks, responsibilities, resources, competences and benefits” (Morse, 1998). Also, based on a review of the partnership literature Brinkerhoff (2002), formulated the following definition of an ideal partnership: “Partnership is a dynamic relationship among diverse actors, based on mutually agreed objectives, pursued through a shared understanding of the most rational division of labour based on the respective comparative advantages of each partner.”

Based on these definitions, Brinkerhoff (2002) suggested that the drawbacks of focusing on ideal definitions of partnerships are that it is difficult to specify the degree to which they can be operationalized. Thus Brinkerhoff (2002) expressed the opinion

that there is a need for a relative examination of partnership with clear definition and specific dimensions. Mutuality and organizational identity are identified as the two distinguishing dimensions of partnerships. Mutuality refers to mutual dependence and each partner's rights and responsibilities to the other, whereas organization identity pertains to the distinctive and lasting aspects of an organisation, which usually is the justification for selecting particular partners.

There is an ongoing debate in policy and academic circles where views on partnerships remain divided. While proponents predict mutual gains for all stakeholders (Brinkerhoff, 2002; Maxwell & Ridell 1998; Penrose, 2000) critics suggest that benefits are elusive and argue that genuine partnerships simply cannot be realised under conditions of structural inequality (James, 2000; Crawford, 2003; Mohiddin, 1998). They further argue that in the absence of a level playing field, negotiations of the terms and conditions will be in favour of the stronger partner, who also remains in the driver's seat for the day to day management of the relationships. Inequality may be due to control of power, resources, skills and influence on the design and implementation of programme activities (Lister 2000; Johnson and Wilson; 2006). Due to this, Lister (2000) argues that the need to analyse power dynamics within the relationships is important.

Success of partnership depends on the extent to which ownership, power and commitment are shared by the organisation partners (Blagescu and Young, 2005; Johnson and Wilson, 2006; Fowler 2000). The power imbalance undermines the mutuality needed for effective partnerships, hence undermining the concept of partnerships. Responding to the question of how to balance power, Blagescu and Young, (2005) argue that equitable partnerships need to recognise that each party has different objectives and bring different capacity to the partnerships which highlight the need for mutual respect of each partner organisation's mission and value. Within this concept it is possible to develop mutual relationships based on the differences between partners (Raymond et al.1992; Johnson and Wilson, 2006). Partners may differ in origins, nature, mission, objectives, activities, resources, structure and their contribution but they are both considered as mutually essential. Moreover, balancing of power can be achieved by progressively transferring responsibilities and ownership to the partner with less financial capacity as well as encouraging partners to engage in

joint planning and open communication channels (Blagescu and Young, 2005). Power balancing is concerned with satisfying one's own concerns and satisfying the concerns of others (Hibbard et al, 2001). This argument is also relevant to this study where partnerships between water utilities and Community Based Organisations (CBOs) are investigated. Although the partners have differences in terms of objectives, resources and activities, this research argues that it is possible for water utilities to develop mutual relationships with CBOs based on their differences.

2.5.3 Relevant Theories on Partnership

While there is no denying the growing emphasis on partnership development in various sectors, there is a range of theories and explanations specific to the determinants for collaboration. Two relevant theories are reviewed namely: resource dependency theory and network theory.

2.5.3.1 Resource Dependence Theory

This particular theory proposes that inter-organizational collaboration is stimulated by an organization's desire to acquire the resources necessary for its survival. Resource dependency theory is based on organizations seeking to maximize their power. The theory proposes that actors lacking in essential resources will seek to establish relationships with others in order to obtain necessary resources (Pfeffer & Salancik, 1978; Foster & Meinhard, 2002). Within this perspective, organisations are viewed as coalitions altering their structure and pattern behaviour to acquire and maintain external resources. Partnerships between water utilities and CBOs fit resource dependence in that each actor has unique resources which are interdependent. The key resources which the water utilities could obtain from the CBOs are: local knowledge and information of the informal settlements, and skills in managing water schemes at the lowest level. Similarly, the key resources from the water utility which are significant to the community based organisation are available financial resources, technical and management skills, and information. This shows the importance of resource dependency among actors for developing partnerships.

2.5.3.2 Network Theory

Increasing in recent years, network theory has played an important role in shaping understanding of the condition in which organisations and institution interact. Much of the growth in interest related to networks stems from a recognition that organisations by themselves are not able to address many of the dynamics that arise from several current complex situations. Network theory focuses on the relationship between people, instead of on characteristics of people. The relationships may comprise the feelings people have for each other, the exchange of information, or more tangible exchanges such as goods and money (Meyer, 1994). By mapping these relationships network analysis helps to uncover emergent and informal communications patterns present in an organisation (Scott, 2000). Various authors have used network theory in social services. For example Keith et al (2005) used network theory to analyze and understand the structure of the relationships that form community partnerships. In their research they found that a network approach can be used to evaluate relationships between public and nonprofit organizations, thereby strengthening the partners' capacity to address critical needs in social services. This theory is also pertinent to the partnerships between water utilities and CBOs for urban water services. Mapping of relationships between actors could help in dissemination of information regarding service provision during planning implementation and management of the schemes.

2.5.4 Incentives and Disincentives of Partnership Development

2.5.4.1 Incentives towards Partnership Development

The literature review reveals a multitude of reasons which encourage agencies and stakeholders to enter into partnerships. They include the need to:

- Enhance greater capacity to undertake more tasks (Kern, 1998);
- Achieve cost reduction for operation and implementation (Bell et al, 1999; Kern, 1998; Morse, 1998);
- Share resources or make better use of limited resources (Rein et al, 2005; (Paskaleva-shapira, 2001);

- Increase effectiveness and efficiency of individually organisations through improved coordination and decreased wasteful duplication therefore achieving a greater output (Paskaleva-shapira, 2001);
- Ensure sustainability of development schemes (Kern, 1998);
- Address complex issues of common concern or deliver a comprehensive program or service than could not be done alone (Karasoff, 1997; Spigelman and Simces, 2001); develop creative solutions emerging from the partner's differing perspectives (Spigelman and Simces, 2001);
- Provide opportunities for all partners to learn new competences (Fehnel, 1995; Kern, 1998);
- Enhance flow of knowledge and facilitation of market-led and demand-driven approach (Bell et al 1999; Olja and Morin, 2001);
- Augment strengths and overcome weakness by taking advantages of other partners' strengths (Otiso, 2003).

Finally, Brinkerhoff summarizes the main precepts of partnership as to “enhance a win-win situation between actors” (Brinkerhoff, 2002). The combination of skills, abilities, experiences and relationships that the partnerships bring together enables partners to be more effective and allows them to grapple with a wider range of problems than they would have done alone (BPD, 2001). The water utilities and CBOs could also obtain significant benefits by working together in partnerships. This warrants the need to investigate the incentives which could encourage water utilities and CBOs to improve water services to informal settlements.

2.5.4.2 Disincentives towards Partnership Development

Although there are incentives for establishing partnerships, actors also face some barriers. Packer et al (2002) and (Paskaleva-shapira, 2001) have identified impediments to partnerships as challenges to overcome differences in organisational values, power and cultures between two agencies. It requires commitment and dedication from partners to accept devolve power and learn new cultures. In addition, Mwangi, (2003), cited three other disincentives to partnerships development. The first one is lack of adequate legislation and policies which allow smooth

implementation; the second is potential conflicts among the stakeholders due to different interests; and the third is wrong attitudes of actors towards partnership development. Governments and organisations should develop conducive policies which supports furtherance of partnerships (Mwangi, 2003). Furthermore O’Looney (1997) lists five explanations for the barriers towards partnerships development which are lack of time to devote in partnership activities, lack of clear definitions and identifiable objectives, lack of strong leadership, lack of clear benefits to the partnership, and threat to security (i.e. fear that collaboration will undermine power, status and security of partners). In an attempt to investigate implementation of community partnerships, Murloy (2000) also summarised the disincentives for partnerships as funding uncertainties, competition for scarce resources, loss of autonomy and competition for recognition among partners.

The relevance of these discussions to this research is that many utilities in developing countries are reluctant to work either with informal water providers or civil society institutions such as CBOs for a variety of reasons. This is because many CBOs are voluntary groups who lack clear ownership and legal standing leading to less recognition by governments and water utilities (WUP, 2003). The lack of recognition makes it difficult for water utilities to develop relationships. Furthermore lack of strategic policy and legislation hinders the involvement of informal water providers including CBOs in the water sector (Plummer, 2002).

In the author’s opinion these disincentives are critical to partnership development hence it is important for partners to review and analyse these barriers during the process of planning and implementation of partnerships.

2.5.5 Practical examples of Partnership Approach for improving water services to informal settlements

In recent years, partnerships are increasingly being proposed as a tool to increase access and quality of water supply and sanitation services in low-income communities. The increase in partnership initiatives in water sector has meant that there are a number of public authorities and private utilities testing new ways of working together for mutual gain (Plummer, 2002a). The most common types of partnerships

involve the formal Private Sector Participation (PSP). PPP allows govt and private sectors to learn from each other and create synergistic effect for both parties. However, the traditional form of Private Sector Participation is a concept developed in a context where public and private sector organization is mature (Plummer, 2002a). “Consequently, where public-private partnerships have been introduced in developing countries, the urban context has previously been characterized by chronically inadequate services. Moreover, significant numbers of households do not have direct access to a network water supply, and a large number of other stakeholders such as water vendors, CBOs and NGOs are filling the gap for supplying water services” (Plummer, 2002a). As a result some water utilities and agencies have developed innovative partnership approaches with informal water providers and CBOs for improving water services to informal settlements (Weitz and Franceys, 2002). The concept behind these partnerships is recognition that water utilities, NGOs and the CBOs are important stakeholders in the water development programme. These partnerships are essential in the urban development process as they “encourage each partner to bring something unique to the partnership table- including their varying interests, goals, power and organizational attributes to form a partnership more able to address the needs of the poor” (Plummer, 2002a). In the authors’ opinion these approaches promote greater accountability and have potential to make the water services more appropriate and effective to the customers.

2.5.5.1 Applications of Partnership for improving water services to informal settlements

Examples of partnership arrangements between the water utility and other actors for improving water services to informal settlements have been documented. Some of these examples include:-

- Public-Private- Community partnerships in Metro Manila Philippines
- Private sector Partnerships in Durban Metro Water, South Africa
- Partnerships for serving water to the poor in Port-au-Prince, Haiti.
- Private – Public and Social Partnerships in Peru
- Community Public Sector Partnerships in Savelugu, Ghana.

Details of these examples are described below to identify key approaches which were used in the implementation of the partnerships for improving water services.

Public-Private- Community partnership in Metro Manila Philippines

In this case study, Inocencio and David (2001) describe a Public-Private – Community Partnership which was designed to deliver water services to the urban poor in Metro Manila Philippines. The principal partners were: the water utility; local government; the private sector represented by the two concessionaires of the water utility; non-government organizations; and the community local associations. The partnership between the water utility and community enabled the community to manage a mini distribution system. From households interviews and focus group discussions, Inocencio and David (2001) found that the community in the settlement had benefited from the partnership in the form of: better access to safe and better quality water; much reduced cost of water per cubic meter; increased per capita consumption; freed-up time from queuing which households now utilize for income earning activities.

The case study noted that such partnerships were successful due to number of factors including:

- The presence of a strong NGO or people's organization which helped in the facilitation and intermediary functions.
- Effective coordination between all partners involved;
- Effective information dissemination to the beneficiaries;
- Cooperation from the residents;
- Obtaining public confidence by making good the promise of providing water;
- Reliable and responsible leaders or officers who are committed to work in the partnerships. (Inocencio and David 2001)

However, despite success of the partnership in Manila, the literature does not describe how the partnership was developed. Hence it is necessary to explore the process of how partnerships can be developed.

to a Memorandum of Understanding (MOU). Following this MOU, CAMEP issues subcontracts for GRET to take on specific activities in specific communities. As well, contracts between individual water committees and CAMEP specify the committee's roles over financial and administrative elements of stand pipes. In this partnership, the roles and responsibilities are clear. CAMEP has direct responsibility in the city for infrastructure investment, expansion, and operation and maintenance of the system. It provides the water to bulk meters, undertakes billing, contracting, & social engineering work. GRET coordinates the social engineering and has conducted training and capacity building for CAMEP staff and communities as well. Water committees have responsibilities for hiring operators and deciding how the facilities are managed. Finally the local community residents also contribute construction labour. According to the case study, the key to the success of partnership arrangement to serve the urban poor in Port –au-Prince includes:

- A clear incentive for CAMEP and water committees;
- A solid commitment and trust among the members;
- Clear roles and responsibilities,
- Development of MOU and contract arrangements
- Commitment of individual champions;
- Integration of the water schemes with other community development programs. (BPD, 2006)

However, the literature noted the partnership greatly depended on the involvement of GRET (a French NGO). GRET currently plan to pull out of the program, and it is not clear of how the partnership arrangement and support can continue. The literature does not describe how this process could be sustained.

Private – Public and Social Partnership in Peru

In this case study, WSP (2005) describes a Private-Public and Social Partnership to change Water and sanitation Management Models in small towns and peri-urban areas in Peru. The rationale for developing a new model was noted due to the fact that community management in small town and peri-urban areas poses challenges due to the lack of a homogeneous community. The partners included the Municipality, community delegates and a local specialized operator. In this arrangement, the municipality does not directly administer water and sanitation services, hence a

specialized private or mixed economy operator delivers the service under a contractual arrangement with the Municipality. The Municipality continues to own the infrastructure. The project promoted the community involvement in the decision of management model which gave a local operator an opportunity to provide the water services. It was revealed that this approach had consistently produced good results in small towns and peri-urban areas of developing countries (WSP,2005). The key to success of the partnership arrangement between the community, the municipality and the local operator in Peru include:

- Clear roles and responsibilities of actors and segregation of duties.
- proper technical design and engagement of all actors in the process
- Emphasis on communication strategy between members
- Continuous capacity building program among the members. (WSP, 2005)

Community Public Sector Partnership in small town in Savelegu, Ghana

Apoya, (2004) describes a community public sector partnerships for provision of water Services in a small town in Ghana . This partnership model has successfully harnessed the strengths of public utility and community to the fullest, to improve the efficiency of water supply to community members whilst creating several benefits for a public water utility, the Ghana Water Company Ltd (GWCL). The primary motive for the community to get engaged in the partnership was the objective of improving public health through increased and equitable access to potable water. In addition it aimed to control the small business entrepreneurs who for nearly two decades from 1980's , had controlled and influenced water services in the community to the exclusion of the majority of community members from access to potable water.

The GWCL on the other hand was motivated by the promising potential of the arrangement to reduce the rate of unaccounted for water and to increase revenue through efficient distribution, billing and tariff collection.

The key to the success of partnership included:

- The clear roles for both parties were defined and terms of partnership were negotiated through a contract arrangement;
- Co-ordination meetings to review any modification in the agreement within every six months;

- A well stipulated institutional and management structure, where a project committee which is responsible for the day-to day management of the system is in place;
- Continuous training and capacity building for partners were established and
- Significant financial funding from the various donors including Carter Centre; UNICEF; and World Vision International (Apoya, 2004)

According to the literature, the partnership arrangements at Savelugu have proved to be working well. However the challenge is on the low supply of water from GWCL, and how such a partnership can be scaled up to other areas.

2.5.6 Summary of the Partnership Approach for Urban Water Services

Section 2.5 has reviewed partnership concepts and theories that are relevant to urban water services. In summary, it was noted that partnership is a dynamic relationship where two or more parties agree to work together and leverage resources. While the partnership approach has numerous advantages which aim for win-win achievements for all actors involved, they also face numerous challenges including imbalance of power among the actors.

Furthermore the application of partnerships within the water sector where most of these partnership initiatives were developed in order to address specific problems that could not be resolved through conventional approaches BPD (2002). Each case study revealed key factors which enabled partners to work together. Some of the factors include clear role and responsibilities of actors, availability of finance, continuous capacity building, effective institutional and management structure, trust and commitment of members in the activities. Despite the experiences, the case studies mostly describe the outcomes and benefits of the partnerships with little information of how such partnerships were developed. The need to investigate the process through which partnerships could be developed is important. Hence, this research intends to fill the gap by investigating the process of how such partnerships can be developed. The following section discusses the conceptual framework which was used to investigate such partnerships.

2.6 CONCEPTUAL FRAMEWORK

2.6.1 Introduction

This section describes the conceptual framework for investigating partnerships for urban water services to informal settlements. This conceptual framework is based on supply chain concepts. Mentzer, defined supply chain as a “set of three or more companies or organizations directly linked by one or more of the upstream and downstream flow of products, services, finances and information from a source to a customer” (Mentzer, 2001). This definition indicates that within a supply chain all actors are involved in the flow process. Lambert and Cooper also defined a supply chain as the “alignment of firms and organizations that bring a product or service to market” (Lambert and Cooper, 2000). Essentially a supply chain refers to the relationships between the suppliers, customers and intermediaries.

The literature also noted application of supply chain concepts on the water sector. Oyo (2001) argues that the challenge of achieving sustainable supply of goods and services for rural water and sanitation customers can be addressed by the use of a supply chain. Drawing upon 12 studies of supply chain throughout Asia, West, East and South Africa and Central America, the study showed that the best way to develop effective supply chains is to encourage the formal providers and small and medium enterprises with the right incentives and enabling environment to deliver services to communities (WSP,2001b).

2.6.2 Relevance of the Supply Chain Concept to Urban Water Services

This concept is also relevant to the water sector. The water utilities as the main supplier could develop supply chain relationships with various CBOs to improve water services to the customers. As noted in the review, urban water utilities in developing countries have enormous challenges in providing water services to all customers particularly to the informal settlements. This has encouraged other actors to fill the gap. Fig 2.2 shows examples of different types of supply chains for providing water services to various customer areas in a typical city in Sub-Saharan Africa.

Customer areas are categories of customers having similar characteristics such as income, and the legal status of settlements. In this research, customer areas were categorised according to the major type of water service delivered. Through development of supply chains, water utilities could identify critical partners which they could work with.

Customer segmentation and urban water service providers

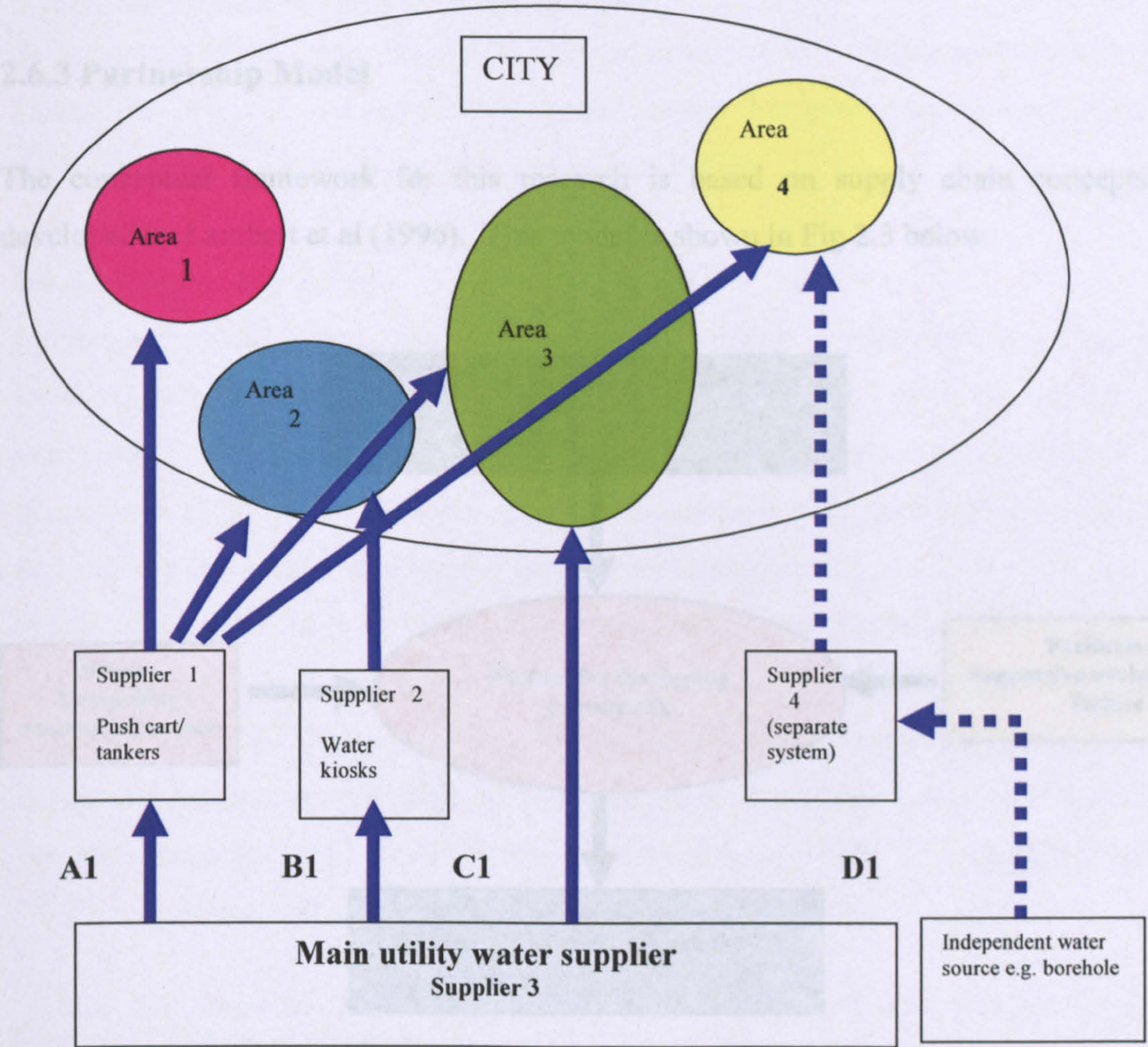


Fig 2.2 Customer areas and urban water service providers

Key to Fig 2.2

- Supply Chain A1 shows the chain of water sourced from the main utility through various informal water providers i.e. tankers and vendors.
- Supply Chain B1 shows the chain of water sourced from the main utility distributed through bulk water managed by the community.

- Supply Chain C1 shows the chain of water sourced from the main utility and distributed directly to the customers.
- Finally Supply Chain D1 shows the chain of water sourced from an independent water source e.g. a privately-owned borehole

From Fig 2.2 above, there is evidence of the flow of water services, information and resources between different actors to satisfy the needs of different customer areas. Hence, the need to explore relationships of these actors is important.

2.6.3 Partnership Model

The conceptual framework for this research is based on supply chain concepts developed by Lambert et al (1996). This model is shown in Fig 2.3 below.

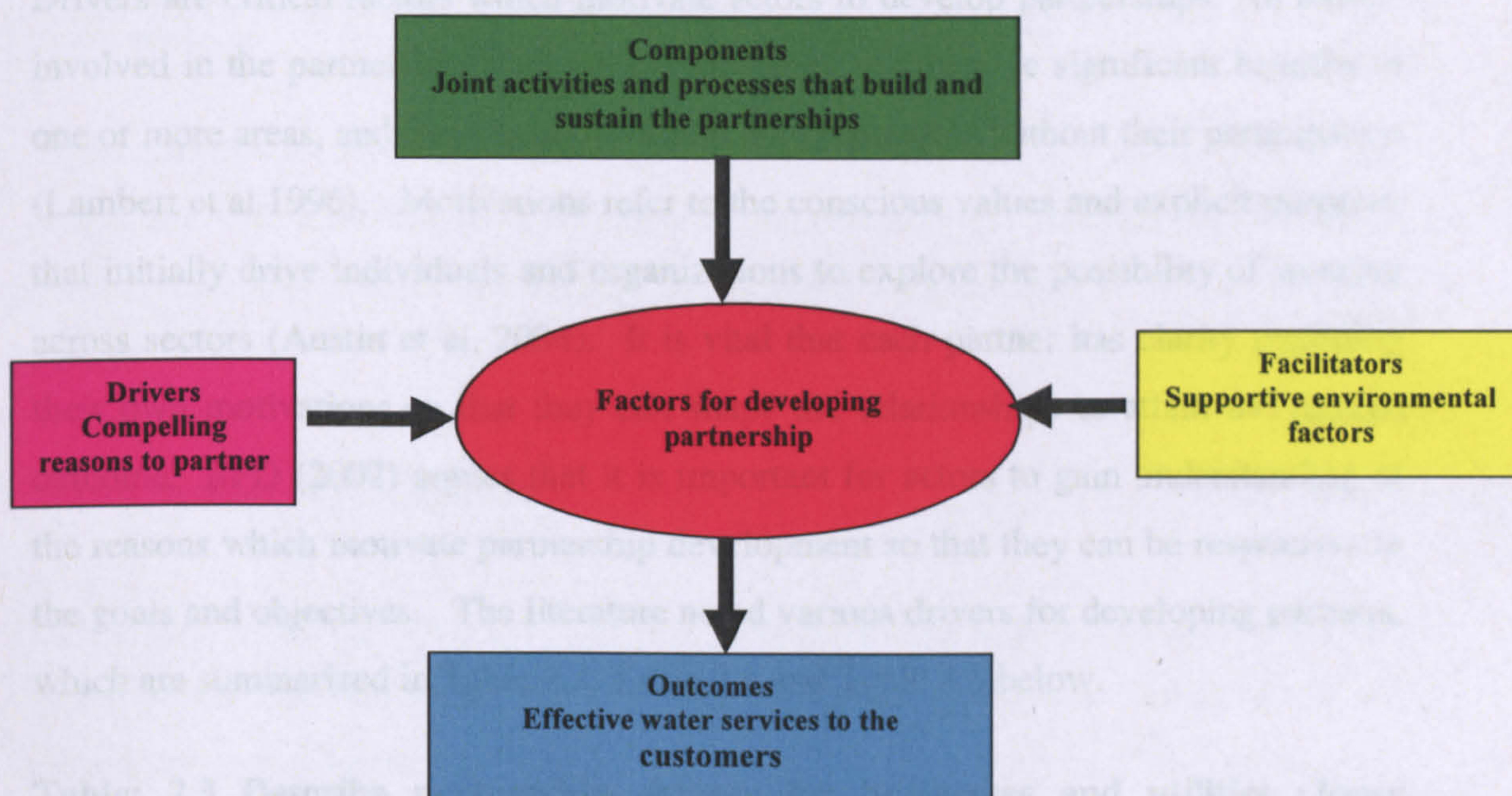


Fig 2.3 Partnership Model for this research after (Lambert et al 1996).

The argument for this model is that factors which encourage development of partnerships have three major elements (variables) which are Drivers, Facilitators, and Components. These factors are investigated between the water utilities, CBOs and NGOs in order to develop a coherent framework for developing partnerships to improve water services to informal settlements. All these elements contribute to the outcomes in the form of effective water services to customers.

However the limitation of the Lambert's model is that it investigates the positive factors for developing partnerships and does not look into disincentives to partnerships. Hence a balanced approach using SWOT analysis will be used to analyse the disincentives which discourages development of partnerships between water utilities and CBOs.

2.6.4 Description of the Partnership Model

Investigation of the three elements of the partnership model offers an opportunity to assess the level of willingness and commitments for partnering by each actor. Elements of the partnership model are described below.

2.6.4.1 Partnership drivers

Drivers are critical factors which motivate actors to develop partnerships. All parties involved in the partnership must believe that they will receive significant benefits in one or more areas, and these benefits would not be possible without their participation (Lambert et al 1996). Motivations refer to the conscious values and explicit purposes that initially drive individuals and organizations to explore the possibility of working across sectors (Austin et al, 2004). It is vital that each partner has clarity regarding their own motivations so that they can shape the relationships to attain the desired outcome. BPD (2002) argues that it is important for actors to gain understanding of the reasons which motivate partnership development so that they can be responsive to the goals and objectives. The literature noted various drivers for developing partners, which are summarized in Table 2.3, Table 2.4 and Table 2.5 below.

Table: 2.3 Describe partnership drivers for businesses and utilities (Jones (2002a); Lambert et al 1996).

Drivers for business	Description
Enhance Cost reduction (Finance)	A potential for cost reduction provides a strong reason to partner. Closer integration may lead to reduction in costs and may increase efficiency.
Enhance Strategic marketing & planning	In business, a stronger integration between two organizations can enhance an organization's marketing mix; ease entry into the markets, and provide better access to technology and innovation.
Enhance Customer relations	Integrating activities in the supply chain partnerships can often lead to service improvements for customers and accurate information. The knowledge of customer is important for a range of tasks: it improves both strategic planning and operational activities, whilst better outreach and consultation service to enhance mutual understanding of all actors.
Enhance Operation and Maintenance	Achieving operation and maintenance of the water scheme in informal settlement is also regarded as one of the drivers for the water utility.

Table 2.4 Describes Partnership drivers for NGOs. Jones (2002b)

Drivers for NGOs	Description
Enhance service provision	Having a formalized role in providing services can bring several benefits including utilization of skills on community mobilization and facilitation to allow scaling up of approaches to reach wider areas.
Enhanced Advocacy work	Working through partnership could also be a good opportunity for the NGOs and civil society to conduct advocacy, influencing key decision-makers in a way that could be harder using other campaigns.
Enhanced capacity building	One of the appeals of partnership to all sectors is the opportunity to learn new skills.
Enhanced opportunity for funding	Partnership for improving water services to informal settlements could also be an opportunity for actors to access new funding opportunities for replication and scaling up best practices. .

Table 2.5 Describes partnership drivers for Public Sector. Jones (2002c)

Drivers for NGOs	Description
Political mandate	Through the partnerships with CBOs the public can have good reputations to its citizens; better fulfilment of community expectations and hence introduces democracy.
Policy design and implementation	Improved design delivery through a better understanding of customers.
Service provision	Increased efficiency and effectiveness of services
Human resources	Bring in new skills and resources through partnerships

There is a need for further investigation of the partnership drivers for the water utility, NGOs and CBOs at the field level. Hence, this research will advance knowledge by investigating significance of drivers to different stakeholders in the partnership process.

2.6.4.2 Partnership Components

Partnership components are activities that management establishes throughout the life of the partnership. Components make the relationship operational and normally are considered as key factors for successful partnerships. Every partnership has the same basic components but the way in which the components are implemented and managed varies. The existence of these attributes implies that all partners acknowledge their mutual dependence and their willingness to work for the survival and prosperity of the relationship.

The literature has reviewed various components of partnerships which are summarized in Table 2.6 below

Table 2.6 Describes partnership components (Lambert at al, 1996; Cummings, 1984; Moore, 1998; Cravens et al, 2000; Spigelman and Simces, 2001)

Partnership components	Description
Trust	The centrality of trust in developing long-term organizational relationships has been emphasized. The existence of trust in a relationship reduces the perception of risks associated with opportunistic behaviour Partners that trust each other generate greater profits, serve customers better, and are more adaptable.
Commitment	Commitment is essential by all partners to participate in regular reviews and monitoring of the partnership achievement and processes. Indication of commitment includes investment (resources) by the partners and exclusive agreements between organizations. Committed partners are likely to be more cooperative, communicative and flexible in accommodating conflict issues.
Communication	Communication between partners is critical for building successful relationships. In order to achieve the benefits of collaboration, effective communication between partners is essential. This may necessitates the creation of a forum that encourages partners to meet regularly to mutually problem-solve, exchange information and learn from one another's expertise
Joint planning	Joint planning, a key component of effective partnerships, can range from the sharing of existing plans to the joint strategic objectives. Effective joint planning adds both flexibility and strength to a relationship.
Contract style	The partnership agreement serves the purpose for defining objectives so that all parties know what they can expect from arrangement; it defines the roles and responsibilities of each partner and clarifies the management model.
Interdependence	The mutual dependence of a partner (interdependence) refers to the need to maintain a relationship with another partner to achieve its goals. Dependence is a prime motivation factor in the development of partnerships, as this factor is what motivates willingness to negotiate functional transfer, share key information, and participate in joint operational planning.
Risk/reward sharing.	Successful partnerships are also based on the concept of shared destiny where not only the benefits and rewards of the partnerships are shared, but also the costs are shared.

Aspects of these components are investigated in this research to observe the significance of them in the urban water services.

2.6.4.3 Partnership Facilitators

As noted above, drivers provide the motivation to partners. But even with a strong desire for building a partnership, success could be reduced if adequate supportive environments do not exist. Facilitators are elements of a corporate and external environment which allow partnerships to grow. They serve as a foundation for a good relationship. Table 2.7 summarizes key facilitators noted from the literature.

Table 2.7 Describes partnership facilitators (Lambert et al, 1996; Mentzer, 2001; Rein et al, 2005)

Partnership Facilitators	Description
Compatibility	For an integrated relationship to succeed, partners must share compatible values. The cultures and business objectives of the two firms or organizations must mesh. They do not have to be identical, but they cannot clash. The more similar the culture and objectives, the more comfortable the partners are likely to feel, and the higher the chance of partnership
Partnership leader(Champions)	In terms of balancing the power and leadership structure of a partnership, there is a need to have the leader role. A supply chain leader is like a channel captain and plays a key role in coordinating and overseeing the whole supply chain partnership.
Government support	The role of Governments in the development of strategic partnerships is critical for the success of the partnership. Through its ministries and legislature, the government should define a pro-poor policy specifying how the public and private and the community can deliver water
Top management support	Top management plays a critical role in shaping an organization's value, orientation and direction. Top management support, leadership, and commitment to change are important antecedents to the implementation of partnerships. The support and commitment to partnership is important for achieving sustainability.

Similarly, the aspects of partnership facilitators will be investigated in this research to observe their significance in the urban water services.

2.6.4.4 Effective Water services to the Customer

Effective services to the customer are frequently cited as an important objective of supply chains. Effectiveness is measured by the quality of service provision delivered to the customer (Erlendson, 2002). Various evidence shows that higher levels of collaboration between actors in the supply chain leads to higher product quality and lower costs (Mentzer, 2001). The dimensions of product quality to customers include tangible results, reliability of services, responsiveness, empathy and assurance (Larson, 1993; Mentzer, 2001). These aspects are also relevant to water services. According to WHO (2000) various performance indicators for effective water services can be summarized as:-

- Reliability of water services
- Efficiency to address maintenance of pipe networks
- Payments of water services

- Affordability of services
- Customer participation in the process

Reliability of water services refers to performing the promised services dependently and independently. Efficiency of services means that systems that ensure delivery of better services with fewer constraints are in place. Water payment is concerned with appropriate systems which ensure that collection of payment for water is appropriate for customers considering their levels of income. Affordability means the ability to pay for water by a segment of the population that receives a particular level of service. Customer participation means the involvement of customers in the decision making process, and finally customer satisfaction is concerned with the overall perceived quality of service provision.

2.7 CHAPTER SUMMARY

Chapter two has reviewed the existing body of knowledge on the different approaches for providing water services to informal settlements with an attempt to respond to the main research question which states:

“Can water utilities and CBOs develop partnership and work together for improving water services to informal urban settlements”?

In particular, the chapter reviewed the literature on informal settlements. The need to advance knowledge on informal settlements is justified because the world is rapidly becoming urbanized, and in developing countries the majority of urban populations lack adequate water services. The chapter has also reviewed different institutional approaches for providing urban water services, which include public water services, private sector participation and informal water providers. However despite the potential of these individual approaches, they each have serious setbacks.

Moreover the chapter has reviewed concepts and relevant theories on partnerships where it was found that while partnership have potential in addressing the needs of water to informal settlements, they also have limitations. Partnership requires time, funds and availability of NGOs to act as intermediary. Moreover it requires commitment by the partners to balance power relations. Finally the chapter discusses the conceptual framework which was used in this research. The framework uses the partnership model derived from supply chain concepts and has three major elements, namely drivers, components and facilitators. Despite of its use, the conceptual framework is not well suited to examine the disincentives of partnership hence the SWOT analysis is proposed.

Apart from numerous practitioners' researches, no empirical and academic research has ever been conducted to investigate partnerships between water utilities and CBOs for improving water services to informal settlements. Hence this research intends to fill this gap.

The next chapter discusses the research methodology used for this research.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 CHAPTER OUTLINE

The previous chapters have introduced the problem of water services and reviewed the body of knowledge on the approaches used to provide water services to informal settlements. Within the review, the concepts on partnerships and supply chain were found to be relevant in addressing the problem stated.

This chapter describes the design and methodology adopted in this research. The chapter states the research title, objectives of the research, the guiding hypothesis and research questions. The detailed descriptions of the research design, research approach and research strategies are also explained. Justification for the research strategy, components of the research design and criteria for judging the quality of the research design are also described. Finally the chapter describes the sources of data for this research, data collection methods, and highlights how the data will be analysed.

3.2 RESEARCH TITLE AND OBJECTIVES

The title of this research is:-

“An investigation of a partnership approach for providing water services to informal settlements in Dar-es-Salaam and Lilongwe”.

The central aim of the research is to: **“investigate how water utilities could develop partnership with CBOs to improve water services for informal settlements”.**

Within this aim, specific objectives of the research are:-

- To investigate the current relationships between water utilities and CBOs and the roles of each in supplying water within urban areas.
- To investigate factors that encourages/ discourages the development of partnerships between water utilities and CBOs.

- To compare the effectiveness of water services between water schemes which have partnership arrangements with those that do not.
- To determine perceptions among stakeholders on the use of the partnership approach for providing water services to informal settlements.

This research aims to advance knowledge on the appropriate approaches to provide water services to the urban poor. The work encompasses a wider investigation of the institutional, customer services and relevant policy issues.

3.3 HYPOTHESIS

The hypothesis of this research study is stated as follows:

“Partnership between water utilities and CBOs is an appropriate approach that can be used to improve water services to informal settlements in Dar-es-Salaam and Lilongwe”

3.4 RESEARCH QUESTIONS

This research intends to provide answers to the following key question:

“Can water utilities develop partnership with CBOs for improving water services to informal urban settlements?”

The objective of this question is to investigate the process necessary for developing partnership between water utilities and CBOs (i.e. investigating the drivers, components, and the external environment) that favour or discourage partnerships. In order to respond to the main question, the research intends to respond to the following associated secondary research questions. These are summarized in the Table 3.1 below.

Table 3.1 Research questions and objectives

Gap in Literature	Research question	Objective
A description of the current relationships and roles between water utilities and CBOs for improving water to informal settlements.	What are the current relationships between the water utilities and CBOs and what roles do each currently have in supplying water within urban areas?	The objective of this question is to investigate the current relationships and roles between water utility and CBOs in supplying water within urban areas.
The process for examining partnership factors between water utilities and CBOs.	What factors encourage/discourages development of partnerships between water utilities and CBOs for improving water services to informal settlements? (<i>Drivers, components and facilitator factors</i>).	The objective of this question is to determine essential factors for developing partnerships between water utilities and CBOs. (<i>Drivers, components and external factors</i>)
Assessment and comparison of water services between water utility and CBOs.	Can water services be improved through partnerships between water utilities and CBOs?	The objective of this question is to examine whether partnerships between water utilities and CBOs can improve water services.
Overall assessment of partnership approach for water services in informal settlements.	What are the perceptions of stakeholders to the use of partnerships for improving water services to informal settlements?	The objective of this question is to investigate the perceptions of water stakeholders on the potential of a partnership approach in improving water service to the urban poor?

The above research questions provide a systematic enquiry of issues relevant to the problem identified in the literature review. All research questions centred on investigating partnerships between water utilities and CBOs for improving water services to informal settlements, which is the research topic.

3.5 RESEARCH DESIGN

A research design is essentially a logical sequence of activities that connects the empirical data to a study’s initial research questions and ultimately, to its conclusions (Yin, 1999). It includes an “outline of what an investigator will do from writing the hypotheses and their operational implications to the final analysis of the data” (Kumar, 1999). The research design also allows the researcher to draw inferences concerning causal relations among the variables under investigation (Nachimias and Nachimias, 1976).

The main purpose of research design is to avoid a situation in which the evidence does not address the initial research questions (Yin, 1999). It serves to conceptualize an operational plan to undertake the various procedures and tasks required to complete the study and to ensure that these procedures are adequate to obtain valid, objective and accurate answers to the research questions (Kumar,1999). Another way of thinking about the research design is a “blueprint” for research, dealing with at least four problems (Yin,1999):

- What questions to study,
- What data are relevant,
- What data to collect, and
- How to analyze the results in a logical structure.

As stated above, the main research problem which this research addresses is how water utilities could develop partnerships with CBOs for improving water services to informal settlements. In this regard, research design started by developing credible and relevant questions for this study. This was followed by identifying relevant data and a process of analysis. The detail of the research design used in this research is described in the following sections.

3.5.1 Research Approaches

Literature relevant to the subject of research approaches categorizes all researches into three main approaches which are quantitative, qualitative or mixed approaches (Croswell, 2003). A quantitative approach is one in “which the investigator primarily uses post positivist claims for developing knowledge and employs strategies of enquiry such as experiments and survey, and collects data on predetermined instruments that yield statistical data” (Croswell, 2003). In this research quantitative approach was used particularly to investigate the following research questions stated in section 3.4.

- What are the current relationship between the water utility and CBOs and what roles do each currently have in supplying water within urban areas?

- Can water services be improved through partnerships between the water utility and CBOs?

Qualitative methods are essentially descriptive and inferential in character and focus primarily on the kind of evidence (what people tell you, what they do) that will enable the researcher to understand the meaning of what is going on, and also provides respondents with unlimited opportunities to describe their feelings and behaviour peculiarities (Mariampolski, 2001). The justification for the use of a qualitative approach to this study is that this research is interested in people and organizations' perceptions of political, social and management perspectives of water services for the informal settlements. This kind of investigation hence requires a detailed description of the phenomena involved, for which a qualitative approach is justified. In particular a qualitative approach was used to investigate the following research questions stated in section 3.4.

- What factors encourage/discourages development of partnerships between water utilities and CBOs for improving water services to informal settlements? (*Drivers, components and facilitator factors*).
- What are the perceptions of stakeholders to the use of partnerships for improving water services to informal settlements?

Hence, this research adopted a mixed approach of quantitative and qualitative approaches.

3.5.2 Research Strategy

Research strategy is defined as how the research process is being designed (Yin, 1999). Various authors tend to agree on the five main types of research strategies which are: experiment, survey, analysis of archival records, history and case studies (Hakim, 1996). Selection of the research strategy is determined by the following criteria which were developed by Yin, (1999).

- The type and the form of research questions;
- The extent of control an investigator or the researcher has over actual behavioural events;
- The degree of focus on contemporary as opposed to historical events.

Based on these conditions, a researcher may choose one or more of the major strategies as described in Table 3.2 below.

Table 3.2 Relevant situations for different research strategies

Strategy	Form of Research question	Require control over behaviour events?	Focus on contemporary events?
Experiment	How, Why	Yes	Yes
Survey	Who, What, Where, How many, How much	No	Yes
Archival analysis	Who, What, Where, How many, How much	No	Yes/No
History	How, Why	No	No
Case studies	How, Why	No	Yes

(Source: Yin, 1999)

According to Table 3.2 the “how” and “why” forms of questions are tackled by experiment, history and case study. In experiments, the researcher has control over the events that have to be looked into. History has no control over events as they occurred in the distant past and history relies on what information from past, and relevant to the research topic is available. In case studies, the researcher has to explain a contemporary event. Case studies employ techniques similar to those of histories but add two additional sources of evidence – direct observation and systematic interviewing. The overall research design selected for this research is a case study. As noted, this research seeks to investigate partnerships between water utilities and CBOs for improving water services to informal settlements in Dar-es-Salaam and Lilongwe.

A case study is an “empirical enquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 1999). It also provides a rich multi-dimensional picture of the situation being studied and could illustrate relationships, corporate-political issues and other patterns of influence in the particular context being researched (Remenyi et al, 1998).

3.5.3 Components of the case study research

Yin (1999) argues that a good research design should consist of five components which are described in Table 3.3 showing the relevance of each component.

Table 3.3 Component of the case study research

No	Case study Component	Relevance to this study
1	A study's questions.	Can water utilities develop partnerships with CBOs for improving water services to informal urban settlements?
2	Study proposition	A partnership approach is an appropriate approach that can be used by service providers to improve water services to the urban poor in Sub-Saharan Africa
3	Unit of analysis	The institutional water management system for providing water services to informal settlements
4	Logical linking of data to the proposition	The method by which the data is linked to the hypothesis. It provides guidance on data to be collected and methods for analyzing the data.
5	The criteria for interpreting the findings	This refers to the analytical framework used to manage the data collected. In this case, variables that are likely to determine factors leading to strategic partnerships will be investigated.

(Source: Yin, 1999)

3.5.4 Validity and Reliability

The traditional prejudices against case studies are that the researcher may have the chance to be biased to influence the direction of the findings and conclusions (Yin,1999). Hence, to prove the credibility of the research, it is wise to justify the nature of the data collection techniques and decisions taken during the research through certain logical tests. Yin (1999) and Ellis (1994) mention four types of criteria which can support the relative neutrality and unbiased role of the researcher.

- *Construct validity*: The extent to which correct operational measures for the concepts being studied are well established.
- *Internal validity* The extent to which a causal relationship is established.
- *External validity* The extent to which the domain to which a study's findings can be generalized to wider populations and setting.
- *Reliability* The extent to which the operations of a study (such as data collection procedures) can be repeated, with the same results.

Although all types of validity are important when undertaking applied research, the relative emphasis may vary depending on the type of questions being studied. Yin (1999) argues that researchers undertaking impact studies are more concerned with establishing causal relationships (i.e. internal and statistical conclusion validity) than on the transferability of the effect to other locations. The approach of this research is more descriptive in investigating the partnership phenomenon between the utility and CBOs, hence the emphasis was on external and construct validity. In this case the case study tactic involved the use of multiple sources of evidence and the use of multiple case studies. This is supported by Yin (1999) and Remenyi et al (1998) who had proposed the framework for testing the case study tactic. The framework is highlighted in Table 3.4

Table 3.4 Case study tactics for research design tests

Tests	Case study Tactic	Phase of research in which tactics occurs
Construct Validity	Use multiple sources of evidence (Triangulation). Establish chain of evidence. Have key informants review draft case study report.	Data collection Data collection Composition
Internal validity	Do pattern matching Do explanation building Do time-series analysis	Data analysis Data analysis Data analysis
External Validity	Use replication logic in multiple-case studies	Research design
Reliability	Use case study protocol Develop case study data base	Data collection Data collection

Source: Yin (1999)

Justification and the use of multiple sources of evidence and multiple case studies are is described below

3.5.4.1 The use of multiple sources of evidence (Triangulation)

In order to improve validity and reliability of the study, Yin (1999) argues that benefits from sources of evidence can be maximized if use of multiple sources of evidence (triangulation) is followed. Triangulation reduces risk of distortion inherent in the use of only one data collection method. With triangulation, “the potential problems of construct validity can also be addressed, because the multiple sources of evidence essentially provide multiple measures of the same phenomenon” (Yin, 1999). In this research, reliability was achieved by using multiple sources of data. For

example, data were collected from various stakeholders: water utilities, NGOs, CBOs, and local governments. Different methods like surveys, interviews and direct observations were used to allow the researcher to view the topic from different perspectives and reach more complete and comprehensive findings. The questionnaires were peer reviewed and pre-tested before the final arrangement for surveys. Both the qualitative and quantitative data were analyzed to confirm the reliability and consistency of the information collected.

3.5.4.2 The use of multiple case-studies

This research used multiple case studies as its strategy for collecting data. The multiple case studies involved investigation of six case studies in Dar-es-Salaam and Lilongwe Cities. The rationale for using multiple case studies was for replication purposes. Replication logic is analogous to that used in multiple experiments where the results (hypothesis) for each case are predicted for all case studies within a theoretical framework (Yin, 1999). The use of multiple case studies reduces the likelihood that an individual case study may be unusual.

In this research, the same theoretical framework on partnership arrangement was tested for all selected case studies in both Dar-es-Salaam and Lilongwe cities. The researcher investigated individual cases study in Dar-es-Salaam and made comparisons with the cases in Lilongwe. If identical results are obtained from all the cases then replication has been achieved (Yin, 1999).

3.6 DATA SOURCES AND JUSTIFICATIONS

As already noted, the key question of this research is stated as:-

“Can water utilities develop partnerships with CBOs for improving water services to informal urban settlements?”

Since the research investigates partnerships between water utilities and CBOs, relevant primary and secondary data were sought. For secondary sources of data, the researcher relied on the information found from the Ministries of Water, city utilities,

Municipalities, NGOs and other water practitioners from both cities of Dar-es-Salaam and Lilongwe. The secondary information included the analysis of various policies, proposals and various types of documentation (both published and grey literature). For the primary sources of data, the research relied on key informants and collected the data through the semi- structured interviews, independent direct observation, household surveys and focus group discussion. The details of the primary sources are described in Section 3.6.1.

3.6.1 Data Sources

The primary data sources for this research were obtained from the field research in Dar-es-Salaam and Lilongwe. The rationale for selecting these countries is described below.

Rationale for selecting Dar-es-Salaam City

- Dar-es-Salaam water services have recently undergone water reform processes changing from a public water utility (DAWASA) to a lease private contract (City Water Company). The changes have created a shift of priority on how informal settlements are being served with water services. This is of interest to the research investigating how the privatized water utility could enhance the relationship with CBOs to improve water services to the urban poor.
- Dar-es-Salaam city has a spectrum of CBOs which provide water to informal settlements. Existence of these CBOs provides a good opportunity for this research to investigate mechanism through which the water utility and CBOs could enhance relationships in the water service delivery.
- The financial investment for improving water services to informal settlements in Dar-es-Salaam have included special funds for community water and sanitation service programmes to serve the informal settlements in Dar-es-Salaam. Implementation of this programme requires involvement of NGOs in mobilizing the community in the implementation work. This initiative provides an opportunity for this research to critically investigate aspects on

community management and how NGOs activities can be incorporated into the utility's framework.

- The co-sponsor of this research, WaterAid, is involved in supporting a number of urban water schemes and has interests in understanding how urban water utilities and CBOs can enhance collaborations for improving water services to informal settlements.
- The researcher is a native of Tanzania where he has practised as a water engineer for more than 10 years. He has good links with the water utility and other water service providers, hence it will be possible for him to obtain information and data for this research study.
- Dar-es-Salaam city has a large population of people who dwell within informal settlements and who use multiple water sources; hence it is of interest to investigate how the people are coping with the needs of water within the informal settlements.

Rationale for selecting Lilongwe City

- Lilongwe Water Board in Malawi has been providing water services to informal settlements through water kiosks. However the management of the kiosks has been a major problem and Lilongwe Water Board and NGOs have been developing appropriate approaches for managing the water kiosks. This initiative is of great interest to this research particularly with respect to the challenges of the existing approaches.
- As a way to address the challenge of unpaid water bills and the mismanagement of the water funds, Lilongwe Water Board and NGOs in Malawi have proposed a partnership approach between the Lilongwe Water Board, NGOs and the community user groups in managing the water kiosks. This initiative is of relevance and significance to this research.
- Lilongwe has a large population of people who dwell within informal settlements and who use multiple water sources; hence it was of interest to investigate how the people are coping with the needs of water within the settlements.

Selection of two countries for this research was useful in comparing partnerships processes, which enhanced the richness of the case studies.

In addition, the following criteria were used to select the five multiple case studies. This comprises of three case studies in Dar-es-Salaam and three case studies in Lilongwe.

- Informal settlement projects which demonstrate the presence of various water service providers including water supply services from the bulk water connection.
- Informal settlements where community management initiatives supported by NGOs or external donor funding are present.
- Informal settlements with high population density and critical water needs.
- Projects/ initiatives which have demonstrated collaboration and partnerships between actors in water service delivery to informal settlements.
- Projects/ initiatives which have adequate records and information

3.7 DATA COLLECTION TECHNIQUES

Having decided what and how to investigate, the researcher is confronted with the problem of data collection. Data collection techniques allow systematic collection of the information on the object of the study e.g. customers, CBOs, water utilities and the settings in which they function. Prior to the field work a peer review/feedback session was used to verify the questionnaire with sector professionals from WEDC colleagues. This helped identify improvements to be included in the questionnaire survey. A peer review was also done during the field work with the country partners, including the utility and NGOs. In this case, a pre-test questionnaire and refinement of research indicators were conducted and amendments made according to the local comments and opinions.

Implementation of field work of this research employed multiple collection techniques including, semi-structured interviews, household surveys and focus group discussions. The research also employed triangulation methods in order to reduce the risks of data distortion. Details of the data collection techniques are described below:-

3.7.1 Interviews

Interviewing in research terms involves oral questioning of respondents either individually or as a group. The data in this case could be collected in several different forms including structured, semi structured or unstructured interviews (Nachimias and Nachimias,1976). Semi-structured interviews involve a situation where though the interviewer has a list of issues for which he would wish to obtain answers from respondents, the interviewer is willing to be flexible in terms of the order of the questions to which the interviewees could respond (Denscombe,1998). In this research, Semi-structured interviews were used. Table 3.5 below describes the key objectives of the semi-structured interviews to each of the above institutions.

Table 3.5 Semi-structured interviews with key respondents.

No	Key respondent	Key objectives
1	Urban water utilities	<ul style="list-style-type: none">▪ To investigate :the current relationships and roles of water utilities for serving water to informal settlements▪ To investigate the factors for developing partnership approaches to water service delivery.▪ To investigate the utility’s perception of the role of CBOs, in the provision of water services to the urban poor.
2	NGOs	<ul style="list-style-type: none">▪ To assess the role of NGOs to be involved in the strategic partnership approach for providing water services to the urban poor.▪ To investigate the factors that will enhance partnership approach for water service delivery to the urban poor.▪ To investigate the perception of NGOs on the strategic partnership approach.
3	Ministry of Water	<ul style="list-style-type: none">▪ To investigate the existing water policy on the water service delivery to the urban poor▪ To investigate the perception of NGOs on the strategic partnership approach
4	Municipal Council	<ul style="list-style-type: none">▪ To investigate the existing Municipal policies which governs service delivery to the urban poor▪ To investigate forms of support from the Municipal council to the CBOs.

3.7.2 Focus Group Discussions

Focus group discussions involve interviewing a small group of respondents drawn from the people of similar backgrounds and mostly done by a moderator

(Mariampolski, 2001). In this research, focus group discussions were conducted with the water committees and CBO representatives and their purpose was:

- To investigate the challenges and opportunities of community management approaches in addressing the needs of the urban poor.
- To investigate the factors that will enhance the strategic partnership approach for water service delivery to the urban poor.
- To investigate the perception of water committees and CBOs on the use of a partnership approach for supplying water to informal settlements.

3.7.3 Household survey (questionnaire)

A questionnaire is a list or grouping of written questions as opposed to an interview. Questionnaires can be group administered, self-administered, mailed, long, short, open ended or closed style questions (Adam and Schaveneveldt, 1985). Open ended questionnaires are those in which respondents write down the answers in their own words. Closed style questionnaires are those in which the possible answers are already set out in the questionnaire and the respondents tick the relevant answers. In this research, closed style questionnaires were used within households in two selected settlements in Dar-es-Salaam and two selected settlements in Lilongwe. This formed a central part of the data collection process of this research. The purpose of the household survey was:

- To assess the general social-economic context of households and to obtain an overview of water services received.
- To assess the effectiveness of urban water services provided by the water utility, NGOs and CBOs to the urban poor.

The household survey involved various processes and these are described below:-

Training for enumerators

In order to facilitate proper execution of the household data collection, enumerators were engaged to conduct the house to house surveys. Identification of the potential enumerators was done in consultation with NGOs and practitioners in both cities of Dar-es-Salaam and Lilongwe. The enumerators in Dar-es-Salaam were 2 sociologist graduates, 1 water and sanitation technician, 1 community development officer and 1

representative from the CBO. The enumerators in Lilongwe were 2 community development workers and 2 community representatives.

In both cities, training for these enumerators was conducted for 3 days, which included a practical session to test the understanding of the enumerators on questionnaires and the interviewing process. The session gave an opportunity to pre-test the translated questionnaire in the local language (Swahili for Tanzania and Chichewa language for Malawi). This was important because the majority of the households within the study area could not communicate effectively in English. Following the comments received, the survey questionnaires were modified to suit local needs.

Implementation of household survey

The household survey exercise in Dar-es-Salaam, Tanzania was conducted in two settlements of Keko Mwanga B and Hanna Nassifu. 28 days were needed to conduct the survey and about 180 household respondents were interviewed. The survey in Lilongwe, Malawi was conducted over 21 days in two settlements of Chinsapo and Chipasula, and 100 household respondents provided survey data.

Prior to the household survey, mapping of the settlement was conducted by the enumerators in collaboration with community representatives in order to determine the type of water services within the settlement and the water supply chains within each settlement. This process also helped to determine the distribution of household customers according to the main type of water services they obtain, and hence helped to design and determine a representative sample to be interviewed.

Implementation of the household survey was conducted by the trained enumerators. Support to the enumerators was constantly provided by the researcher who also took part in the team during the enumeration process. Each morning all enumerators met together at a focal point within the community settlement to plan the enumeration process. A drawn map which shows demarcation of the settlement and different water services available within the settlement was useful in determining the sample of the population to be interviewed on each day. Each evening, the enumeration team met together to review the work conducted during the day, and to plan for the next day.

Sampling techniques

Sampling technique is “a process by which inference is made to the whole population by examining a part” (GMU, 2004). The purpose of sampling provides a mechanism whereby an estimate of population characteristics could be made. In this research, a stratified sample was selected as the preferred means of conducting the household survey. Stratified sampling refers to the process whereby a population is divided into strata (or groups) and a simple random sampling of each stratum is collected (Bickman and Rog, 1998). Samples are drawn from each group or stratum with certain characteristics such as age, ethnicity, gender, geographical location or type of dwelling, and the results pooled (May, 1998). Samples were drawn from the cluster of customers who were served by a particular supply chain within a settlement.

Non response error

Analysis of missing values particularly from the household interviews in both cities of Dar-es-Salaam and Lilongwe indicated a small number of non-responses for most of the variables. In majority of cases it ranged from 1.5 – 4%. This high response rate was achieved due to the detailed training given to the enumerators during the orientation stage. Furthermore the researcher was part of the enumeration process and hence he was able to cross-check all of the responses from the households to monitor its reliability.

3.7.4 Documentation

Documentary information is one of the important tools in data collection. It involves the extraction of information from administrative documents: proposals, progress reports, formal studies or evaluations relevant to the area under study. The importance of such documents are that they are useful in verifying the correct spellings and titles of organizations that might be mentioned in an interview; and they can be part of triangulation. Inferences can sometimes also be made from the documents even if information is not specifically stated (Yin, 1999).

In this research, a review of various documents, proposals and reports from water utilities, NGOs and other actors was conducted. These were obtained from the Ministries of Water, Municipalities and Assemblies, Urban utilities, DAWASA, NGOs, CBOs and other water providers. The aim of this phase was to collect additional data on the issues surrounding the stated research questions. This helped the researcher understand various issues including the policy frameworks, sub sector analysis and contextual framework of the study areas. It was also useful to refine the research instruments to be used for semi-structured interviews with specific respondents.

3.7.5 SWOT Analysis

SWOT analysis is an analytical method which is used to identify and categorise significant internal factors (i.e. strengths and weaknesses) and external factors (i.e. opportunities and threats). It involves collection and portrayal of information about the internal and external factors (Kyle, 2006). This approach was used to investigate the overall assessment of the partnerships between water utilities and CBOs. In particular the aim of the SWOT analysis was to determine the disincentives of partnerships hence provide a balanced appraisal of the partnerships. The key stakeholders who were involved in the SWOT analysis are water utilities, NGOs, Municipalities, Government officials and CBOs.

3.7.6 Supply Chain Analysis

As previously noted in Section 2.6.1, a supply chain is a set of organisation or institutions that are linked by either the flow of products, services, finances or information from a source to a customer (Mentzer, 2001). In this research supply chain methodology was used to identify linkages and relationships between water utilities and other service providers. It provided an opportunity to examine the interactions and dynamic forces between actors involved. In particular, application of this tool to this research considered CBOs as institutions interacting with water utilities in providing water services to informal settlements. Key features of the supply chain determined were: consumer markets indicating the number of customers and demand for water; water retailing which shows the number and the volume of the

intermediary providers; storage and containerising indicating the number and the volume of the major wholesale providers; and finally the water sources.

3.8 DATA BASE SUMMARY

As stated, this research was implemented in Dar-es-Salaam and Lilongwe cities. As a result of the field work the research has generated large quantities of qualitative and quantitative data relating to the provision of water services to the urban poor. Table 3.6 below provides the summary of the data collected.

Table 3.6 Summary of the research database

No	Information/ Research tool	Quantity
1	Household survey questionnaires	280
2	Focus Group Discussions	5
3	Semi-structured-Interviews	15
5	Documents reviewed, comprising journals articles, reports, published and grey literature	300

3.9 DATA ANALYSIS

As stated, this research involved collection of both quantitative and qualitative data in Dar-es-Salaam and Lilongwe cities. Quantitative data was generated from the household surveys and mainly aimed to answer research questions stated in section 3.5.1. All the quantitative data from the household survey were coded, computer entered and verified by the researcher. The Statistical Package for Social Scientists (SPSS) for Windows 12 was used for statistical analysis of data. Analysis included determination of descriptive statistics and significance of relationships. The descriptive statistics included examinations of frequencies, cross tabulation and finding percentages of responses and measures of variations. Significance of relationships used t-tests to measure the relationships between variables at 95% significance. Detail description of t-tests is included in appendix 9. Qualitative data from semi-structured interviews and focus group discussions in Dar-es-Salaam and Lilongwe case studies were organized and compiled. The displayed data were analyzed to identify emerging trends and patterns. These trends were then classified into various broad themes, such as drivers, components and facilitators for partnerships.

3.10 INDICATORS

The main aim of the research was to examine the partnerships between water utilities and CBOs. Key aspects of the research which were analyzed include: current relationships and roles of actors for the informal water services; factors which encourage development of partnerships; effectiveness of services; and stakeholder perceptions towards development of partnerships. In connection with the different aspects, Table 3.7 shows indicators which were selected to probe the hypothesis of this research.

Table 3.7 Key aspects and indicators for investigating partnerships development

Key aspects	Indicators	Purpose
Current relationships and roles of actors for the informal water services	Current relationships	To identify the current relationships and gaps between water utilities and CBOs
	Roles of actors	To identify roles of each actor and in the relationships
Factors which encourage development of partnerships	Drivers for developing partnerships	To identify motivation factors between water utility and CBOs
	Components for developing partnerships	To identify key partnership activities.
	Facilitators for developing partnerships	To determine the key external factors for developing partnerships
Effectiveness of services	Reliability of water services	To compare reliability of water services between partnerships and non-partnerships schemes
	Efficiency to solve technical problems	To compare efficiency of water services between partnerships and non-partnerships schemes
	Water payment	To compare water payment of water services between partnerships and non-partnerships schemes
	Customer participation	To compare customer involvement between partnerships and non-partnerships schemes
Stakeholder perception's towards development of partnerships	Strength, weaknesses, opportunities and threats	To identify various strengths, weaknesses, opportunities and threats regarding partnerships development.

3.11 ETHICAL CONSIDERATIONS

These are considered to be issues related to ethical behaviour of the researchers. The ethical issues which were taken into consideration during the conduct of this research include the following.

- Prior to conducting the research, permission was sought from relevant authorities. This helped to ensure maximum cooperation from practitioners and politicians in the area.
- All respondents and enumerators who were involved in this research were approached with respect. No one was forced to participate in the research.
- Before recording the interviews, respondents were asked to give their consent.
- All respondents' information was treated as confidential and this was described before the interview begins.
- Due consideration was given to cultural/religious beliefs and practices of participants.
- No expectation was given that the survey would result in improvements.
- All information was collected without expressed positive or negative opinions
- The research was conducted with no sense of condescending behaviour.

3.12 LESSONS LEARNED FROM FIELD WORK AND FUTURE IMPLICATIONS

The field work of this research encompasses: questionnaire surveys, interviews and focus group discussions. Both qualitative and quantitative data were collected from the field. However it was not possible to adhere strictly to the intended data collection procedure in practice. Hence some modifications and alternative procedures were explored during data collection. Some notable experiences and adaptations are explained below.

- The main objective of the research was to investigate the partnerships between water utilities and CBOs. However during the interviews with the water utility for Keko Mwanga B and Hanna Nassif water schemes in Dar-es-Salaam, efforts had to be made to find staff who were involved in the planning and implementation of water supplies to these areas. This was due to institutional changes within the water utility which had happened during the field work.

- All research assistants who were involved in the enumeration were provided with letters of recognition by the Municipal officials. This was done in order to avoid interruptions associated with political activities around the area. The research was conducted during the year when a presidential election was near; hence local people were a bit wary of the possible motives of strangers.
- To overcome the problem of trustworthiness, religious and gender bias during the survey, research assistants worked in pairs i.e. one female and one male in each group, so the residents had a choice to be interviewed either by a male or a female or by both.
- As most communities were not fluent in English, the survey questionnaire was translated into local languages (Swahili for Tanzania and Chichewa for Malawi).
- For authenticity of recording interviews tape-recorders are often used. However, it was found that the interviewees did not feel comfortable to express their opinions when a tape recorder was used. Hence it was felt this would reduce the spontaneity in the interviews. After each interview a detailed transcript of findings was written.
- In focus group discussions, it is usually found that the leader of the group is often vocal and subordinates do not feeling free to talk in front of their senior officers. To overcome this situation, attempts were made to ascertain the opinion of each participant by directing questions to individuals. It may have been possible to employ techniques to temporarily remove dominant individuals and allow others to speak freely. However, during focus group discussion, the dominant individuals were the most knowledgeable members of the group.

Despite the issues stated above, the field work was carried out smoothly with no serious difficulty. However from the experience gained, field work is not an easy task, it needs sufficient funds and flexibility in the research methods. The following research strategy could be adopted if a similar study is to be carried in the future.

- The focus group discussions were limited to CBOs only. However in future focus group discussions could involve the participation of other stakeholders such as funding agencies and NGOs.
- To ascertain a more robust investigation of partnership factors, quantitative data could be collected and analyzed for the various partner organizations and actors.

3.13 CHAPTER SUMMARY

This chapter has analysed research methods used in this study to investigate partnerships between water utilities and CBOs for improving water services to informal settlements. It has reviewed the hypothesis, objectives and the key research design and methodology applied in this research. In an attempt to understand the partnerships between urban utilities and CBOs, a mix of research methods were adopted within the overall methodology design which involved both qualitative and quantitative methods within the overall research approach.

The research was based on multiple case studies to facilitate generalization from the similarities and contrasts. The rationale for the selection of the case study strategy is based on the fact that this is policy research which intends to investigate the “how” questions under contemporary situations. Moreover it seeks to achieve both more detailed and full explanations of how water services are provided to informal settlements. In this regard, a case study is suitable under such circumstances and significant effort was made to ensure the reliability and validity of data. The findings from different methods and data sources were triangulated to validate the research. The research was rich in both qualitative and quantitative data. The quantitative data were analyzed using SPSS software to establish correlation between variables. The qualitative data were prepared manually by taking the comments and arguments of those interviewed, and in most cases quotations were used to support the arguments.

CHAPTER 4

AN OVERVIEW OF THE RESEARCH LOCATION IN DAR-ES-SALAAM

4.1 CHAPTER OUTLINE

The previous chapter described the research design and methodology for this research. This chapter presents an overview of the research location in Dar-es-Salaam city. The first section of this chapter provides background information on Tanzania. This is followed by an overview of water services in Dar-es-Salaam, and details of the case studies selected. A summary of the main points from the case study is also presented at the end of the chapter.

4.3 DAR-ES-SALAAM URBAN WATER SERVICES

4.2 BACKGROUND INFORMATION ON TANZANIA

4.2.1 General information on Tanzania

Mainland Tanzania is located in East Africa and has a population of 33.6 million, of which 26 million live in rural areas and 7.6 million in urban areas (MOWLD, 2002)



Fig 4.1 Map of Tanzania (Maps of the world, 2006)

Fig 4.1 shows the boundaries of Tanzania. The national borders cross three of Africa's great lakes: Tanganyika in the west, Victoria in the northwest, and Lake Malawi in the southwest. The country is bordered in the north by Kenya and Uganda; in the east by the Indian Ocean; in the west by the Democratic Republic of Congo, Burundi and Rwanda; and in the south by Mozambique, Malawi and Zambia. Agriculture dominates the economy, accounting for 60% of the Gross Domestic Product (GDP), followed by services (26%) and industry (15%). Tanzania is a very poor country with a GDP per capita of approximately US\$ 220 (1997), ranking it among the lowest in the world, in which half of the population are classified as very poor (World Bank, 2002).

4.3 DAR-ES-SALAAM URBAN WATER SERVICES

4.3.1 Water supply services

The capital of Tanzania is Dodoma, but Dar-es-Salaam is the national centre for industry, commerce, service and administration of Tanzania. It has a population of 2,497,940 with an annual population growth of 4.3% (NBS, 2002). Dar es Salaam city has a range of water sources consisting of Upper Ruvu Plant supplying 82,000m³/day, Lower Ruvu Plant supplying 182,000m³/day and Mtoni plant supplying 9,000m³/day. All of these use surface water sources. An additional water supply of about 30,000 m³/day is derived from ground water (World Bank, 2003). Although larger diameter distribution pipes are laid throughout the city, total coverage of smaller service pipes is limited. As a result, by 2003 only 98,000 households in a city of 2.5 million people had a direct water connection. Water losses in the water supply system are also high, estimated to be over 50% as unaccounted-for-water (UFW) (World Bank, 2003; Action Aid, 2004). The UFW is attributed to both technical losses (leakages, especially in older pipes) and commercial losses (unbilled and uncollected revenues, and theft). Both bulk and client-level metering are highly inadequate, and the data on water use and losses are always estimated and hence unreliable. Although city-wide water rationing is practised, many areas are inadequately or not served and rely on other informal water providers and sometimes illegal individual connections (World Bank, 2003).

4.3.2 Institutional set-up of Dar-es-Salaam Water Services

The institutional set up of water services in Dar-es-Salaam has been in transition from public to private, and more recently from private to public establishments. Up to 1984 the institutional management for Dar-es-Salaam water services was managed by the public institution known as National Urban Water Authority (NUWA). Following the deficiency of NUWA, Dar-es-Salaam Water and Sewerage Authority (DAWASA) was established in 1997 with a mandate to provide water to the city. However, further amendments were made to the water act in 1999 to allow private sector participation in the delivery of water supply and sewerage services. The private sector was then chosen to address the inefficiency of the public water services (PRSC, 1997).

Hence in 2003, the operations of DAWASA were handed over to a private company, City Water Services Limited usually referred to as City Water, a consortium of three companies – two foreign ones, (Biwater of Great Britain and Gauff of Germany) under a ten-year lease contract. The local partner was Super Doll Truck Manufacturers (STM), a wholly Tanzanian owned company. This arrangement left DAWASA with the role of owning the infrastructure, managing construction activities related to infrastructure rehabilitation and expansion, preparation of technical studies, monitoring implementation of the lease contract and dealing with an independent regulator (Dawasco, 2005). However, in May 2005, after assessing City Water's performance, the Government terminated the ten-year lease contract with the company and handed over its operations to a new entity, namely Dar-es-Salaam Water and Sewerage Company (Dawasco, 2005). In that context, Dawasco inherited all responsibilities that were being implemented by City Water, while DAWASA continued with its existing role owning the assets.

4.3.3 Provision of Water Supply Services to Informal Settlements

Dar-es-Salaam city is characterized by formal and informal areas of which the informal settlements accommodate about 70 percent of the population (Ministry of Land, 2000). People living in informal settlements are essentially not served by the water utility. Most of the water supplied to these areas is through a variety of

different service options, including private domestic connections (registered and unregistered resellers of water); privately owned boreholes or kiosks; water tankers; push cart vendors; community managed water kiosks; and various unprotected ground water sources. Recent studies show that 42% of households obtain their water services from piped water, while 35% use water from utility resellers. Generally 54% of the low income households obtain their water from different forms of small independent water providers (EWAREMA and WaterAid, 2004).

Other initiatives which exist in the city to provide water to informal settlements include water schemes supported by NGOs and Municipalities. These schemes involve implementation of independent water schemes from borehole sources or managed water kiosks connected to the bulk network. Moreover, with funding from the World Bank, DAWASA has initiated the Community Water Supply and Sanitation Programme (CWSSP) which aims to provide basic water supply and sanitation services to between 40 and 50 informal settlements. In parallel with this initiative, the World Bank also intends to install 250 water kiosks to serve the urban poor. Despite these initiatives, the challenge of providing water to informal settlements is still enormous (DAWASA, 2003).

This section has discussed the urban water services in Dar-es-Salaam. It has revealed that the city has critical problems of water supply due to high population and poor management. The supply network is limited to only 98,000 households. As a result, the majority of people living in informal settlements obtain their water services from a variety of informal water providers. Moreover, a number of initiatives have been considered by NGOs and Municipalities to improve water services to informal settlements which mostly involve community managed schemes. Recent initiatives include the World Bank initiative to improve water and sanitation services to the communities.

4.4 DESCRIPTION OF CASE STUDIES IN DAR-ES-SALAAM

4.4.1 Introduction

This section provides background information to the case studies selected in Dar-es-Salaam. It covers detailed information collected by the author on socio-economic and water service provision. Basic information on the case studies is summarized in Table 4.1.

Table 4.1 Basic information of the case studies in Dar-es-Salaam

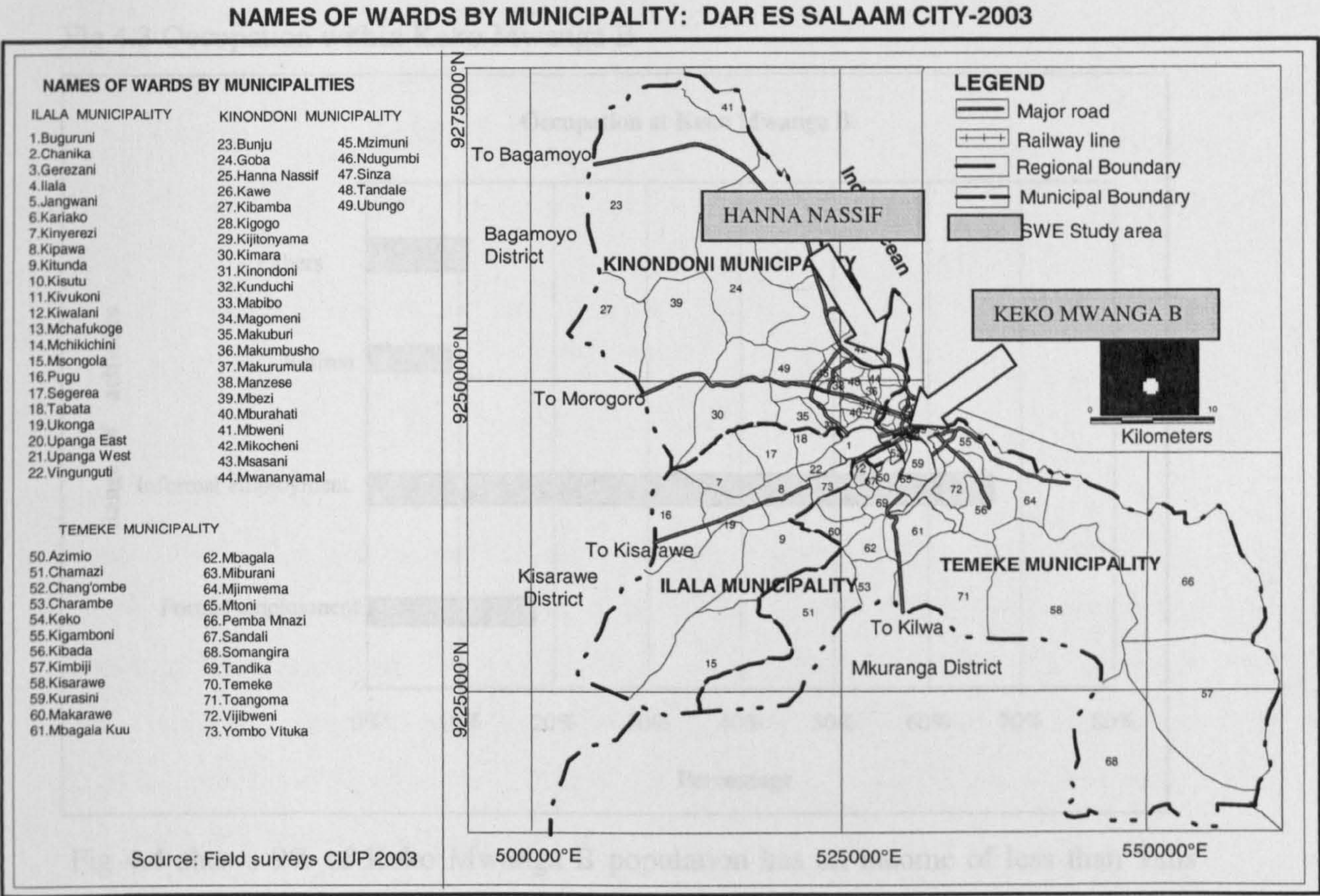
Case study locations	Population	Available types of water sources
Keko Mwanga B settlement	15,000	Utility’s water service, borehole, water vendors, shallow wells.
Hanna Nassif settlement	25,000	Utility’s water service, borehole, water vendors, shallow wells.
Community Water Services and Sanitation Programme (CWSSP).	30 informal settlements with an average population of 200,000	Independent point sources or a bulk water supply system.

All three case studies fulfilled the criteria established in section 3.6.1 of the methodology which include:-

- Informal settlement projects which demonstrate the presence of various water service providers including water supply services from the bulk water connection.
- Informal settlements where community management supported by NGOs or external donor funding are present.
- Informal settlements with high population density and critical water needs.
- Projects/ initiatives which have demonstrated collaboration and partnerships of actors in water service delivery to informal settlements.
- Projects/ initiatives which have adequate records and information

Details description of the individual case studies are provided below:-

Fig 4.2 Map showing location of the case studies in Dar-es-Salaam



4.4.2 Keko Mwanga B case study

Keko Mwanga is an unplanned settlement in Dar-es-Salaam located two kilometres from the city centre. It has a population of about 15,000 people. Using stratified sampling, 90 households were interviewed by the author and enumerators of which 78% of respondents were women in the age group of 18 to 34 years. The level of education at Keko Mwanga B is very low. Over 60% of the population had formal primary education, but only 12% had reached secondary school and 14 % had no formal education at all.

Fig 4.3 shows that about 67% of the able households in the settlement are engaged in informal economic activities which include working in small-scale industries, trading,

shop-keeping etc. Indeed, due to the low level of education, less than 20% of the population has opportunities for formal employment.

Fig 4.3 Occupation within Keko Mwanga B

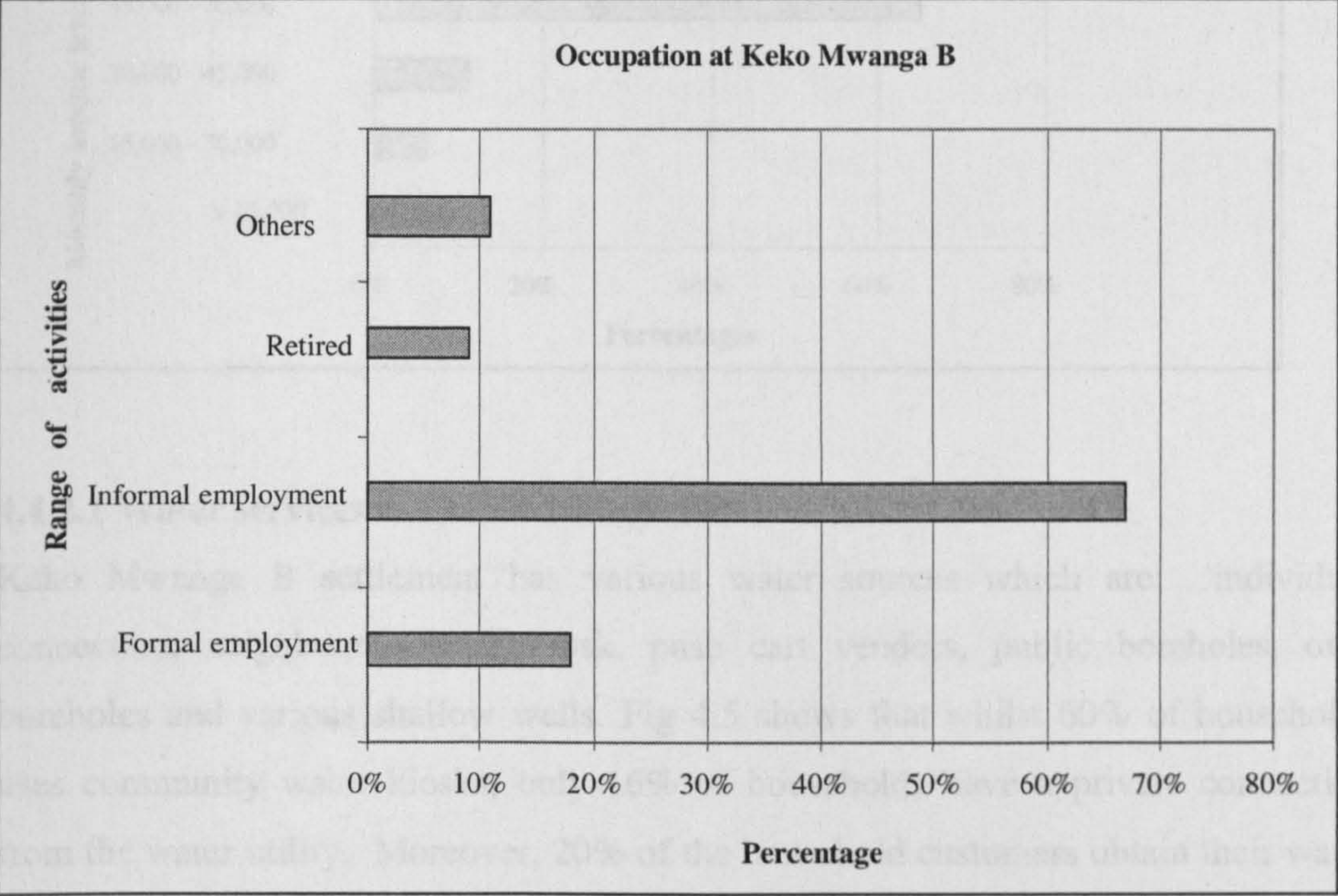
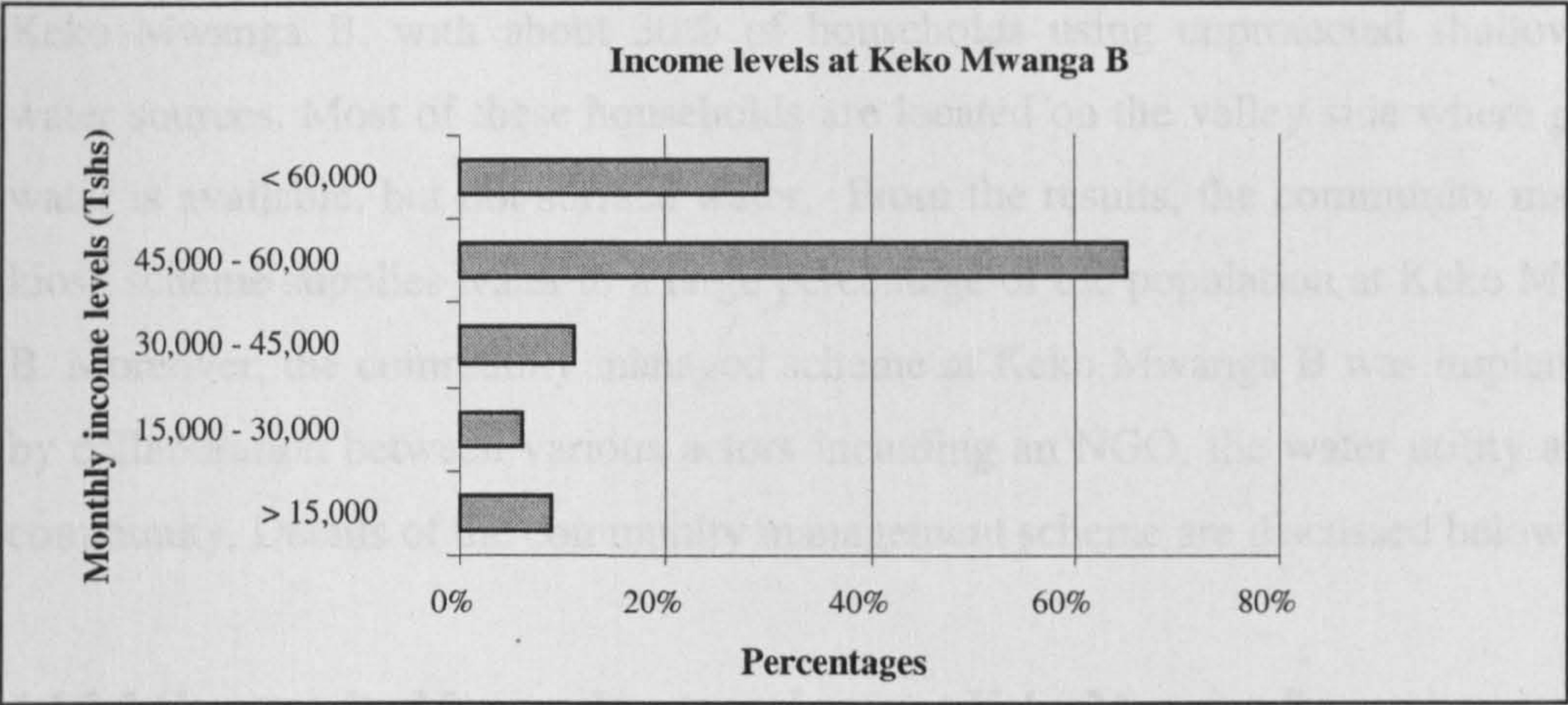


Fig 4.4 shows 9% of Keko Mwanga B population has an income of less than Tshs 15,000 (US \$ 15) per month. The majority of households at Keko Mwanga B (about 65%) have an average income of between Tshs 45,000 (US \$ 45) and 60,000 (US \$ 60) per month. However, most households have an average family size of 5 people, which implies an average income of Tshs 9,000 (US \$ 9) to 12,000 (US \$ 12) per month for each member of the household. This shows that on average households at Keko Mwanga B have income of less than one US 1 \$ per day. This finding is supported by the household budget survey conducted in 2001/2002 which also found the same result (Household Budgets, 2003). Lack of adequate finance has affected adversely the majority to apply for a private water connection from a water utility.

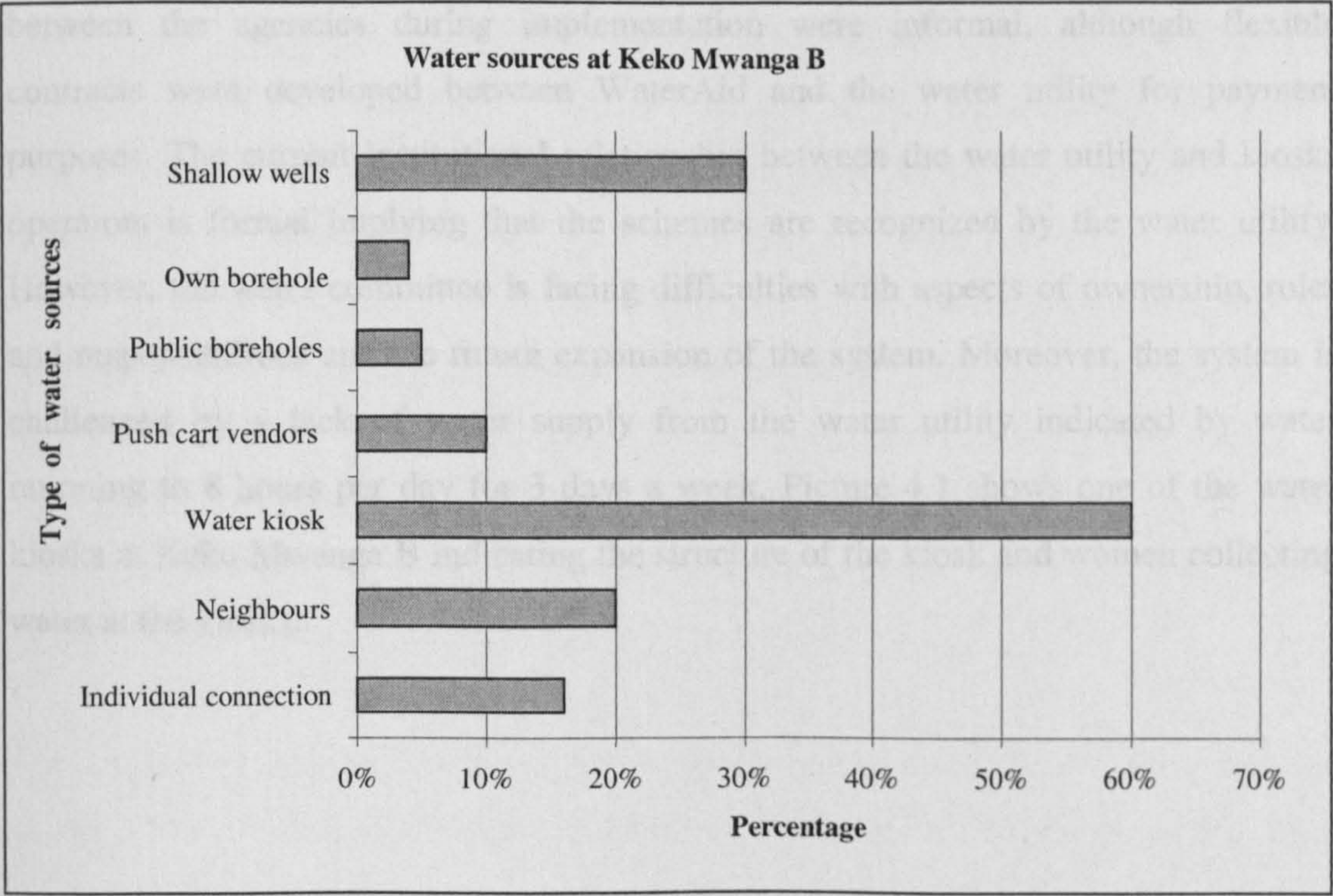
Fig 4.4 Household monthly income levels at Keko Mwanga B settlement



4.4.2.1 Water services at Keko Mwanga B

Keko Mwanga B settlement has various water sources which are: individual connection, neighbours, water kiosk, push cart vendors, public boreholes, own boreholes and various shallow wells. Fig 4.5 shows that whilst 60% of households uses community water kiosks, only 16% of households have a private connection from the water utility. Moreover, 20% of the household customers obtain their water from their neighbours' shared connection.

Fig 4.5 Types of water sources at Keko Mwanga B



Findings show that unprotected sources have a significant importance to the people of Keko Mwanga B, with about 30% of households using unprotected shallow well water sources. Most of these households are located on the valley side where ground water is available, but not surface water. From the results, the community managed kiosk scheme supplies water to a large percentage of the population at Keko Mwanga B. Moreover, the community managed scheme at Keko Mwanga B was implemented by collaboration between various actors including an NGO, the water utility and the community. Details of the community management scheme are discussed below.

4.4.2.2 Community Managed water scheme at Keko Mwanga B

The community managed scheme at Keko Mwanga B has 10 water kiosks which are connected to 2 storage tanks of 20,000 litres each. These tanks were installed in order to address the intermittent water supply in the areas. The technical survey and design were prepared by the water utility (DAWASA). The water scheme was implemented by various agencies, all of which had specific roles. The NGO WaterAid was responsible for funding and coordination of the activities. The water utility was responsible for the technical works. Temeke Municipal council was responsible for supporting facilitation for the communities. The water committee was responsible for mobilization, and actively participated in all project activities. The relationships between the agencies during implementation were informal, although flexible contracts were developed between WaterAid and the water utility for payment purposes. The current institutional relationship between the water utility and kiosks operators is formal implying that the schemes are recognized by the water utility. However, the water committee is facing difficulties with aspects of ownership, roles and responsibilities and the future expansion of the system. Moreover, the system is challenged by a lack of water supply from the water utility indicated by water rationing to 8 hours per day for 3 days a week. Picture 4.1 shows one of the water kiosks at Keko Mwanga B indicating the structure of the kiosk and women collecting water at the kiosks.



Picture 4 -1: Water Kiosk at Keko Mwanga B settlement

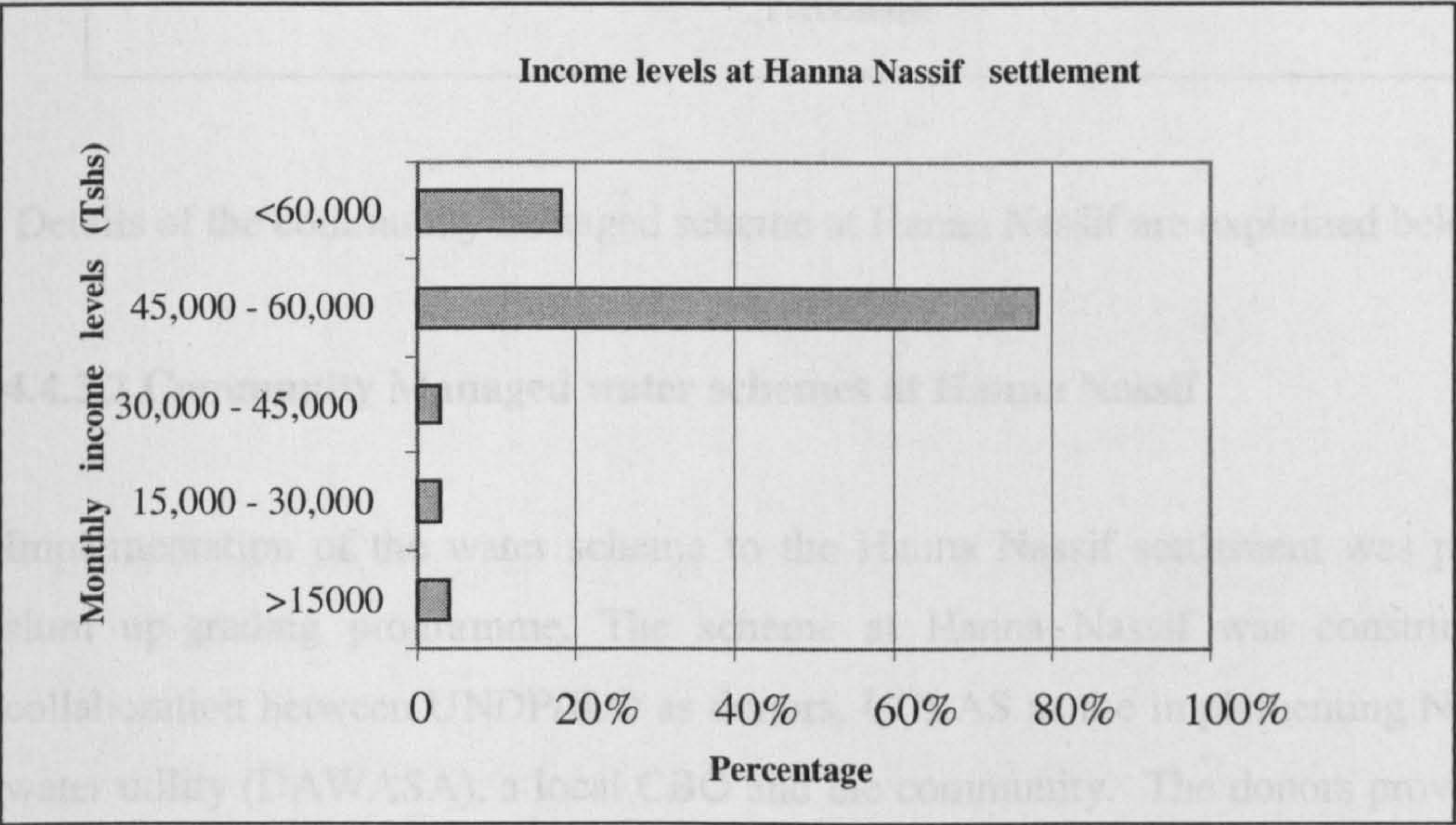
4.4.3 Hanna Nassif case study

The Hanna Nassif settlement is located in Kinondoni Municipality in Dar-es-Salaam city. The settlement is located about 4 kilometres from the city centre and has a population of approximately 25,000 people. During the field research at Hanna Nassif, a total of 90 households were interviewed by the author and enumerators. Most of the respondents were women in the age group of 18 to 34 years. 70% of those interviewed were women and 30 % were men, implying that more women were present at home during the time of the interviews. This finding agrees with a trend that most women in developing countries are more responsible for the household and domestic affairs than men. Like Keko Mwanga B settlement, the level of education at Hanna Nassif is also very low. About 63% of the households had only formal primary education indicating the difficulties facing those living in the settlement in acquiring formal jobs or starting their own business.

The residents in Hanna Nassif settlement have a higher level of informal economic activities than in Keko Mwanga B. Findings show that about 80 % of the able

households in the settlement are engaged in informal economic activities including working in small-scale industries, trading, shop-keeping etc. Fig 4.6 shows that 7% of the population have an income of less than Tshs 15,000 (US \$ 15) per month. However the majority of households (about 78 %) have an average income of between Tshs 45,000 (US \$ 45) to 60,000 (US \$ 60) per month. A household at Hanna Nassif has an average of 5 members similarly to Keko Mwanga B. These findings indicate that Hanna Nassif is a more affluent area than Keko.

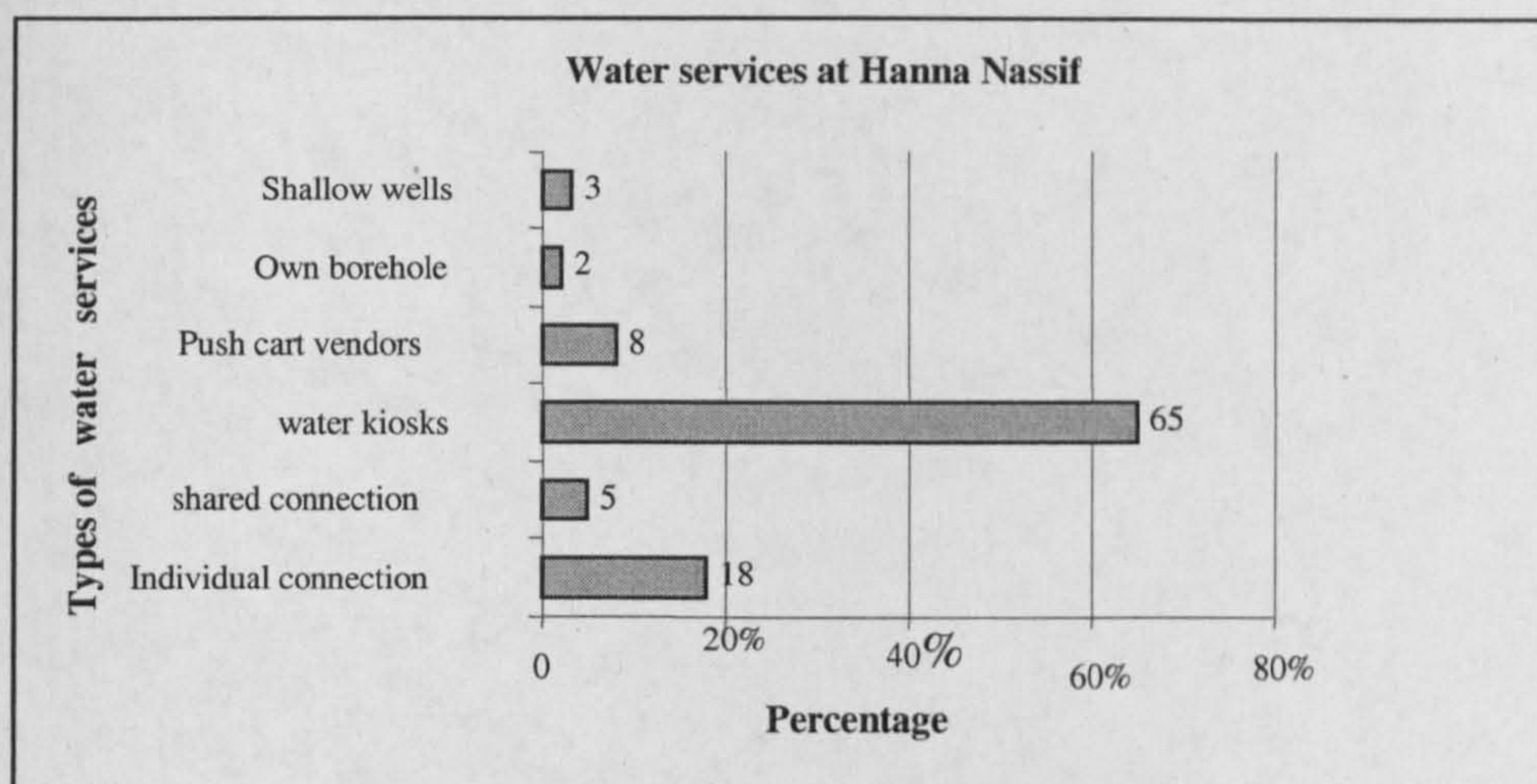
Fig 4.6 Household Income levels at Hanna Nassif settlement



4.4.3.1 Water supply services at Hanna Nassif

Various sources of water exist at Hanna Nassif settlement. Fig 4.7 shows the sources including: individual connection; shared connection (household resellers); community kiosks; push cart vendors; own boreholes and shallow well sources. The most common type of water source is a water kiosk which is used by 65% of households.

Fig 4.7 Water services at Hanna Nassif settlement

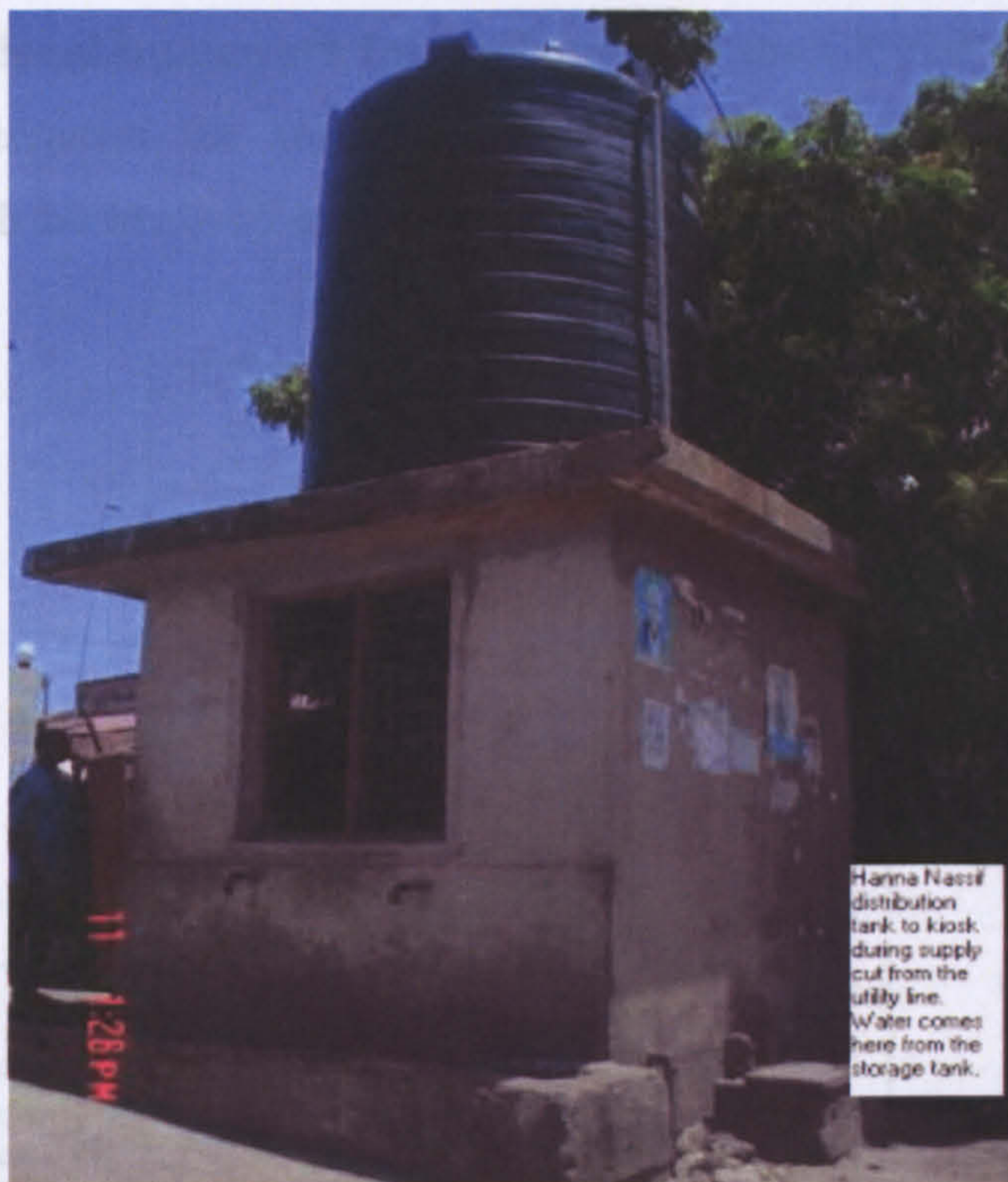


Details of the community managed scheme at Hanna Nassif are explained below.

4.4.3.2 Community Managed water schemes at Hanna Nassif

Implementation of the water scheme to the Hanna Nassif settlement was part of a slum up-grading programme. The scheme at Hanna Nassif was constructed by collaboration between UNDP/ILO as donors, UCLAS as the implementing NGO, the water utility (DAWASA), a local CBO and the community. The donors provided the finances for the project; the technical design was prepared by private firms with support and facilitation from the water utility (DAWASA) and the University College of Lands and Architectural Studies (UCLAS). During implementation, the community was contracted to provide labour. Maintenance of the scheme is done by the CBO through technicians who were trained by ILO and UCLAS to undertake minor maintenance of the scheme. The water system consists of 200mm (8") pipe connected to the 750mm (30") main pipe. The water scheme had 6 initially water kiosks, each having 10,000 litres of storage.

Picture 4.2 shows one of the water kiosks at Hanna Nassif. The picture shows the kiosk which has a storage tank and enclosed room which is used as a shed for the kiosk attendant.



Picture 4 -2: Water Kiosk at Hanna Nassif settlements

4.4.4 Community Water and Sanitation services Programme (CWSSP) case study

The Community Water and Sanitation Services Programme (CWSSP) is one of the components of the Dar-es-Salaam Water and Sanitation Services (DWSS) improvement project. The programme was developed by DAWASA and the World Bank to provide alternative water services to communities who were not included in the comprehensive rehabilitation of the water distribution system currently being implemented under the DWSS project. The implementation of the CWSSP programme involves partnerships with active NGOs who are responsible for facilitation and empowerment of the communities. The programme started in 2003, is envisaged to support about 50 water supplied schemes to informal settlements, and is funded by the World Bank.

This case study was included in this research with an aim of investigating the partnership between the various players who are involved in the process.

4.4.4.1 Institutional framework for implementing the CWSSP

This section discusses the institutional framework for the CWSSP. The key institutions which are involved in the CWSSP are shown in Fig 4.7.

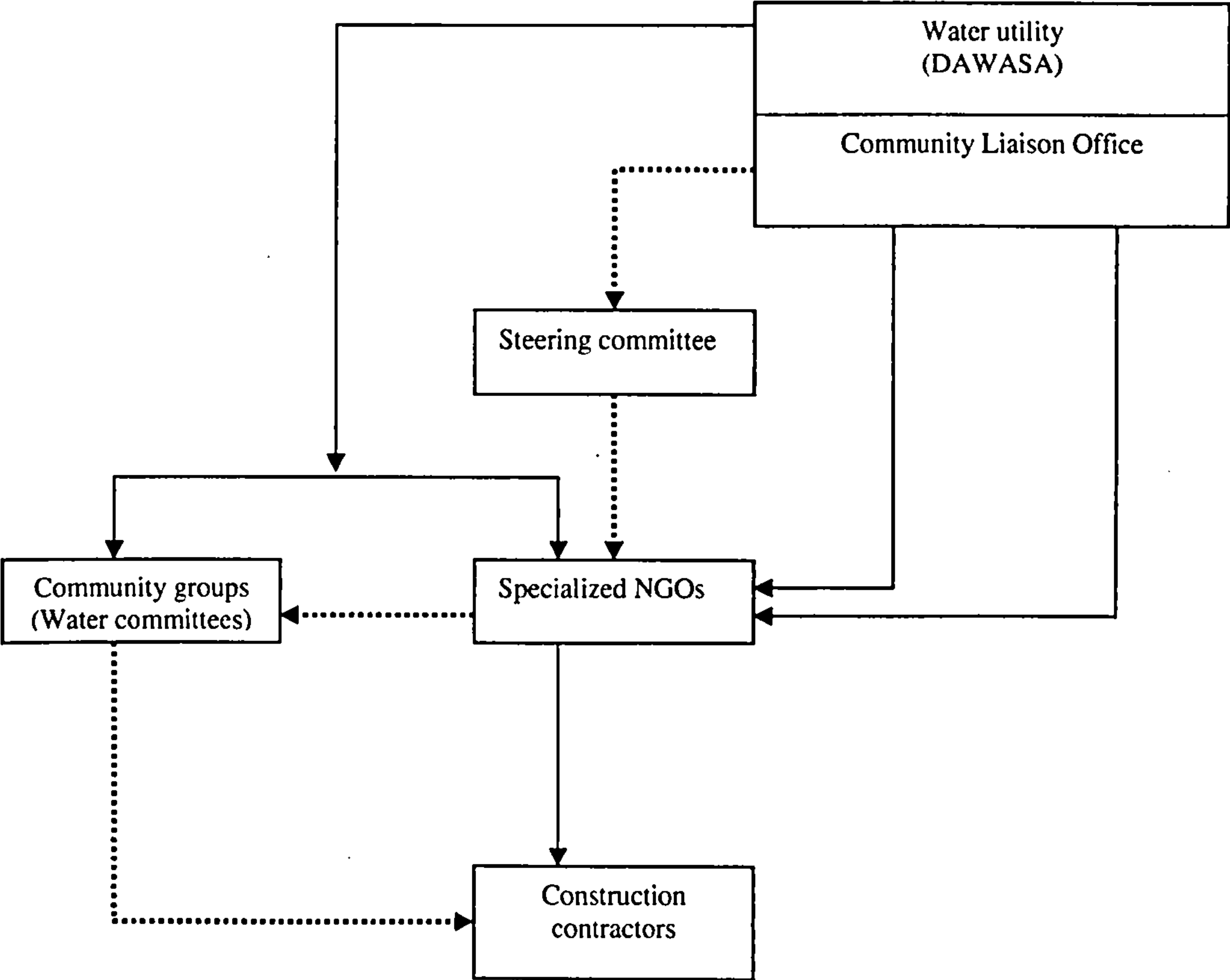
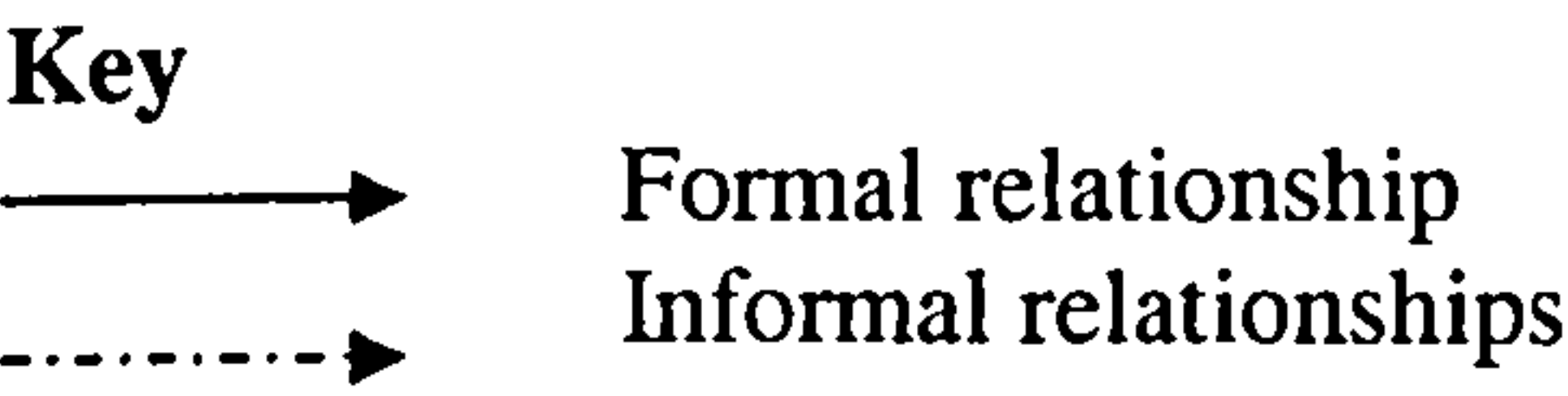


Fig 4.8 CWSSP framework (DAWASA, 2003)



- Details of the institutional actors for the CWSSP framework include:
- The key actor is the water utility (DAWASA) which provides financial resources and overall coordination of the programme.
 - A specialized unit, the community liaison office, is established within the water utility with a role of co-coordinating, supervising and monitoring contracts.
 - A steering committee is comprised of representatives from the water utility, city council and municipalities, and the private sector. Its major functions are to provide general oversight of the selection and approval of sub-projects;

reviewing overall implementation arrangements and providing guidance for improvements.

- Specialized NGOs which include: WaterAid, Care and Plan International. The key roles for NGOs are supporting the community with planning, operational and maintenance of the water scheme.
- Contractors and community groups. The role of contractors is to undertake the implementation of projects in collaboration with the community. In addition, community groups are responsible for managing and operating the scheme in a sustainable manner.

The relationship between NGOs and the water utility is a contractual relationship implying a more formalized relationship with defined roles and responsibilities. Similarly the NGOs have developed formal contracts with construction contractors for implementing the schemes. These contracts entail roles and responsibilities of the contractors and NGOs, duration of the contract, mode of payments and inspections procedures. Coordination of activities for the CWSSP activities is done through a Community Liaison office. It involves enhancing communication and better information flow between the partners.

This section has discussed the CWSSP case study. The following conclusion can be drawn from the overview of the discussions.

- The CWSSP is one of the components of the DWSS aiming to provide an alternative water services to communities who may not otherwise benefit from the rehabilitation of the water supply system in the city. This is the first initiative where the water utility is formally inviting NGOs to partner with it.
- The CWSSP concept emphasized development of partnerships between the water utility, NGOs and other informal water providers in improving water services to informal settlements.
- Coordination and reporting of the partnership activities is done by the community Liaison office. This is significant for enhancing effective communication among the partners.
- The CWSSP case study is a new project which is currently being implemented. The community settlements are currently being identified by NGOs. Hence emphasis of this research was to investigate the partnerships between the water utility and NGOs and CBOs.

4.5. CHAPTER SUMMARY

The purpose of this chapter has been to present an overview of Dar-es-Salaam as a research location, and water services in Dar-es-Salaam. The chapter presented the background information about urban water services, and described the selected case studies. Key points which emerge from the chapter include:

- An overview of urban water services in Dar-es-Salaam shows that the city faces critical problems in supplying water to all people. As a result the majority of the population of the city and of the informal settlements obtain water from a variety of water services supplied by informal water providers.
- The case study of the Keko Mwanga B settlement indicates that the majority of households in the settlement are using community managed kiosks. The kiosks were constructed through collaboration between various agencies including the water utility, an NGO, the Municipality and communities. Despite the potential of community kiosks, the system is challenged by a lack of a reliable supply of water from the water utility and is rationed to 8 hours per day for 3 days a week.
- The case study of the Hanna Nassif settlement reveals that community managed kiosks is being used by the majority of people in the settlement. The water scheme at Hanna Nassif was constructed by various agencies including UNDP/ILO, the water utility, NGOs, a local CBO and communities. The water system is connected to a large diameter pipe; hence supply of water at Hanna Nassif is not a major problem.
- The case study of the Community Water Services and Sanitation Programme (CWSSP) shows initiative by the water utility to expand water services to communities who were not considered by the recent major rehabilitation of water supply system in the city. The CWSSP was designed to enhance partnerships between water utility and NGOs.

This chapter has presented the case studies of this research in Dar-es-Salaam. The analysis of these case studies is described in Chapter 6 of this research.

CHAPTER 5

AN OVERVIEW OF THE RESEARCH LOCATION IN LILONGWE

5.1 CHAPTER OUTLINE

The previous chapter described the background of the research location in Dar-es-Salaam. This chapter presents an overview of the research location in Lilongwe.

5.2 BACKGROUND INFORMATION ON MALAWI

5.2.1 General information on Malawi

Malawi is a landlocked country located south of the equator in Sub-Saharan Africa. Fig 5.1 below shows a map of Malawi. It is bordered to the north and northeast by the United Republic of Tanzania; to the east and southwest by the Republic of Mozambique; and to the west and northwest by the Republic of Zambia.



Fig 5.1 Map of Malawi (Maps of the world, 2006)

The country has a total area of 118,484 square kilometres and is divided into three regions: the Northern, Central, and Southern regions. The National Statistical office estimates that the total population of the country at 9.8 million (NSO, 1998). About 1.4 million people, representing about 14% of the total population, live in urban areas. The remaining 86%, approximately 8.4 million people, live in rural areas. The population has been growing at the rate of 1.9% per annum (NSO, 1998).

5.2.2 Urbanization in Malawi

Malawi is primarily a rural country, with only 14% of Malawians living in urban areas (NSO, 1998). Even the 14% that live in urban areas have limited access to social services such as potable water, health facilities and education, which are in most cases below regional and international standards (Kariuki, 2003). Studies indicate that although poverty is pervasive across the country, urban poverty is also high with over 65% of the urban population living below the poverty line.

Since about 1995 migration has tended to be predominantly from one rural area to another. However, rural-urban migration has increased in recent years and the current annual rate of urban population growth is estimated at 6.7%. Also, the majority of the urban population lives in unplanned settlements where supply and delivery of safe water supply and sanitation are poor. The urban population is projected to increase by 400% from less than one million in 1988 to about 3.8 million in 2012 (MOWD, 2003)

5.3 LILONGWE URBAN WATER SERVICES

5.3.1 Water supply and distribution

Lilongwe is the national political and administrative capital of Malawi and has a registered population of 440, 471 (NSO, 2004). Of this population, 70% receive their water from the Lilongwe Water Board (LWB), while the remainder relies on rural water sources (MOWD, 2003). The major source of water in Lilongwe is from the Lilongwe River. Lilongwe Water Board has 2 dams, Kamuzu Dam I and II, both located on the west of the abstraction point. The average present supply of water is 58,160m³/day and there is currently no water shortage (MOWD, 2003). While supply

from the existing dams is sufficient to last through 2007, Lilongwe Water Board has estimated that it would need to develop a new source to cover the demand from 2008 through to 2025 (MOWD, 2003). Distribution systems are reported to be generally in good condition. The LWB provides water through service connections to individual plots and collective supply points. About 47% of the population of Lilongwe has individual connections and another 23% is served by standpipes or kiosks. In total LWB have approximately 20,000 household connections. The estimated unaccounted-for water (UFW) amounts to 26% of the total volume produced. This is mainly due to unbilled consumption, malfunctioning meters or illegal connections (MOWD, 2003).

5.3.2 Institutional set-up of water services in Lilongwe

The Lilongwe Water Board (LWB) is mandated under the Waterworks Act (1995) to supply potable water for commercial, industrial and domestic use to the Lilongwe Water area. The utility is governed by a board of directors who are appointed by the Ministry of Water Development and approved by the Office of the President and Cabinet. Apart from the Lilongwe Water Board, there are many other players in the provision of water and sanitation services in Lilongwe water areas. These include the Lilongwe City Assembly, NGOs, donors and CBOs which are all involved in partial planning, financing and providing/ improving water services particularly in informal settlement communities (Kariuki, 2003).

5.3.3 Provision of Water Services to Informal Settlements in Lilongwe

Due to large urban migration and failure of the authority to allocate building plots, over 70% of the city's residents reside in informal settlements located on the peripheries of the formal serviced areas. While the process of water supply services in the planned areas in Lilongwe is governed by certain policies and regulations, supply of water in the informal settlements is not guided by any policy or regulation. However individuals, group of individuals and communities who need water may apply for a service connection from the water utility, provided they can afford the connection fee of Malawi Kwacha (MK) 4,000 (US \$ 31).

The major source of water to informal settlements in Lilongwe is water kiosks. The use of kiosks in Lilongwe is more developed than in Dar-es-Salaam, which was described in Chapter 4. Also the problem of informal settlements is not as acute as in Dar-es-Salaam. The history of water kiosks in Lilongwe started way back in 1980s when the government of Malawi carried out a project called Traditional Housing Areas (THAs). In order to ensure that the people in the THAs were adequately supplied with potable water at a cost which they could easily afford, the government launched the urban water point project, with financial and technical assistance from UNCDF and WHO (UNESCO, 2005). Since then, various actors including the LWB, City Assembly, NGOs and donors have implemented a number of water kiosks. Currently, Lilongwe city has more than 500 water kiosks which are located in 17 informal settlements. Table 5.1 summarizes different management models for kiosks in Lilongwe.

Table 5.1 Management options for water kiosks in Lilongwe – Source (Author, 2004).

Management option for kiosks	Implementation of the option	Major challenge/comment
Community managed kiosks	These kiosks were constructed to contain cholera in informal settlements. Most of these were funded by various donors including MASAF and UNICEF. The kiosks were managed by communities through selected committees.	Perception of the water service as a social good made it difficult for communities to honour their bills. Moreover, there was poor selling mechanism; political interference and misappropriation of cash.
Lilongwe Water Board Kiosks	These kiosks were purely managed by LWB but subcontracted to kiosk attendants who were given 50% commission to run the kiosks.	High managerial and overhead costs incurred by LWB affected the continuity of these kiosks.
Individually managed kiosks	These kiosks are those managed by private individual operators. These kiosks were initially constructed by the City Assembly. However due to poor management, individuals were contracted to manage and operate the kiosks.	Some operators lack skills in setting a proper tariff; poor management of funds has led to disconnection of the kiosks.
Joint Managed kiosks	These are kiosks which are jointly managed by LWB and the community. In this approach, kiosk attendants were identified by the community and recruited by the water utility.	This option was recommended to address various challenges for management.

Provision of water services to informal settlements in Lilongwe is similar to the Blantyre city where the Blantyre Water Board (BWB) has recognised that it cannot meet the costs of financing improvement of water services throughout the city

(Sansom, 2006). As such, it has developed relationships with other stakeholders such as Blantyre City Assembly, NGOs and CBOs and the community. BWB has experience of partnership arrangements that has evolved over several years. Such relationships have enabled improvements of water services through relaxation of some building and pipe standards to comply with the community capability (Moran and Batley, 2004).

Summary of key issues which were examined in Lilongwe urban water services include:

- Consideration of population. Although Malawi is predominantly rural, the population growth in urban areas indicates an increase in urbanization leading to increasing number of people living in informal settlements.
- Provision of water services through kiosks is common in most informal settlements. While this indicates the willingness of LWB to provide water services to all people, there are difficulties in the management of those kiosks.
- Various models for managing water kiosks have been tried in Lilongwe. These include community managed kiosks, LWB kiosks, individually operated kiosks and joint managed kiosks. The difficulties in managing water kiosks have compelled the water utility, NGOs and communities to pilot a joint managed approach.

The next section discusses the three Lilongwe case studies which were investigated in this research.

5.4 DESCRIPTION OF CASE STUDIES IN LILONGWE

5.4.1 Introduction

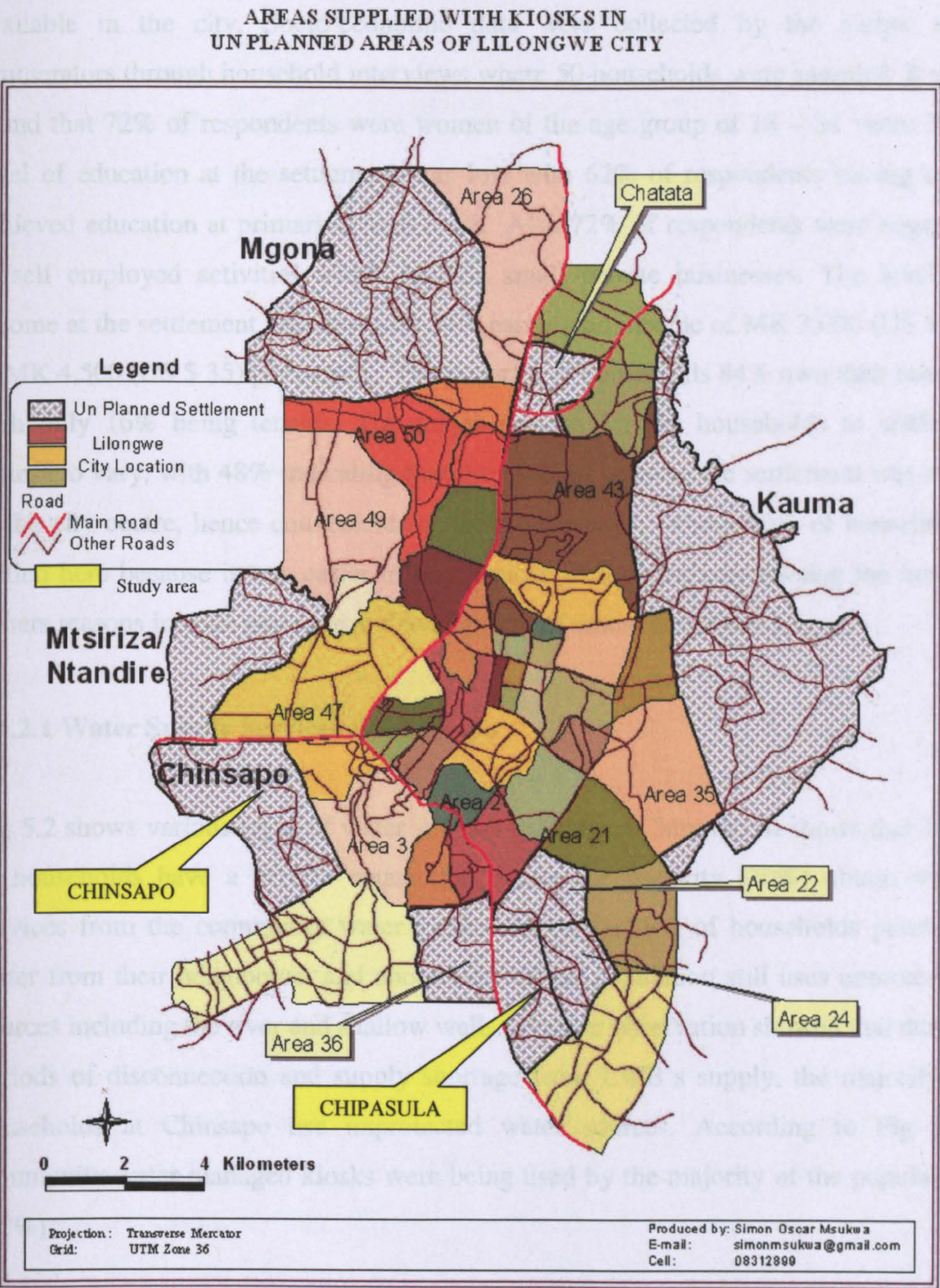
This section provides background information on the case studies selected in Lilongwe. Basic information on the case studies is summarized in table 5.2.

Table 5.2 Basic information of the case studies in Lilongwe

Case study locations	Population	Available types of water sources
Chinsapo	60,000	Utility’s water service, river, shallow wells
Chipasula	50,000	Utility’s water service, river, shallow wells
Partnership initiative for managing kiosks in Lilongwe	New initiative to support kiosks for nearly 80,000	Utility’s water service through kiosks

All the above case studies fulfilled the criteria established in Section 3.6.1 of the methodology chapter.

Fig 5.2 Map showing location of the case study area in Lilongwe.



(Source, LWB, 2006).

5.4.2 Chinsapo case study

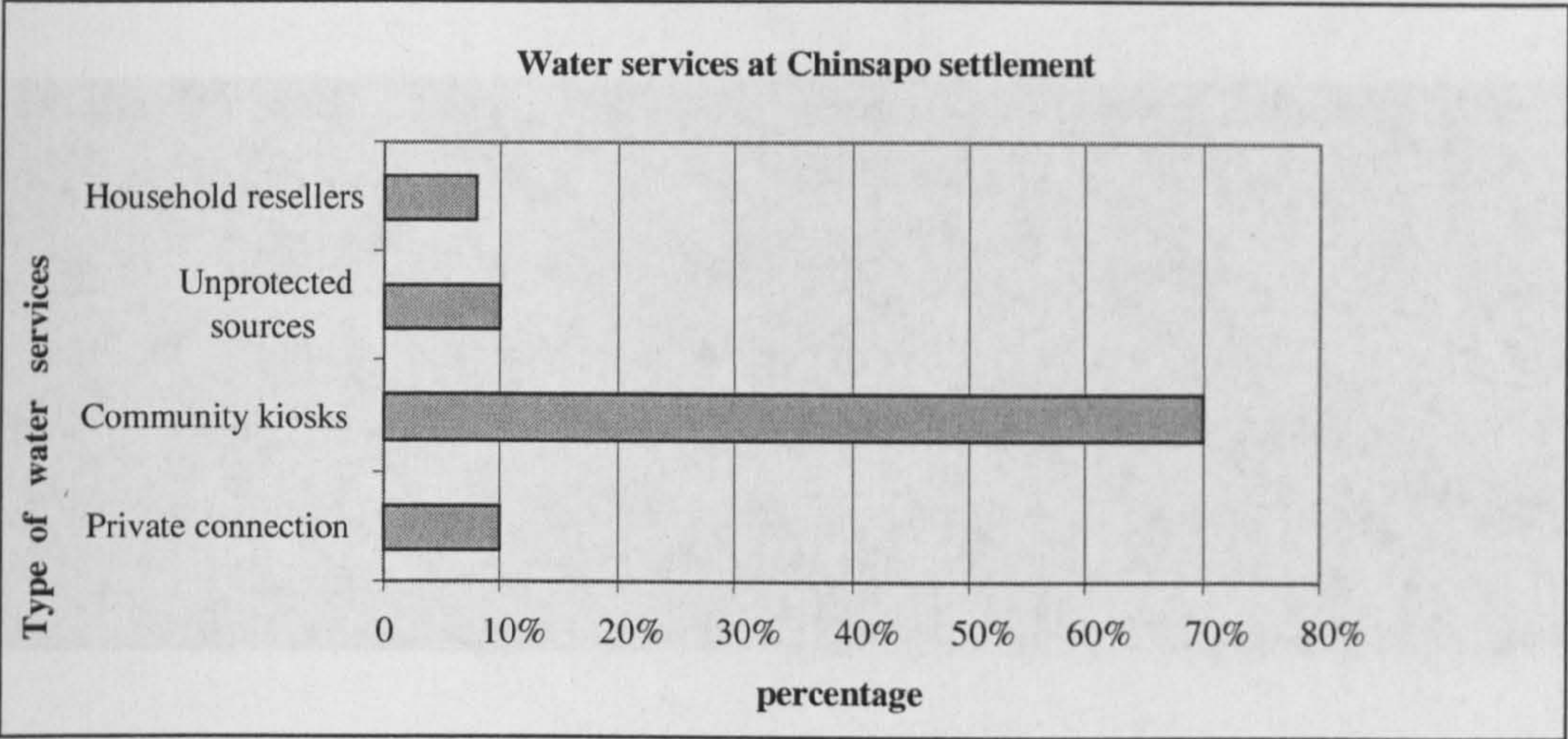
Chinsapo is one of the informal settlements located on the west of Lilongwe City with a population of about 60,000 people. Most of the population originated from rural areas in about 1995 when they came in search of employment and other opportunities available in the city. Socio-economic data were collected by the author and enumerators through household interviews where 50 households were sampled. It was found that 72% of respondents were women of the age group of 18 – 34 years. The level of education at the settlement was low with 62% of respondents having only achieved education at primary school level. Also 72% of respondents were engaged in self employed activities which include small private businesses. The level of income at the settlement was low with 50% earning an income of MK 3,000 (US \$ 23) to MK 4,500 (US \$ 35) per month. The majority of households 84% own their houses with only 16% being tenants. The major reasons for the households to settle at Chinsapo vary, with 48% indicating that they settled because the settlement was near to the city centre, hence convenient for their businesses. About 20% of households settled here because it was easier to buy a piece of land for constructing the house. Others reasons include marriage and availability of rented accommodation.

5.4.2.1 Water Supply Services at Chinsapo

Fig 5.2 shows various types of water sources existing at Chinsapo. It shows that 10% of households have a private connection, while the majority (70%) obtain water services from the community water kiosks. Moreover, 8% of households purchase water from their neighbours, and about 10% of the population still uses unprotected sources including the river and shallow wells. Further observation showed that during periods of disconnection and supply shortage from LWB's supply, the majority of households at Chinsapo use unprotected water sources. According to Fig 5.3, community water managed kiosks were being used by the majority of the population (70%).

Details of the community managed kiosks in Chinsapo are presented below.

Fig 5.3 water services at Chinsapo



5.4.2.2 Community managed kiosks at Chinsapo

In Chinsapo there are 54 water kiosks that were installed in 2000 with the financial assistance of UNICEF and MASAF. The kiosks are community-managed where a water committee and kiosk operators are responsible for the day to day operation of the kiosks. Soon after the implementation of the kiosks, the water committee, in collaboration with local chiefs, developed a payment approach for the water services, where people made monthly contributions towards payment of the water bills. However, the tariff was set by communities based on the lowest average bill regardless of a households' consumption. The initial tariff was at Malawi Kwacha MK 5 (US \$ 0.04) per family per month and was increased to MK 100 (US \$ 0.8) over the years until it was MK150 (US \$ 1.2) as of 2002. This approach was not effective as it encouraged higher consumption, as people used more water than they paid for. Furthermore, the water scheme at Chinsapo faced numerous challenges of management which resulted in poor relationships and conflicts between the water committee and the local chiefs. With this kind of system in place, the water bills were not paid in full; hence bill debts started to accumulate and reached MK 1,428,246 (US \$ 11,425) by July 2004. The failure of the water committee to settle their water bills led the LWB to disconnect water kiosks until the water committee was able to pay off their debts. During the time of the author's research, 50 water kiosks had been

disconnected and LWB was negotiating with the community to adopt another management model which had been successful at the Chipasula settlement.

From the case study, it was found that a community management approach was not effective at Chinsapo. The critical challenge of water services at Chinsapo was on management of the water kiosks. It was observed that the local water tariff had been set without adequate financial knowledge, which resulted in huge bills which could not be paid. In addition, the approach noticed mis-management of the water funds as well as conflicts within the communities due to the lack of an effective management structure.

5.4.3 Chipasula case study

Chipasula is one of the peri-urban areas located in the North of Lilongwe City. The settlement has a population of about 50,000 people most of whom originated from rural areas. High population growth in the settlement has been due to increased rural-urban migration. Socio-economic data for Chipasula were collected through household interviews by the author and enumerators, involving 50 sample households. It was found that 75% of respondents were women of the age group of 18 to 34 years. The level of education at the settlement is low with only 50% of respondents having been educated to primary school level, and 45% to secondary school level.

About 62% of respondents were engaged in self employed activities indicating a high level of unemployment. 50% of households have a income of MK3,000 (US \$ 24) to MK4,500 (US \$ 36) per month. Housing ownership varies with 48% of households owning the houses, while 52% are tenants. Regarding the duration of their stay in the settlement, 40% of respondents had stayed in the settlement for a period of a 6 – 10 years while another 40% of households had settled within the last 1 – 5 years. This suggests that a Chipasula settlement is an established settlement that has been in existence for more than 10 years.

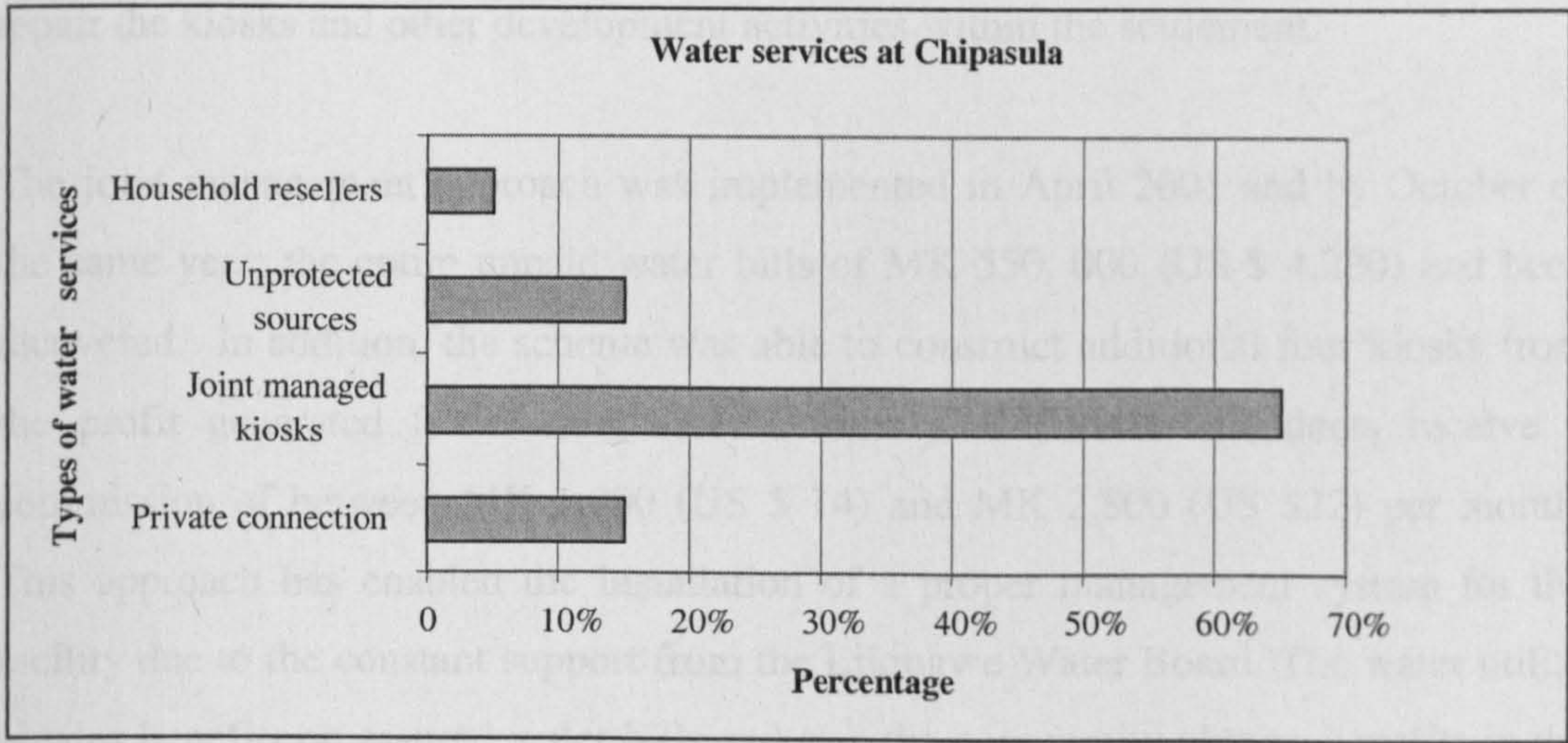
5.4.3.1 Water Supply Services at Chipasula

Chipasula settlement has four major sources of water supply. Fig 5.4 shows that 15% of households have a private connection from LWB, while the majority (65%) uses water from the kiosks which are jointly managed by the water utility and the community. While 5% of households purchase water from the household resellers, 15% of the population still use unprotected sources including river and shallow wells.

From the analysis shown in 5.4, the joint managed kiosks at Chipasula were being used by more households than any other source.

Details of the joint managed project for water kiosks at Chipasula are presented below.

Fig 5.4 Water services at Chipasula



5.4.3.2 A case study of joint management for the water kiosk at Chipasula settlement

Chipasula settlement has 48 water kiosks which were constructed with the financial assistance of UNICEF and MASAF in 2000. Soon after the implementation, the water kiosks were handled to the committees headed by local chiefs. However, the problems associated with management and in appropriate billing led to disconnections of water kiosks due to unpaid water bills of MK 550,000 (US \$ 4,220). Following

disconnection of water kiosks, the risk of cholera in many areas increased and the city authorities convened a meeting of stakeholders to discuss the best approach to help the community to have safe water through the kiosks. Hence, the joint management approach between the water utility and community was developed and a decision was made to pilot this at Chipasula. This approach encourages joint collaboration between the water utility, NGOs, communities and local government. The water utility, in collaboration with the community, is responsible for recruiting and training kiosk attendants to man the kiosks. Water revenue is collected daily by the Board's kiosk inspectors and banked at the Board's cash office. Kiosk attendants are remunerated for the volume of water sold at MK 3.50 (US \$ 0.07) per every cubic meter sold. The local chiefs and community are responsible for the security of the kiosks and other facilities. Regarding the water tariff, the LWB and community have constantly reviewed the water tariff to reflect recovery of money owed from previous and current bills. Moreover the tariff includes an element for community funds to be used to repair the kiosks and other development activities within the settlement.

The joint management approach was implemented in April 2001 and by October of the same year; the entire unpaid water bills of MK 550, 000 (US \$ 4,220) had been recovered. In addition, the scheme was able to construct additional four kiosks from the profit generated from water sale. Currently, the kiosk attendants receive a commission of between MK 1,800 (US \$ 14) and MK 2,800 (US \$22) per month. This approach has enabled the installation of a proper management system for the facility due to the constant support from the Lilongwe Water Board. The water utility obtains benefits on assured water bills and also the community obtains benefits in the form of reliable water services. Picture 5.1 shows a water kiosk at Chipasula. It shows a large concrete kiosk with 6 water points and women collecting water. The kiosk attendant is not shown in the picture.



Picture 5.1: Design of water kiosks at Chipasula settlement

From the case study, it was found that due to the difficulties arising from using the community management approach for managing the kiosks, a joint management approach was developed in Chipasula. The joint management includes the LWB and communities, where instead of the communities being responsible for managing daily water services, the kiosk operators are recruited by LWB but accountable to both the LWB and the communities. Moreover LWB provides daily supervision of kiosk operators, including collection of water funds. The case study noted that joint management between the LWB and the community was useful for settling the accrued water bill debts, as well as being able to improve the standard of water services to the settlement.

5.4.4 Partnership initiatives for water kiosks case study

The partnership approach in Lilongwe results from working relationships which have operated since 2003. The purpose of the partnership model in Lilongwe is to develop an effective management system to address the kiosk management problems in order to ensure that communities living in informal settlements have sustainable access to affordable water supplies. The objectives of the partnership approach are:

- To develop management systems which will ensure that customers pay for water, and the revenue collected is then delivered to the LWB.
- To improve the efficiency of LWB to provide an accessible, affordable, safe reliable water supply.
- To provide a voice within LWB for the users in low income areas and ensure the accountability of LWB to them. Currently users in low-income areas are voiceless and powerless to even question a high water bill.
- To develop a transparent management system for the kiosks.
- To develop a viable financial system for kiosk operation within the Lilongwe Water Board.

Key actors which were involved in the partnership include: The water utility (Lilongwe Water Board), WaterAid and a local organization which represents the communities is the Centre for Community Development Organization (CCODE). The summary of the key provisions in the MOU are summarized in Table 5.3 below.

Table 5.3 Roles and responsibilities of various actors as extracted from the MOU.

No	Actor level	Roles and responsibilities
1	LWB	<ul style="list-style-type: none"> ▪ Be responsible for the management of the kiosk unit ▪ Setting the selling price of water in consultation with the different stakeholders. ▪ Providing adequate and correct information to the communities on developments in water supply of the areas. ▪ Providing major infrastructure repairs and maintenance.
2	WaterAid	<ul style="list-style-type: none"> • Provide technical and financial support necessary to improve water services. • Facilitate periodic tripartite meetings • Provide advisory support on institutional and management of partnership arrangements.
3	CCODE	<ul style="list-style-type: none"> • Facilitating the formation of kiosk management structures that will be mutually acceptable to both LWB and communities. • Facilitating capacity building of water kiosk operators. • Facilitating the registration of the units to become legal entities.
4	Joint activities in the partnerships	<ul style="list-style-type: none"> • Organize joint quarterly planning and review meetings • Plan and conduct joint field visits to monitor and supervise field activities. • To undertake co-ordination and cooperation among all stakeholders. • To produce at least one learning document per year

From the case study, it was found that the partnership arrangement was developed in response to community initiatives to address the unpaid bills which were threatening disconnection of their water kiosks. The initiative came also as a response to the need noted by the LWB to develop a city wide programme to address the challenge of water kiosk management in Lilongwe. The partnership arrangement includes: LWB as a provider of water services; WaterAid as facilitator of the processes; and CCODE as a representative of the communities. Moreover, the kiosk unit has been active at LWB to provide specific support to all kiosks located in informal settlements. The case study has shown that through the partnership arrangement of key actors, it is possible to improve the management of water kiosks in Lilongwe.

5.5 CHAPTER SUMMARY

The purpose of this chapter was to present an overview of the research location and water services in Lilongwe. The chapter discussed the background information of urban water services and the description of the selected case studies. Key points which emerge from the chapter include:

- Although Malawi is predominantly rural, its urban population is rapidly increasing which indicates a trend towards urbanization.
- Water supply in many parts of Lilongwe is good. In informal settlements, more than 500 water kiosks have been installed by various agencies in collaboration with the water utility. However, the critical challenge which faces the kiosks is to establish proper management of the kiosk.
- The case study at Chinsapo water scheme reveals the challenge facing the community managed approach for operating the kiosks. It was found that lack of proper management and failure to set appropriate water tariffs has affected the ability of community managed kiosks to deliver sustainable services to the households.
- The case study at Chipasula water scheme indicates a joint management approach between the Lilongwe Water Board and the community. This approach has significantly improved the management of water kiosks as interactions of the Lilongwe Water Board on a daily basis have helped to provide additional management skills which were previously lacking.

- The case study of the partnership initiative indicates that the approach has encouraged the Lilongwe Water Board, NGOs and communities to collaborate in managing water kiosks. The initiative has established a kiosk unit which is responsible for planning and management of all water kiosks in Lilongwe.

CHAPTER 6

ANALYSIS OF FIELD RESULTS FOR THE DAR-ES-SALAAM CASE STUDIES

6.1 INTRODUCTION

Chapter four presented details of cases studies selected for this research in Dar-es-Salaam showing the importance of collaboration between the water utility and CBOs. As stated CBOs are membership organization made up of individuals in a self-defined community who have joined together to further common interests (World Bank, 2005). This chapter presents findings of the analysis for the Dar-es-Salaam case studies. Key aspects of the research which were examined in this research are:

- Supply chain analysis to identify linkages between the water utility and other informal water providers, demand and volume of water, and costs involved.
- Current relationships and roles of actors within the informal water services
- Factors which encourage development of partnership
- Comparison of effectiveness of water services between partnership and non partnership water services.
- An overall assessment of partnerships using SWOT analysis.

Primary and secondary data for this study were obtained from semi-structured interviews with NGOs, staff from the water utility and municipal and government representatives. Other data were obtained from focus group discussions with CBOs. Wherever possible, quantitative data from questionnaire surveys and documents are documented to support the qualitative arguments.

The purpose of the analysis is to provide evidence drawn from the field to address the key research questions identified in Section 3.4. The relationships between the research questions and the presentations of sections in this chapter are reflected in Table 6.1

Table 6.1 Comparison of key research questions and organization of Chapter 6

Key research questions	Section
What are the current relationships between the water utilities and CBOs and what roles does each currently have in supplying water within urban areas?	6.2
What factors encourage/ discourage development of partnership between the water utility and CBOs for improving water services to informal settlements? (<i>Drivers, components and facilitator factors</i>).	6.3
Can water services be improved through partnership between the water utility and CBOs?	6.4
What are the perceptions of stakeholders on the use of partnership for improving water services to informal settlements?	6.5

The first section of this chapter presents the analysis of the current relationships and roles between the water utility and CBOs in Dar-es-Salaam. This is followed by the analysis of factors which encourage actors to develop partnership. Effectiveness of water service between partnership and non-partnership water schemes are then compared. This is followed by an overall assessment of partnership approach for improving water services to informal settlements. Finally, summaries of key findings of the chapter are presented at the end of chapter. Fig 6.1 below shows the research hypothesis, questions and the variables which were used during the analysis



Fig 6.1 Research questions and variables for investigating the partnership

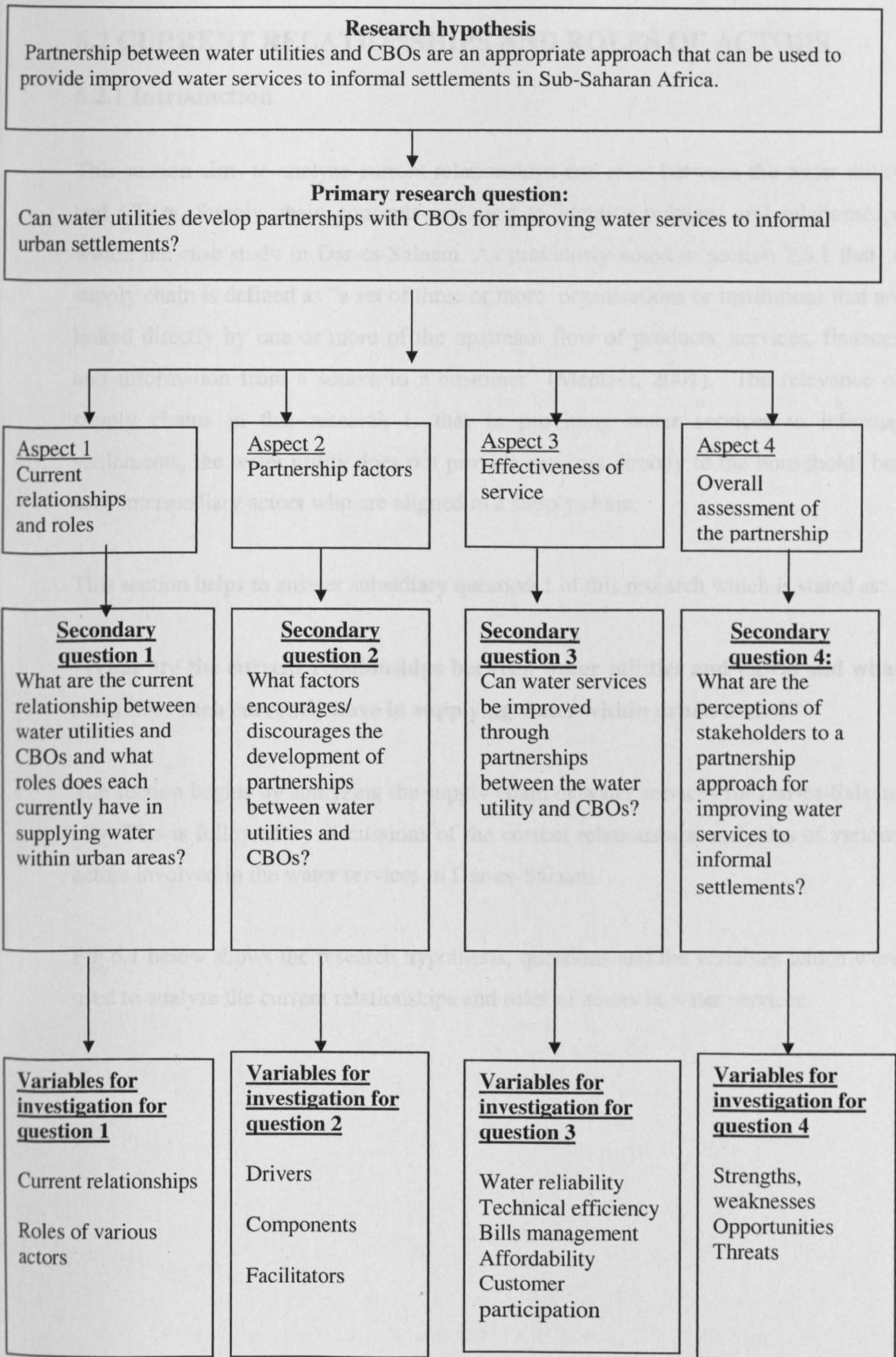


Fig 6.1 Research questions and variables for investigating the partnership

6.2 CURRENT RELATIONSHIPS AND ROLES OF ACTORS

6.2.1 Introduction

This section aims to analyze current relationships and roles between the water utility and CBOs. Supply chain concepts are used to identify linkages and relationships within the case study in Dar-es-Salaam. As previously noted in section 2.6.1 that a supply chain is defined as “a set of three or more organisations or institutions that are linked directly by one or more of the upstream flow of products, services, finances and information from a source to a customer” (Mentzer, 2001). The relevance of supply chains in this research is that in providing water services to informal settlements, the water utility does not provide services directly to the households but uses intermediary actors who are aligned in a supply chain.

This section helps to answer subsidiary question 1 of this research which is stated as:

“What are the current relationships between water utilities and CBOs and what roles does each currently have in supplying water within urban areas?”

The section begins by analyzing the supply chain of water services for Dar-es-Salaam city. This is followed by discussions of the current relationships and roles of various actors involved in the water services in Dar-es-Salaam.

Fig 6.1 below shows the research hypothesis, questions and the variables which were used to analyze the current relationships and roles of actors in water services.

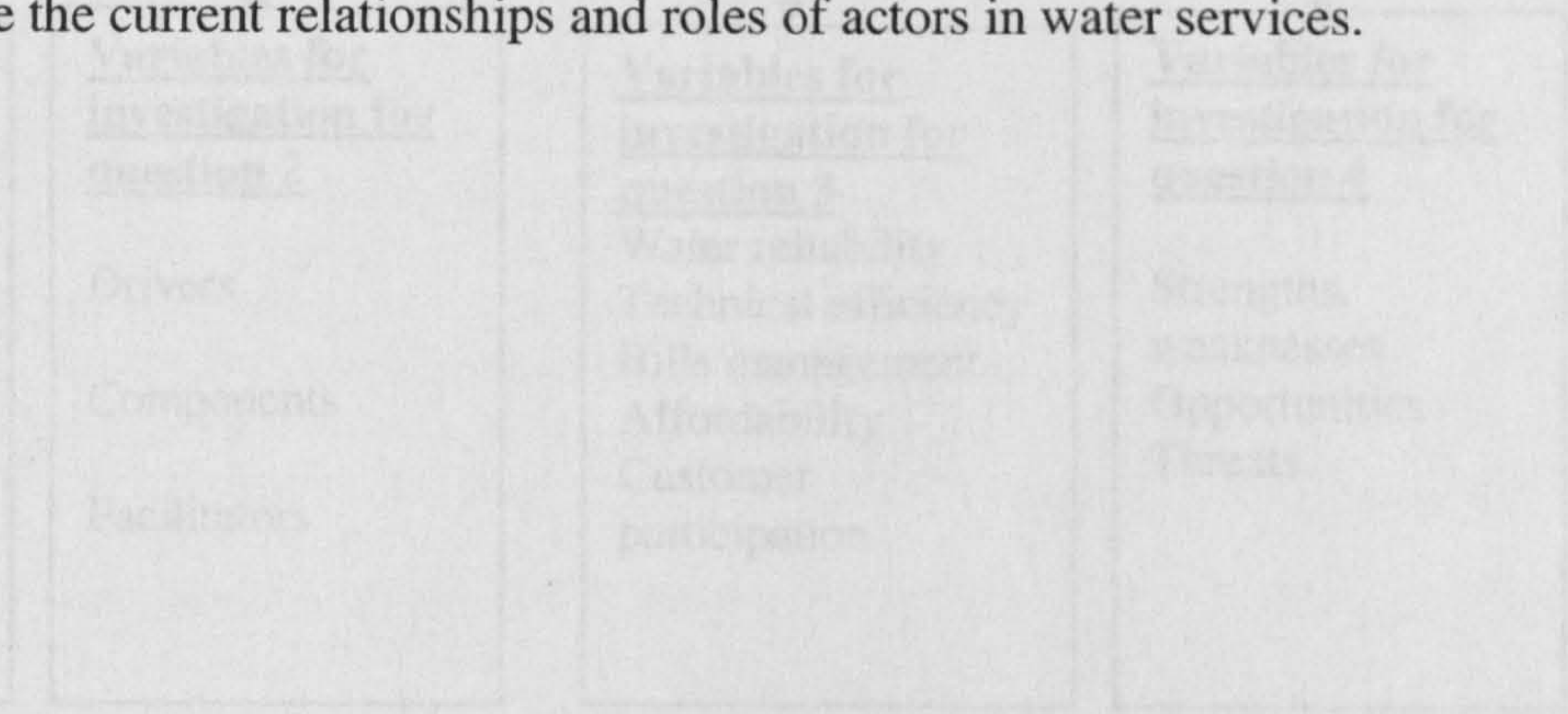


Fig 6.2 Research questions and variables for investigating the relationships and roles

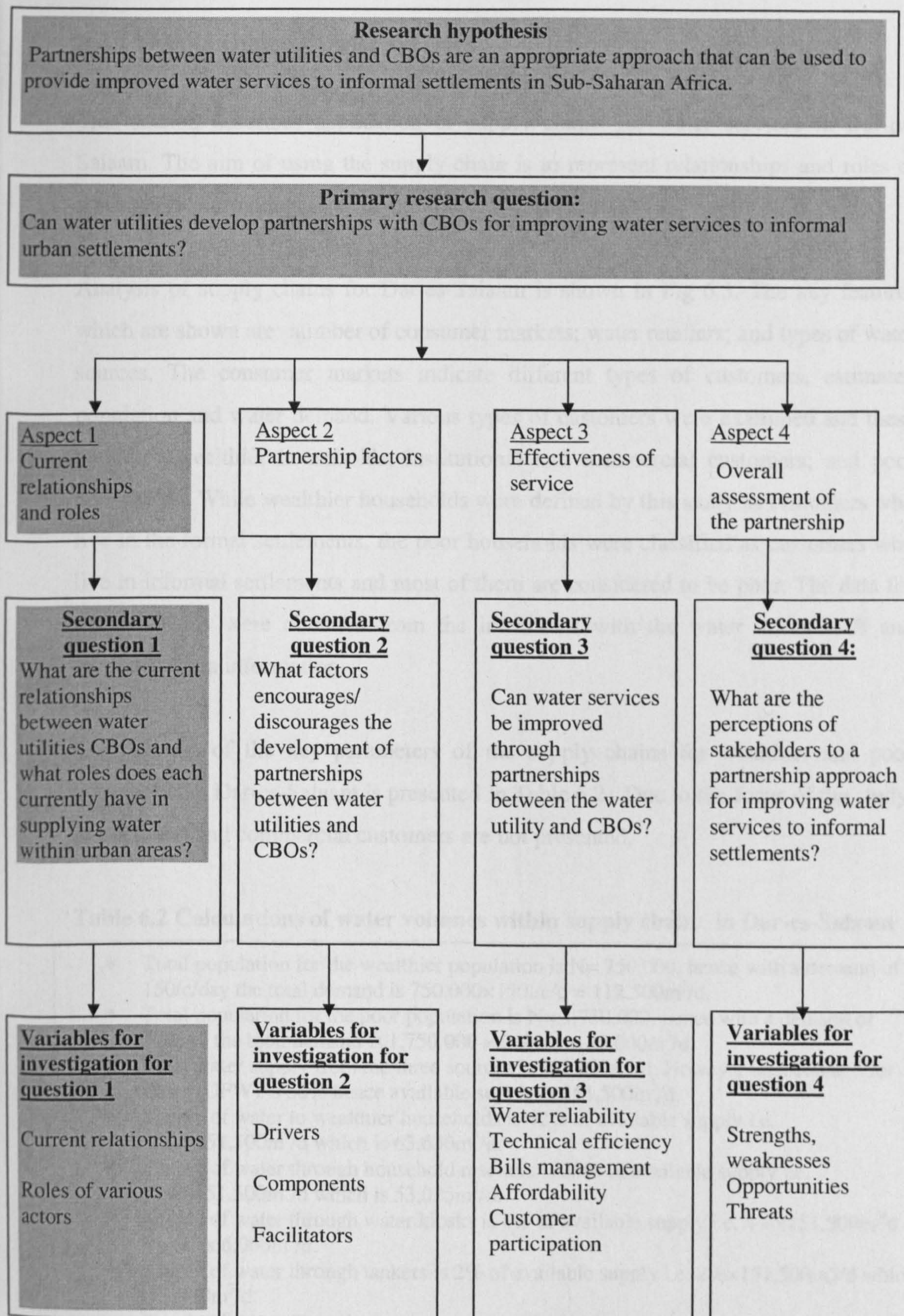


Fig 6.2 Research questions and variables for investigating the relationships and roles

6.2.2 Supply chain of water services

This section describes application of supply chains for water services in Dar-es-Salaam. The aim of using the supply chain is to represent relationships and roles of water service providers in a very simple way (Njiru, 2004).

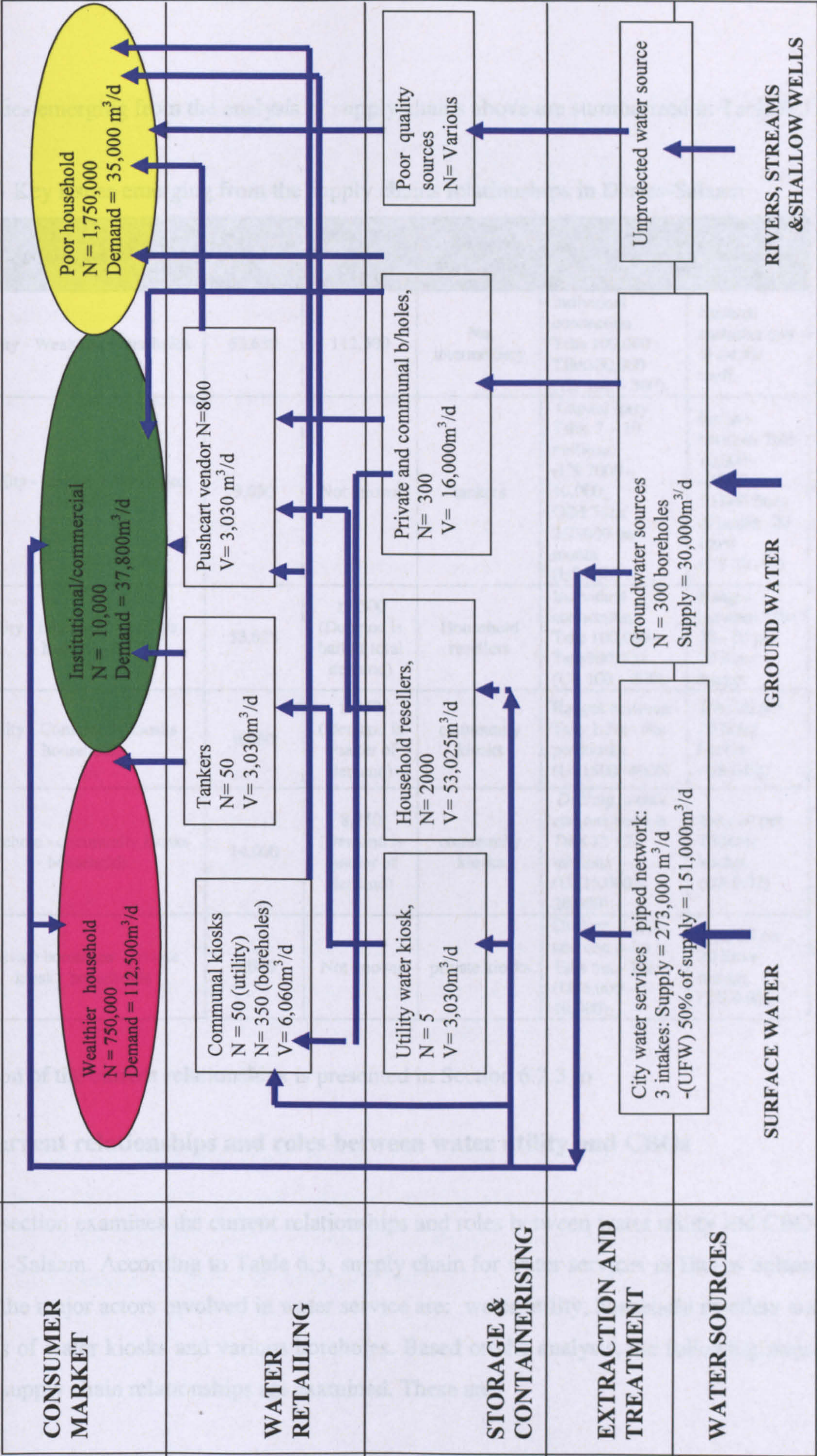
Analysis of supply chains for Dar-es-Salaam is shown in Fig 6.3. The key features which are shown are: number of consumer markets; water retailers; and types of water sources. The consumer markets indicate different types of customers, estimated population and water demand. Various types of customers were examined and these include: wealthier households, institutional and commercial customers; and poor households. While wealthier households were defined by this study as customers who live in the formal settlements, the poor households were classified as customers who live in informal settlements and most of them are considered to be poor. The data for supply chains were obtained from the interviews with the water utility staff and secondary data information.

Computation of the key parameters of the supply chains for wealthier and poor households in Dar-es-Salaam is presented in Table 6.2. Due to the focus of the study, institutional and commercial customers are not presented.

Table 6.2 Calculations of water volumes within supply chain in Dar-es-Salaam

- Total population for the wealthier population is N= 750,000, hence with a demand of 150l/c/day the total demand is $750,000 \times 150\text{l/c/d} = 112,500\text{m}^3/\text{d}$.
- Total population for the poor population is N= 1,750,000, hence with a demand of 30l/c/d, the total demand is $1,750,000 \times 20\text{l/c/d} = 35,000\text{m}^3/\text{d}$.
- Total water supply from the three sources is $303,000\text{m}^3/\text{d}$. However unaccounted for water (UFW) is 50% hence available supply is $151,500\text{m}^3/\text{d}$.
- Supply of water to wealthier households is 42% of available supply i.e. $42\% \times 151,500\text{m}^3/\text{d}$ which is $63,630\text{m}^3/\text{d}$.
- Supply of water through household resellers is 35% of available supply i.e. $35\% \times 151,500\text{m}^3/\text{d}$ which is $53,025\text{m}^3/\text{d}$.
- Supply of water through water kiosks is 4% of available supply i.e. $4\% \times 151,500\text{m}^3/\text{d}$ which is $6,060\text{m}^3/\text{d}$.
- Supply of water through tankers is 2% of available supply i.e. $2\% \times 151,500\text{m}^3/\text{d}$ which is $3,030\text{m}^3/\text{d}$.
- Supply of water through push cart vendors is 2% of available supply i.e. $2\% \times 151,500$ which is $3,030\text{m}^3/\text{d}$.
- Supply of water to the individuals within informal settlements who have private connection is 15% of available supply i.e. $15\% \times 151,500 = 22,725\text{m}^3/\text{d}$.

Fig 6.3 Supply Chain for water services in Dar-es Salaam showing the supply of water, number of households and water services actors.



Key issues emerging from the analysis of supply chains above are summarized in Table 6.3

Table 6.3 Key issues emerging from the supply chains relationships in Dar-es-Salaam

No	Type of supply chain	Water supplied m ³ /day	Demand of water m ³ /day	Key intermediary	Costs involved	Water price
1	Utility - Wealthier households	63,630	112,500	No intermediary	Individual connection Tshs 100,000 - Tshs300,000 (US 100 – 300)	Metered customer pay domestic tariff
2	Utility - tankers – Wealthier households	3,030	Not known	tankers	Capital lorry Tshs 7 – 10 millions. (US 7000 – 10,000) O/M Tshs 250,000 per month (US 250)	Ranges between Tshs 30,000 - 40,000 per 10,000 litres of tanker 20 litres (US 30 -40)
3	Utility - household resellers - households	53,025	17,500 (Demand is half of total demand)	Household resellers	Individual connection Tshs 100,000 - Tshs300,000 (US 100 – 300)	Ranges between Tshs 20 - 50 per 20 litres bucket
4	Utility - Community kiosks - households	6,060	8,750 (Demand is quarter of demand)	community kiosks	Ranges between Tshs 1.5m - 4m per kiosks (US1500 -4000)	Tshs 20 per 20 litres bucket (US 0.02)
5	Borehole - community kiosks - households	14,000	8,750 (Demand is quarter of demand)	community kiosks	Drilling, a tank and one point is Tshs 15 - 20 millions (US15,000 – 20,000)	Tshs 20 per 20 litres bucket (US 0.02)
6	Private boreholes - private kiosk - households	2,000	Not known	private kiosks	Drilling, a tank and one point is Tshs 5m - 10m (US5,000 - 10,000)	Tshs 50 per 20 litres bucket (US 0.05)

Discussion of the current relationships is presented in Section 6.2.3 to

6.2.3 Current relationships and roles between water utility and CBOs

This subsection examines the current relationships and roles between water utility and CBOs in Dar-es-Salaam. According to Table 6.3, supply chain for water services in Dar-es-Salaam indicate the major actors involved in water service are: water utility, household resellers and managers of water kiosks and various boreholes. Based on the analysis, the following major types of supply chain relationships are examined. These are:

- Utility – Wealthier households (Supply chain 1)
- Utility – Tankers – Wealthier households (Supply chain 2)
- Utility – Household resellers – poor households (Supply chain 3)
- Utility – Community kiosks – poor households (Supply chain 4)

These relationships are discussed below.

6.2.3.1 Utility – wealthier households (supply chain 1)

Fig 6.4 shows relationships between the water utility and the wealthier customers for the water services. As stated, wealthier households are defined as households who dwell in formal settlements and whose income is considered to be relatively high.

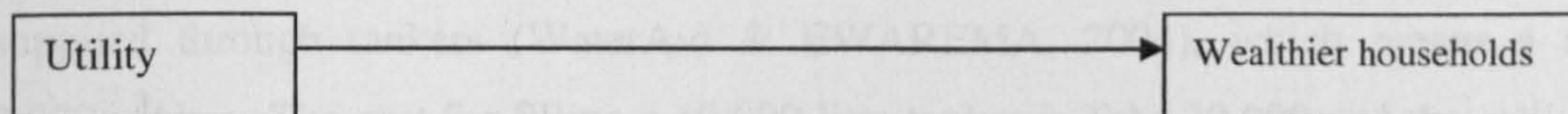


Fig 6.4 Utility – wealthier households supply chain

According to Fig 6.2, total population of wealthier customers in Dar-es-Salaam is 750, 000. This indicates that their total water demand is 112,500m³/d (based on the demand per capital of 150 l/c/d). However, the supply of water from the water utility to these customers is 42% of the total supply (Household budget survey, 2000) implying a supply of 63,630m³/d. Comparing the supply to demand for this segment of customers, the analysis shows that supply of water from water utility to wealthier customers is only 57% of their total demand. The data indicate that the water utility meets the demand of water above the average to the wealthier customers.

The relationship between the water utility and wealthier households is formal. Most households are recognized as official customers. In this type of relationship, the role of the water utility is to provide water services and undertake major maintenance. In return, wealthier households are responsible for paying water bills for the water consumed.

6.2.3.2 Utility – tankers – wealthier households (supply chain 2)

Fig 6.5 shows a relationship between the water utility and tankers. According to Fig 6.3, the city has 50 tankers which provide water service to various customers, mostly the wealthier households.

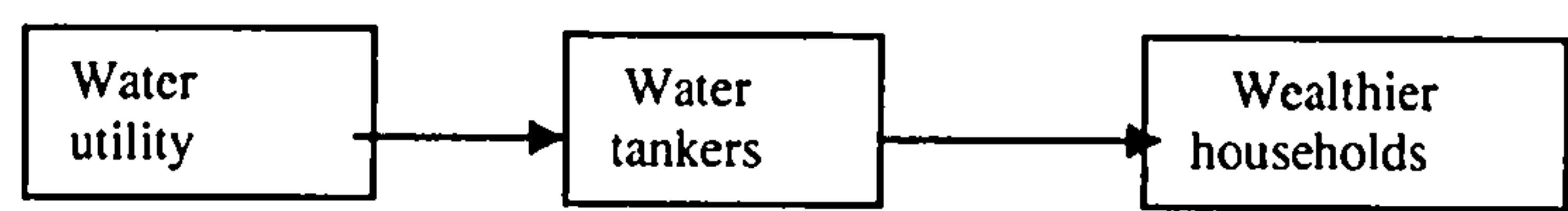


Fig 6.5 Utility – tankers – wealthier households supply chain

The total number of customer supplied by tankers is unknown although previous studies conducted by EWREMA and WaterAid estimated that 2% of the total water supply is supplied through tankers (WaterAid & EWAREMA, 2004), which means a supply of 3,030m³/day. The cost for filling a 10,000 litre tanker is Tshs 20,000 and the selling price is Tshs 30,000 – 40,000 depending on the distance the tanker has to make to customers. Due to high costs involved in this type of supply chain, it is only the wealthier households who can afford, and in addition should have adequate storage facility.

The relationship between the water utility and tankers is informal, although the water utility is aware of the presence of water tankers and has located 4 major points through which tankers could obtain water. The water utility act as a vendor to tankers and hence there is no official relationship between them. This is recognised as a seller-buyer relationship.

6.2.3.3 Utility – household resellers – households (supply chain 3)

Fig 6.6 indicates relationships between the water utility, household resellers and households. Household resellers provide services to informal settlements where the supply of water services from the water utility is minimal. The majority of the customers served by household resellers are poor households, although cart vendors do also access water from resellers to sell to some wealthier customers. Indicative estimates show that Dar-es-Salaam has about 800 push cart vendors who retail water to various customers.

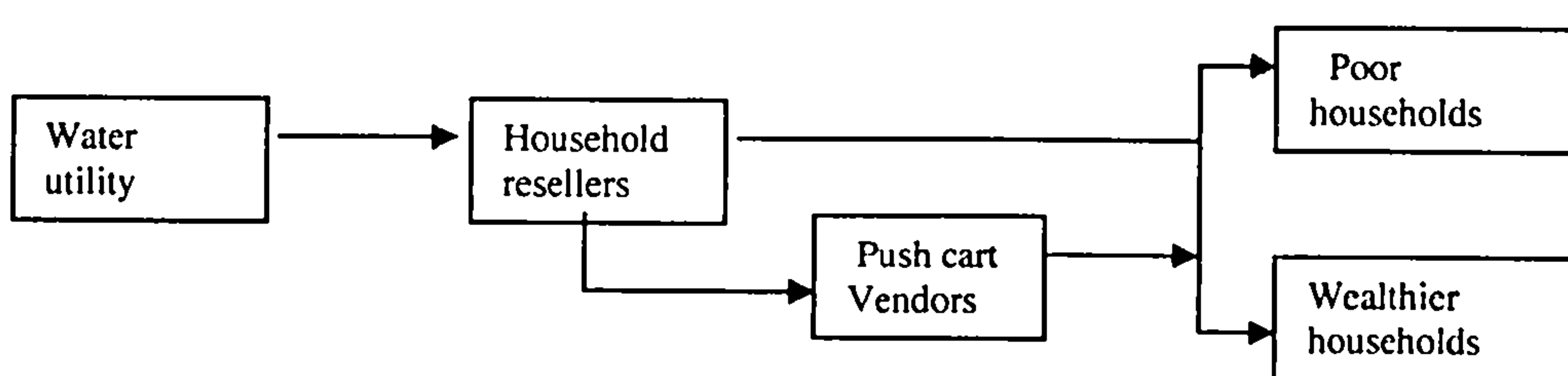


Fig 6.6 Utility – household resellers - households

In addition, Fig 6.3 shows that in Dar-es-Salaam there are 2000 household resellers. However, other studies estimate that household resellers supply 35% of the available supply of water which is $53,025\text{m}^3/\text{d}$ (EWAREMA and WaterAid, 2004). Hence the demand for water by poor households who represent 70% of the population is $(1,750,000 \times 20\text{l/c/d}) \times 1/2 = 17,500\text{m}^3/\text{d}$. This computation shows that household resellers have the potential to address the water demand of people living in the informal settlements. However, in practice their service is limited by: lack of a reliable supply from the water utility; leakages and illegal connections; substandard designs of pipelines for commercial purposes; and lack of recognition by the water utility.

The relationship between the water utility and resellers varies. Some resellers have applied to the water utility to sell water officially. These are known to the water utility and are metered accordingly as commercial customers, and their relationship is formal. Other resellers sell water illegally which means the water utility has no knowledge about them neither of their water retailing business. In this (water utility – household resellers) relationship, the role of the water utility is to provide water to household resellers. However most pipes are designed for domestic supply, as a result reliability and pressure are major problems. In return, households resellers are required to pay for the water bills at a commercial rate which is higher than a domestic rate. On the other hand, the push cart vendors have an important role of supplying water to households who are located far distances from the supply network. Most push cart vendors operate informally, and the water utility has no relationship with them

6.2.3.4 Utility – community kiosks – households supply chain (supply chain 4)

Fig 6.7 describes supply chain of water services from the water utility through water kiosks. An interview with the water utility indicates that 50 kiosks which are connected to the utility exist in Dar-es-Salaam. Most of these kiosks were funded by NGOs, donors and municipalities. Most of these kiosks are installed within informal settlements.

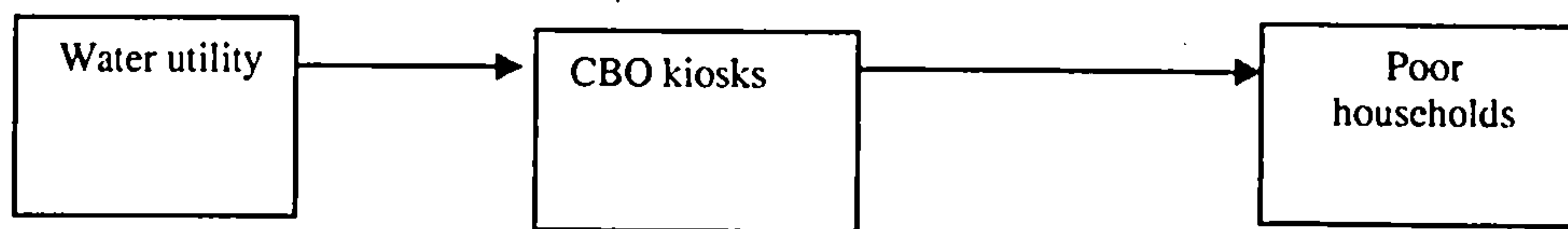


Fig 6.7 Utility – community kiosks - households

According to the Household Budget Survey (2000) about 4% of the total water supply is provided through community kiosks implying a supply of 6, 060 m³/d. However, the total demand of water for the informal settlement who uses community kiosk is (1/4 of 35,000m³/d, which is 8,750m³/d. This shows the community kiosks contribute 23% of the total water demand. Despite the small contribution of community kiosks, their key significance is their good design which has storage tanks leading to good pressure and reliability. The price of water at the community kiosks is Tshs 20 (US \$ 0.002) for a 20 litre container and is considered low compared to other types of water sources. This is because most community kiosks were funded by NGOs or donors through grants, hence the price covers only operation and maintenance costs.

The relationships between water utility and CBOs kiosks are formal. Most kiosks are officially known by the water utility and do receive monthly water bills. However, due to informality of most water committees, it has been difficult for the water utility to establish effective relationships with them. As a result local leaderships have represented the community. The role of the water utility is to provide water services and major maintenance to community kiosks. In return the community kiosks have a responsibility for paying the water bills for the water consumed.

The next section analyses factors that encourage development of the partnership, and how water utility and CBOs could develop the partnership for improving water services to informal settlements.

6.3 FACTORS FOR DEVELOPING THE PARTNERSHIP

6.3.1 Introduction

The previous section discussed relationships and roles between the water utility and the CBOs in providing water services to informal settlements in Dar-es-Salaam. This section explores factors which encourage development of the partnership between the water service providers.

In this research, partnership is referred to “*an extended group dynamics where two or more parties establish relationships and leverage resources to work together, with expectations that each of the parties would receive greater goal than working individually*” (Morse, 1998). The term factors means conditions or prerequisites which need to be laid down by actors for smooth development and operations of the partnership. This section helps to answer subsidiary question 2 of this research which is stated as:

What factor encourages development of the partnership between water utilities and CBOs for improving water services to informal settlements? “

In this section, case studies of water services to informal settlements in Dar-es-Salaam are presented. Multiple cases were used to examine factors for developing the partnership between the water utility and CBOs. The aim was to have a more rigorous generalization of the findings. Yin (1999) recommends that multiple case studies provide more reliable findings than a single case study. As stated in Chapter 4, the case studies for Dar-es-Salaam include:-

- Keko Mwanga B water scheme for which there was collaboration between the water utility, NGO and a CBO (water committee) in the implementation of the bulk water system.
- Hanna Nassif water scheme for which there was collaboration between the water utility, NGO and a CBO in the implementation of the bulk water system. .
- Community Water Services and Sanitation Programme (CWSSP), which involves collaboration between the water utility and NGOs for improving water services to informal settlements in Dar-es-Salaam.

Investigation of partnership factors was based on the conceptual framework developed in Section 2.6.4 which defined the factors to include; drivers, components and facilitators.

The first part of this section examines the drivers which encouraged partners to work together. This is followed by investigation of components which are feasible activities implemented by partners. Finally, the section explores facilitators which are elements of external and corporate environments to allow partnership to grow and strengthen. A summary of key findings is also presented at the end the section.

Fig 6.10 presents the link between the research questions and indicators in support of the analysis of factors for developing the partnership.

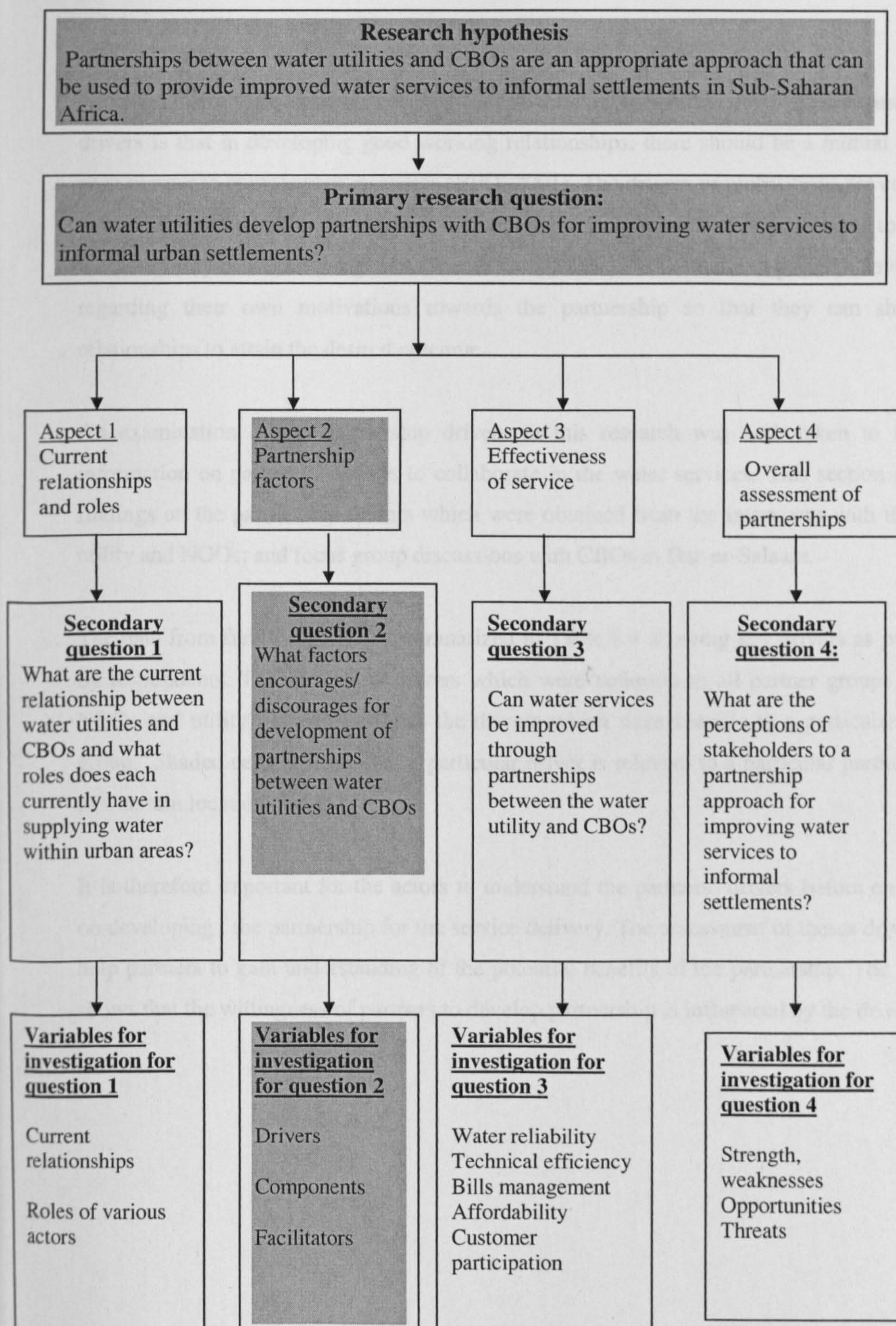


Fig 6.8 Research questions and variables for investigating the partnership factors.

6.3.2 Analysis of partnership drivers

As stated, drivers are elements necessary for developing the partnership. The relevance of the drivers is that in developing good working relationships, there should be a mutual need by each partner to complement resources (BPD, 2001). The drivers or motivations are conscious values and explicit purposes that initially encourage individuals and organizations to explore the possibility of working together (Austin, et al, 2004). It is vital that partners have clarity regarding their own motivations towards the partnership so that they can shape the relationships to attain the desired outcome.

An examination of the partnership drivers in this research was undertaken to find out information on partners’ motives to collaborate in the water services. This section analyses findings on the partnership drivers which were obtained from the interviews with the water utility and NGOs; and focus group discussions with CBOs in Dar-es-Salaam.

The data from field research are summarized in Table 6.4 showing key drivers as perceived by respondents. The data show drivers which were common to all partner groups (CBOs, NGOs and utility). It also indicates the drivers which were specific to a particular partner group. Shaded cells indicate that a particular driver is relevant to a particular partner group in a certain location.

It is therefore important for the actors to understand the partners’ drivers before embarking on developing the partnership for the service delivery. The assessment of theses drivers will help partners to gain understanding of the potential benefits of the partnership. The analysis shows that the willingness of partners to develop partnership is influenced by the drivers.

Table 6.4 Summary of the analysis for partnership drivers in Dar-es-salaam case study

Partnership group	Case study	Improvement of water service	Cost Reduction	Job creation	Addressing security of tenure	Recognition and being valued	Increase the market for water	Improve customer services	Availability of funding	Supporting the organizational vision	Capacity building and learning new approaches	Support advocacy work
CBOs	Keko Mwanga											
	Hanna Nassif											
Water utility	Keko Mwanga											
	Hanna Nassif											
	CWSSP											
NGOs	Keko Mwanga											
	Hanna Nassif											
	CWSSP											
SUMMARY POINTS	TOTAL BLOCKS	8	8	3	2	1	3	3	7	3	6	3

Key:

Shaded cells indicate that a particular driver is relevant to a particular stakeholder group in a certain location
The total blocks shows the number of respondents from various partner group level

	This block describes common drivers which were significant to all partner groups
	This block describes specific drivers which were significant to the water utility
	This block describes common drivers which were significant to CBOs
	This block describes common drivers which were significant to NGOs

Table 6.4 highlights the drivers which were noticed across different actors in the case studies. Based on the analysis, a summary of the partnership drivers for various actors is shown in Fig 6.9. The summary indicates the common drivers which were significant to all partner groups and the drivers which were specific to CBOs, NGOs and the water utility. The CBOs in this context included the water committee at Keko Mwanga B and formally registered CBO at Hanna Nassif.

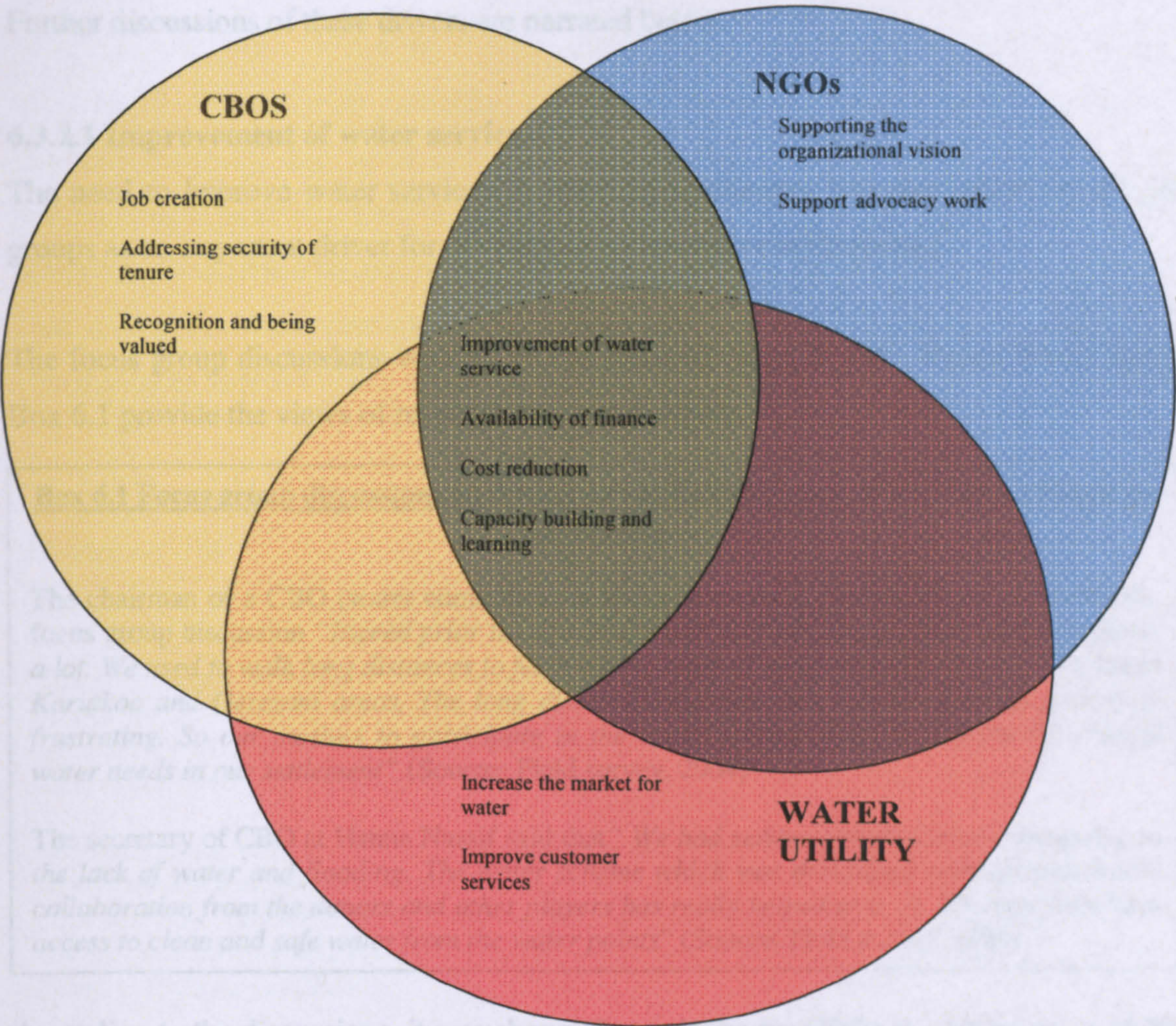


Fig 6.9 Summary of partnership drivers for the urban water services in Dar-es-Salaam.

Details of the partnership drivers as observed by respondents are described below. They include discussion of the drivers which were common to all partner groups and discussions of the drivers which were specific to each partner group member.

The common drivers which were noticed by all actors (water utility, NGOs and CBOs) in order of importance include:

- Improvement of water service,
- Availability of funding,
- Cost reduction.
- Capacity building and learning new approaches.

Further discussions of these drivers are narrated below.

6.3.2.1 Improvement of water services

The need to improve water services in informal settlements was recognized by all partner groups as an important driver for developing collaborative relationships.

The focus group discussions with a CBO at Keko Mwanga B and Hanna Nassif shown in Box 6.1 provide the views of respondents on this aspect.

Box 6.1 Focus group discussions on the drivers at Keko Mwanga B and Hanna Nassif on the drivers

The chairman of a CBO (water committee) at Keko Mwanga B opined his views during the focus group discussion *“Indeed prior to improved water services in our area, women suffered a lot. We used to walk long distances to fetch water, some of them walked as far as 3 – 6 km to Kariakoo and Gerezani areas. The long distances, queuing and threats of crime were very frustrating. So our motives to participate in the water scheme were to address the critical water needs in our settlement”* (Source: Field survey, 2004)

The secretary of CBO at Hanna Nassif said that” *We had serious problem in our areas due to the lack of water and flooding. The water scheme which was developed with assistance and collaboration from the donors and other players has really helped us a lot. We have now have access to clean and safe water from the water points”* (Source: Field survey, 2004)

According to the discussions, it was shown that a desire for CBOs to collaborate with NGOs and the water utility was motivated by critical water needs in their settlements. Respondents in both settlements explained about the scarcity of water and related inconveniences they used to experience prior to improvement of water services. Based on these needs, they considered the participation and collaboration with the water utility and NGOs as a mechanism to improve water services within their settlements.

Similarly, an interview with water utility shown in Box 6.2 reveals the perception of the water utility on the improvement of water services.

Box 6.2 Interviews with water utility on the drivers

According to the operational manager of the water utility Mr. Midala *“As a water utility, we consider improvement of water services as our core responsibility and mandate. Although due to various reasons, the water utility have failed to provide water services to all city dwellers which the NGOs and other players are doing the job on our behalf. As a utility we acknowledge the efforts of these players and have always been available to support their initiatives”* (Source: Field survey, 2004).

According to the interview; the water utility was aware of its role in supplying water to all people in the city. However, due to limited financial capacity, the water utility has experienced difficulties in extending water services to informal settlements. Despite this financial limitation, the water utility has been available to collaborate with other service providers who have resources to improve services to the informal settlements. The Water utility provided technical and managerial support to the CBOs and NGOs. Furthermore the need to improve water services in the city is also backed by the Government water policy which aims to improve water services to all people in the urban areas.

The interview with NGOs shown in Box 6.3 also indicates their responses on improvement of water service.

Box 6.3 Interviews with NGOs on the drivers

The programme Manager of the WaterAid Dar programme, opined in her interview *“The key motive for WaterAid to collaborate with other players in CWSSP was to respond to the core objective of our organization which is to improve water services to all people including the urban poor”* (Source: Field survey, 2004)

The programme Officer of Plan International, opined in her interview *“For the past few years, Plan International had been implementing water schemes in Ilala Municipality. However the pace has been slow covering only few wards. The collaboration of Plan International under the CWSSP was considered as a big leap to help scale up our activities to reach more other areas”*. (Source: Field survey, 2004)

The programme officer of Care International opined in her interview *“Care has supported a number of water schemes in the peripheral villages of the city. The reason for our involvement in the CWSSP was to improve the health status of the people through water improvement.”* (Source: Field survey, 2004)

According to interviews, all three NGOs involved in the research, have a wider experience in the development, including provision of water services within informal settlements. All NGOs indicated that their aim was to achieve coverage and equity of water services. As a result their interventions have emphasized participation of the community in the process to

ensure that interventions benefit all people in the settlement. Hence, their motivation to work with the water utility and CBOs was based on understanding that the process will then ensure equitable improvement of water services to the people.

It can be concluded that improvement of water services in the city was perceived by all actors as an obligation for improving water services. The CBOs were mainly motivated to improve water services to meet a demand; the water utility was motivated to improve the services due to its mandate and responsibility; and NGOs due to their objectives of promoting sustainable and equitably water services in the informal settlements. It was revealed that, although the water utility has a mandate for supplying water in the city, NGOs and CBOs are also involved in water service provision.

6.3.2.2 Availability of finance

According to focus group discussions with the CBOs shown in Box 6.4, financing from donors and NGOs was considered to be a catalyst which motivated them to participate in the partnership activities.

Box 6.4 Focus group discussions at Keko Mwanga B and Hanna Nassif

Findings from a focus group discussion at Keko Mwanga B revealed that: *“The community at Keko Mwanga and us as a water committee were highly motivated to participate due to the agreement and commitment of the donor (WaterAid) to fund our water scheme.”* (Source: Field survey, 2004).

Findings from a focus group discussion with a CBO at Hanna Nassif noted that: *“Due to high poverty level, it was difficulty for majority of us at Hanna Nassif to apply for a private connection. Hence, the funding support from UNDP and ILO was a great motivation to us to participate in the project activities”* (Source: Field survey, 2004).

From the discussions, it was revealed that availability of funds from donors and NGOs was a significant motivation. For instance availability of funds from WaterAid of about Tshs 30,000,000 (US \$ 30,000) for improving water services at Keko Mwanga B was a significant catalyst for the water committee and community to collaborate with water utility, NGOs and other government staff in the project activities. This observation was also noted at Hanna Nassif case study where UNDP/ILO provided US \$ 739,000 for improvement of water and sanitation activities. It was observed that availability of funds to carry out project activities was an essential motivation for communities to participate in the project activities.

Likewise, the interview with the utility shown in Box 6.5 revealed that availability of finance was also a critical factor for enhancing partnership.

Box 6.5 Interviews with water utility on the drivers

According to the operational manager of the water utility: *“For a long period of time, the water utility has not supported expansion of water services to informal settlements due to the lack of finances. However, the water utility has always been available to collaborate and work with the NGOs and donors who have provided finances for improving water services to these areas. Moreover with availability of funds from the World Bank under the CWSSP has also encouraged the water utility to initiate improvement of water services to informal settlements.”*. (Source: Field survey, 2004).

From the interview, it was revealed that although the water utility has a mandate to improve water service to all, it faces financial limitations. Furthermore it was observed that enthusiasm of the water utility to work in partnership was mainly motivated by availability of funds. For instance, availability of funds from the World Bank encouraged the water utility to initiate partnership relationships with NGOs and communities for improving water services to informal settlements.

The importance of availability of funds was also noticed by NGOs. The interviews with Shown in Box 6.6 indicate the link between availability of financing and their motivation to develop a partnership with the water utility.

Box 6.6 Interviews with NGOs on the drivers

The programme Manager of WaterAid Dar programme, opined in her interview *“Availability of finance is a critical factor for the project implementation. Our own finance has always been limited allowing us to support 2 – 3 new water schemes per year. However, with available funding from the World Bank, we have expanded our capacity and cover more areas now”* (Source: Field survey, 2004).

The programme Officer of Plan International, opined in her interview *“Plan international is working in Ilala Municipality. One of the key motivations for us to work with the water utility in the CWSSP was the understanding that funds would be available for the project activities as well for the partnership work”*. (Source: Field survey, 2004).

The interviews reveals that most NGOs were motivated to collaborate with the water utility on the understanding that funds for implementing activities would be available. Although NGOs participating in the CWSSP had their own funding, it was not easy for them to commit their finances in the partnership activities with the water utility. It was until the funds from the World Bank were available, that NGOs were committed in the partnership activities. Availability of funds enabled partners to undertake core activities of implementing projects

as well as undertaking partnership activities including coordination meetings and joint activities.

In summary, availability of funding was considered an important driver by all actors. However, in all the case studies, funds were provided by donors with very little demonstration that partners themselves were willing and committed to contribute financial resources to the partnership arrangement. The implication of this is that some partnership built on the donor funding could be weak and not sustainable, due to donors imposing their own ideas and agenda.

6.3.2.3 Cost reduction

Another driver that was observed by all partner groups is cost reduction to water users, CBOs, NGOs and the water utility. Consideration of costs in the water services always includes the costs for planning, implementation and operation and maintenance. Due to high costs involved, it is difficult for a single water provider alone to provide water services to informal settlements.

Focus group discussions with CBOs shown in Box 6.7 indicate that costs reduction was an essential driver.

Box 6.7 Focus group discussions at Keko Mwanga B and Hanna Nassif on the drivers

According to the focus group discussions at Keko Mwanga B: *“Due to the lack of finance among the majority of households in the settlement, it has not been possible to pay for a private water connection costs. Connection costs ranges from Tshs 100,000 – Tshs 300,000, hence only few households could afford that cost. The funding support from the donors (WaterAid) was a great support to majority of households who could not afford a private connection on their own.”* (Source: Field survey, 2004).

According to focus group discussions with CBO at Hanna Nassif: *“ The costs for installing a water supply system in the settlement was significantly reduced due to a shared responsibilities of various actors. The water utility provided technical support; NGO provided institutional support community provided free unskilled labour. Indeed this collaboration has enabled the partners to reduce the installation costs”* (Source: Field survey, 2004).

According to the focus group discussions, CBOs, perceived cost reduction from two considerations. The consideration includes cost for installing water systems to their settlements. It was found that due to high costs for connecting individual new pipeline

connections; few people have a private water connection. For instance at Keko Mwanga B only 16% of the households population have a private pipe connection. This trend was also noticed at Hanna Nassif where only 18% of the households have private water connections. In this regard, the financial support from NGOs and donors was perceived by CBOs and communities as a cost reduction for improving water services in the settlement.

The second consideration includes the low price of water following the improvement of the water scheme. It was revealed that prior to improvement of the water schemes at both Keko Mwanga B and Hanna Nassif; the average household spending for water was Tshs 9,000 (US \$ 9) per month (based on the price of Tshs 50 (US \$ 0.05) per 20 litre bucket and 6 buckets per day). With an average income of Tshs 30,000 (US \$ 30) per month, spending of water is 30% of the total household budget. However, with improved water services, the average water cost per month is now Tshs 3,600 (US \$ 3.6) (based on the price of Tshs 20 (US \$ 0.02) per 20 litre bucket) which is only 12% of the total budget. Hence, it was found that the improved water schemes sell water at a lower price than other water sources, which implies a reduction of costs per household on the water expenditure.

The water utility in Box 6.8 also noticed cost reduction as a key driver for developing partnership.

Box 6.8 Interview with the water utility on the drivers

According to the Operations Manager of the water utility, " *Improving water services to informal settlements involves significant costs for capital, planning, mobilization of community, installation of pips and operation and maintenance of the water schemes. Hence, the water utility recognizes the role of other players like financiers to provide funds, NGOs to provide community mobilization and the community to provide labour and operation and endeavours to establish relationships wherever possible. Moreover the water utility is now relieved by the CBOs from the day to day operation costs of the water kiosks*". (Field survey, 2004).

According to the water utility, it was noticed that the actual costs for implementing a water scheme to informal settlements varies from location and depends on the distance from the major pipe network. However, observing the costs for installing water schemes at Keko Mwanga B and Hanna Nassif, it was evident that the water utility alone could not afford to provide such funds. Hence efforts provided by these actors were regarded as a cost reduction to the water utility. In addition, it was revealed that due to high operational costs of the kiosks which were initially managed by the water utility, the water utility decided to hand

over some water kiosks to the municipality. These are currently managed by the local government, individuals or CBOs. Indeed, cost reduction was found to be an important driver for the water utility at implementation and operation stages of the water systems.

The aspect of cost reduction was also noted by NGOs. The interviews with NGOs indicated in Box 6.9, reveals their views on cost reduction strategy.

Box 6.9 Interview with the WaterAid, Plan International on the drivers

According to the Programme Officer of WaterAid, "The project costs for implementing our water scheme have been relatively low because of our emphasis on collaboration. The input of municipal engineers and water utility in designing the schemes and community input have significantly reduced the costs of our schemes. Moreover our emphasis on cost recovery to the scheme has helped to provide potential for sustainability" (Field survey, 2004).

According to Programme officer of Plan International "Through the collaboration with other actors including community, municipalities and the water utilities, project costs have been significantly reduced, due to sharing of resources" (Field survey, 2004).

The above interviews reveal that most water schemes which were supported by NGOs had lower costs than other schemes because of the emphasis on collaboration and contribution of various players. Through the involvement of the water utility in designing of water systems and supervision of construction work, NGOs were able to reduce the project costs which could otherwise be obtained from private consultants who are more expensive.

In summary, cost reduction is an important factor which motivates actors to develop collaboration. However, perception on the costs differs from actor to actor. While the CBOs viewed cost reduction in terms of the price of water and connection fees, the water utility viewed cost reduction in the context of implementation and management of the water schemes. While availability of funds from donors was viewed as a mechanism to reduce the implementation cost, engagement with CBOs was relevant in reducing the operation and maintenance costs of the kiosks. The NGOs however, viewed cost reduction strategy as a way to enhance sustainability of the water schemes.

6.3.2.4 Capacity building and learning of new approaches

The need to enhance skills and learning of new approaches was noted by all. The focus group discussions at Hanna Nassif shown in Box 6.10 indicate the importance of capacity building.

Box 6.10 Focus group discussions with CBO at Hanna Nassif on the drivers

According to the focus group discussions: *“We established the CBO with a goal to address environmental problems affecting our settlement. However we had limited capacity and management skills. Our interactions with other agencies including NGOs, City Council and the water utility have enhanced our knowledge of undertaking development activities in our settlement.”* (Field survey, 2004).

According to the focus group discussion, it was revealed that the CBO at Hanna Nassif regarded partnership with various agencies as an opportunity for enhancing knowledge in planning and management of their development activities in the settlement. They revealed that during the course of the project they received training from UCLAS and ILO. Some of the training which was provided as a direct result of the partnership included training on: management; institutional development; community participation; and mobilization techniques. All this training has greatly enhanced the CBO’s capacity to manage the water scheme and other developments activities in its settlement.

The aspect of capacity building and training was as also noted by NGOs. The interview with WaterAid shown in Box 6.11 indicates the importance of training to them.

Box 6.11 Interview with the WaterAid on the drivers

According to the Programme Officer of WaterAid for Keko Mwanga B implementation *“WaterAid had a long experience of implementing water schemes in rural areas. Our urban programmes in Tanzania were based on the independent borehole systems. Hence our intervention at Keko Mwanga B provided a learning opportunity to support communities with a bulk water system from the utility”* (Field Survey, 2004).

From the interview, it was observed that WaterAid had long experience of supporting rural communities, but lacked practical skills and experience in supporting urban communities in managing water systems especially those connected to the water utility’s bulk water systems. Hence, the intervention of water systems at Keko Mwanga B was perceived by WaterAid as an opportunity to enhance skills and approaches for supporting water services to informal settlements as well as establishing a linkage and partnership with water utility. The key

aspects which NGOs have learned during the interactions with the water utility include skills in contract operation and procurements procedures. This observation was also noted by UCLAS at Hanna Nassif settlement. It was noted that UCLAS was motivated to learn how upgrading of informal settlements could be achieved using multi-sector approaches. UCLAS, as an institution of higher education, was also keen to document and share experiences found at Hanna Nassif with a wider audience.

Also, learning new approaches for serving water to informal settlements was recognized by the water utility. The interviews revealed that due to challenges of providing water services to informal settlements, the water utility was keen to develop collaboration with NGOs and other actors. It was found that, although the water utility is responsible to provide water to all, it lacked such skills to serve the informal settlements. Hence by establishing relationships with NGOs, the water utility expected to enhance skills and opportunities for serving the informal settlements.

Capacity building has been recognized as an important driver for developing partnership between various actors. The CBOs viewed capacity building as an opportunity to enhance management skills to their projects, while NGOs and the water utility viewed capacity building as an opportunity to innovate a new methodology for serving informal settlements. There is therefore need for partners to plan adequately and commit resources for capacity building and learning of new approaches.

The above sub-sections described common drivers which were of importance to all partner groups. These drivers are important to all partners as they provide the foundation for partners to establish working relationships. However, these drivers do not describe the institutional identity and characteristics of the partner organizations. The next sub-sections describe the drivers which were specific to individual partner groups as indicated in Table 6.4 and Fig 6.9. These drivers are important as they reveal the critical attributes of the partners. Although these drivers were important to some, in partnership formation there is a need for actors to enhance understanding of all drivers, including these specific drivers.

6.3.2.5 Key specific drivers for the CBOs

Table 6.5 indicates drivers which were specific to CBOs. These are:

- Job creation
- Addressing security of tenure
- Recognition and being valued

These drivers were not identified by the water utility or NGOs.

Table 6.5 Summary of specific drivers for CBOs

No	Partnership driver	Description of the findings
1	Job creation	The focus group discussions with the CBOs at Keko Mwanga and Hanna Nassif revealed that job creation was an important driver for them to develop relationships. Experience in Dar-es-Salaam shows that the water business provides potential opportunity for jobs and income. Currently both schemes offer opportunity to more than 30 women who operate the water kiosks. Related to this are management skills obtained from training which has helped individuals to initiate various small projects which provide income and livelihood.
2	Addressing security of tenure	Findings from the field research at Keko Mwanga B and Hanna Nassif settlements revealed that communities were motivated to collaborate with other actors with expectations that their settlements would be regularized and have security of tenure. Neither settlements has no security of tenure.
3	Recognition and being valued	The focus group discussions showed that some CBOs were motivated to establish relationships with the water utility with expectations that their role would be recognized and valued. It was revealed that recognition could include a statement which recognizes their role as service providers in the city, rather than the current status where they are not officially recognized.

The above mentioned drivers are important to the CBOs because they affect their livelihoods and social status. It is important for the actors who wish to work with CBOs to consider these drivers.

6.3.2.6 Key specific drivers for the water utility

Table 6.6 shows key drivers which were specific to the water utility. These include: increase the market for water; and improve customer services.

These drivers were not identified by the NGOs or CBOs.

Table 6.6 Summary of the key partnership drivers for the water utility

No	Partnership driver	Description of the findings
1	Increase the market for water	An interview with the water utility showed that the need to expand the water market was a critical aspect which encouraged them to develop partnership with NGOs and the community. Currently informal settlements are occupied by a large un-served population indicating the future potential markets.
2	Improve customer services	The water utility was also motivated to develop collaboration with the community in order to enhance customer services for water delivery in the settlements. Key aspects of customer services include enhancing effective information which could be used for effective planning and ensuring an appropriate billing system for the water services.

These drivers are important to the water utility because they are related to the business components of the water utility. Being a private company, the water utility is motivated by profit making and customer services factors, which mean that, these drivers are perceived positively by the water utility.

6.3.2.7 Key specific drivers for the NGOs

Table 6.7 reveals drivers which were specific to the NGOs. These include:

- Supporting the organizational vision and
- Supporting advocacy work.

These drivers were not identified by either the water utility or CBOs. Realization of these drivers to NGOs shows the specific values of these motives to the wider objectives of the organizations.

Table 6.7 Summary of the key partnership drivers for NGOs

No	Partnership driver	Description of the findings
1	Supporting the organizational vision	The interview with NGOs showed that most NGOs were motivated to partner with the water utility because they considered the initiatives to be in line with their organizational vision and values. By achieving the partnership objectives, the NGOs were also achieving their own organizational agenda of reaching the poor.
2	Supporting advocacy work	Findings from the field showed that most NGOs have an advocacy component within their programmes. Hence, partnership with the water utility was considered to be an opportunity for NGOs to learn new skills and best approaches which could be documented and shared in a wider forum.

These drivers are important to NGOs because they form part of the objectives and operations of NGOs. It is necessary for other partners, when considering working with NGOs, to evaluate how these drivers could be achieved as well.

The next section discusses the partnership components which are activities for partnership.

6.3.3 Analysis of partnership components

The previous section discussed the drivers for developing partnership between the water utility and CBOs. This section discusses partnership components. As stated in chapter 2, partnership components are activities and processes that are established for effective operation of partnership. Components include joint activities undertaken by partners. They are considered to be the key factors for the development of successful partnership. The components were investigated at different partner levels, including those of the CBOs, NGO and water utility.

The investigation was guided by the research question:

What are the partnership components which could be employed in the development of partnership for improving water services to informal settlements?

An examination of the partnership components in the case studies was undertaken to find out key components for developing partnership and relationships with actors. Data from field are summarized in Table 6.8 below which reveals the components which were significant to all partners, as well as those components which were specific to a particular partner. Shaded cells indicate that a particular component is relevant to a particular stakeholder in a certain location. The need for partners to be aware of the components is necessary as it will help them to prioritize their time, resources and focus of their relationships

Table 6.8 Summaries of partnership components for Dar-es-salaam case studies

Partnership Level		Effective communication	Trust and transparency	Joint planning of activities	Commitment of all actors	The use of contracts	Sharing of resources
Community Based Organisations (CBOs)	Keko Mwanga						
	Hanna Nassif						
Water utility	Keko Mwanga						
	Hanna Nassif						
	CWSSP						
NGOs	Keko Mwanga						
	Hanna Nassif						
	CWSSP						
SUMMARY POINTS	TOTAL BLOCKS	9	5	8	8	4	8

Key

Shaded cells indicate that a particular component is relevant to a particular stakeholder group in a certain location

	This block describes common drivers which were significant to all partner groups
	This block describes common drivers which were significant to the water utility
	This block describes common drivers which were significant to CBOs
	This block describes common drivers which were significant to NGOs

Table 6.8 highlights common and specific partnership components. The common components which were observed in the case studies, in order of importance are:

- Effective communication
- Commitment of all actors
- Joint planning of activities
- Sharing of resources

These were the most significant components observed by all partners indicated by the total number of shaded cells. Details of these components are discussed below.

6.3.3.1 Effective communication

Effective communication was considered by all partners to be the most important components for developing relationships. Communication was viewed by actors as the heart of the institutionalization process. Communication in this context means a mechanism through which information from one actor or source is conveyed to another actor.

The focus group discussions with CBOs shown in Box 6.12 revealed the importance of communication in development of water schemes.

Box 6.12 Focus group discussions at Keko Mwanga and Hanna Nassif on the components

According to the water committee of Keko Mwanga B: *“During implementation of the scheme, we had interactions with all important actors through meetings. For the very first time we were encouraged to hold meetings with DAWASA staff, WaterAid and Temeke Municipal to plan the activities together. Moreover, whenever there was a need, the chairman of the water committee was free to contact partners’ organizations DAWASA and WaterAid and obtain support”* (Field survey, 2004)

According to the CBO leaders at Hanna Nassif *“The channel for communication which was used during implementation was joint meetings between the CBO and other players. The meetings were useful in clarifying plans, progress and addressing the problem faced. Furthermore, the CBO leaders were free to contact other actors involved”*. (Field survey, 2004).

According to focus group discussions, common communication channels which were used are meetings, face to face contacts and telephone communication. The purposes of the meetings were to develop plans of activities, discussion of problems and developing joint solutions. In addition, CBOs were free to communicate with other agencies wherever need arises. However, the major challenge noted at both schemes was the lack of feedback to the communities on issues discussed during the meetings. This was revealed during household

interview when respondents were asked if they had attended any meeting to receive feedback regarding their water services for the past year. Data for Keko Mwanga B shows that 35% of respondents had not attended any meetings and were not aware of any progress of the water scheme. Similarly, at Hanna Nassif settlement, 39% of respondents had not attended any community meetings, and were not aware of how the water scheme is being managed.

The importance of communication between actors was also noted by the water utility. Findings from the interview with water utility in Box 6.13 shows that success of the Hanna Nassif water scheme was made possible because of the effective communication between the community, NGO and the water utility.

Box 6.13 An interview with the water utility supervising engineer for Hanna Nassif on the components

According to the interview with a DAWASA engineer. He opined that “Various players were involved in the implementation of the water scheme at Hanna Nassif. They include the water utility, UCLAS, other consultancies and the community CBO. In order to ensure smooth implementation, sharing of information was important which was done through site meetings and planning meetings at the settlement. Although this was done, the community were some how slow to respond to their tasks, which was somehow frustrating”. (Field notes, 2004).

From the interview, planning of project activities was conducted in the meetings involving all key stakeholders. In addition, site meetings were regularly conducted which enhanced communication of the project activities. Moreover, face to face communication was also encouraged for the key individuals responsible for day to day follow ups of activities. Other types of communication channel which were noted by the water utility are quarterly meetings, telephone and email contacts and sharing of information through progress reports. One issue on communication was the failure of the some officials to attend various meetings. This challenge coupled with lack of feedback contributed to delays in implementation activities.

The NGOs also viewed communication as a necessary aspect of partnership. According to the interviews with NGOs shown in Box 6.14, communication among partners was necessary to achieve clarity on the roles and responsibilities for various activities.

Box 6.14 Interviews with NGOs for Keko Mwanga B and Hanna Nassif settlements on the components

According to the WaterAid programme officer for Keko Mwanga B: *“Various communication strategies were developed at Keko Mwanga B, which include joint planning meetings with all key actors involved and development of joint activities between the actors. These strategies were useful to enhance understanding of partners’ potentials and responsibilities”* (Field survey, 2004).

According to the UCLAS programme manager: *“The success of the Hanna Nassif water scheme was achieved mainly due to effective communication which was established between the actors involved. UCLAS as an implementing agency was responsible for facilitating meetings and information sharing between actors”* (Field survey, 2004).

From the interviews, it was revealed that communication was critical for achieving success. It helped to open up understandings of partners’ interests and aspirations. It was also found that NGOs played an important role in facilitating meetings and developing communication strategies among partners involved in the above case studies.

Effective communication has been recognized as a necessary component for enhancing relationships for the water services. There is therefore need for the actors to support development of various communication strategies.

6.3.3.2 Commitment

Another component which was noted by all partners is commitment. Here commitment means a belief by an exchange partner that an on-going relationship with another partner is so important as to warrant maximum efforts to maintain it (Morgan and Hunt, 1994). The key indicators for commitment which were examined are: time spent by partners in project activities, and provision of resources by partners in terms of finances, skills and labour.

The focus group discussion with CBOs at Keko Mwanga B and Hanna Nassif in Box 6. 15 revealed various levels of commitment.

Box 6.15 Focus group discussions at Keko Mwanga and Hanna Nassif on the components

According to the leaders of water committee of Keko Mwanga B *“ In our settlement the community was committed to various project activities. The water committee committed time to meet weekly to plan the activities. Moreover, the community contributed funds and labour during construction work. About Tshs 800,000 was contributed by the community as parts of a cash contribution to the project, and in terms of labour, an average of 20 people were available for 3 months to provide labour for the scheme”*. (Field survey 2004)

According to the leaders of CBO at Hanna Nassif: *“success of our water scheme was achieved due to the commitment of few individuals who were ready to volunteer their time and resources for the betterment of the society. However, the challenge noted was on the low commitment and participation of the rest of the community in the project activities”* (Field survey, 2004).

According to the focus group discussions, the water committee at Keko Mwanga B considered commitment to the project activities in terms of time spent in planning for the project activities and resources contributed by the community. The water committee held numerous meetings during preparation and planning stages which required significant commitment of time. Attending to these obligations required a high level of commitment by the water committee and community, especially in the urban context where time is a scarce commodity. A further indication of commitment was shown by community contributions in contributing cash and labour.

Similarly, commitment was also observed at Hanna Nassif settlement. The community was committed to provide finances and labour. However, in the urban context, it was difficult to achieve commitment from the whole community as it lacked homogeneity. As a result, activities were implemented by few individuals who were ready to volunteer their time and resources. For instance, although Hanna Nassif settlement has 20,000 people, only 800 people participated in the project activities.

The NGOs also felt the importance of commitment. According to the interviews with NGOs indicated in Box 6.16, commitment was perceived and demonstrated by NGOs.

Box 6.16 Interviews with NGOs at Keko Mwanga B and Hanna Nassif on the components

According to the Programme Officer of WaterAid for Keko Mwanga B he opined that *“The level of commitment of the organization to the activities was very high. WaterAid provided all financial resources for hardware and software. In addition, commitment of WaterAid staff also included staff time in supporting the partnership process”*. (Field survey, 2004).

According to the Programme Manager of UCLAS: *“The commitment of UCLAS at Hanna Nassif was noted by our full time presence at the settlement. We established a small operational office which enabled us to work with communities and other agencies and provide our support wherever it was required.”* (Field survey, 2004).

It was realized that commitment for NGOs was related to provision of resources, skills and expertise in the community development work. For instance, at Keko Mwanga B, WaterAid committed financial resources to the tune of Tshs 30,000,000 million (US \$ 30,000) for both hardware and software inputs. Moreover, the commitment also involved time allocated for the coordination and facilitation process of the project activities. However, the challenge noted by WaterAid was on low commitment of part of the community to carry out their responsibilities in terms of time for the project activities. This significantly affected the

budgets and financial cash flow. Similarly at Hanna Nassif, UCLAS was also committed to fulfilling its role as an implementing agency. It was observed that UCLAS was committed in supporting planning, implementation activities and various capacity building programmes to the project. Moreover, UCLAS provided key staff who were permanently located at the settlement to work hand in hand with the communities.

The water utility also noted the importance of commitment for developing partnership. This was reflected in the interviews shown in Box 6.17

Box 6.17 An interview with the water utility Keko Mwanga B water scheme on the components

According to the water utility operational engineer: *“During the time of implementation of the water schemes, the water utility had no financial resources, hence the level of commitment by the water utility to the water schemes at Keko Mwanga B and Hanna Nassif was in the provision of staff, expertise and standards”* (Field survey, 2004).

According to interviews, the commitment of the water utility was evident by providing staff who were involved in technical survey, design and supervision work. About 5 technical staff from the water utility were committed to the project activities at Keko Mwanga B. However undertaking community water management was a new approach for the water utility and this provided an opportunity for them to learn. Initially the water utility faced challenges on how to work with the community because of delays. However, through commitment and effective communication, the staff were able to cope with the work.

Based on the field results, it can be concluded that commitment of actors is an important component for achieving successful partnership relationships. The key indicators for commitment which were noted include, time and resources. Actors provided different resources to ensure that activities are done. Hence, it is necessary to monitor and regulate the level of commitments provided by various partners.

6.3.3.3 Joint planning of activities

Joint planning of activities was observed by all partners. Focus group discussion with CBOs shown in Box 6.18, reveal their experience on the joint plans.

Box 6.18 Focus group discussion at Keko Mwanga B and Hanna Nassif settlements on the components.

According to the water committee at Keko Mwanga B: *“Soon after conducting the community mapping, we were involved in the stakeholders meeting where a joint plan for the project implementation was developed. The plans were the basis for implementation of activities.”* (Field survey, 2004)

According to the CBO at Hanna Nassif: *“Our CBO was involved in the activities from the very beginning. This involved us in the development of planning, reviews and evaluation of our water schemes”* (Field survey, 2004).

According to the focus group discussions, it was revealed that joint planning between the NGOs and water utility was a necessary factor which enabled actors to be aware of their roles and responsibilities. The joint plans indicated time, resources and responsible actors to be involved in the activities. This engagement was acknowledged by communities as it provided opportunities for them to understand the process and the dynamics of the implementation process.

The importance of joint planning was also noted by NGOs. Most NGOs have experience of working with local partners and have experience in collaborative planning. According to the interviews with NGOs shown in Box 6.19, NGOs noted the critical importance of joint planning in the water services.

Box 6.19 Interviews with WaterAid and UCLAS on the components.

According to the Programme Officer of WaterAid for Keko Mwanga B: *“The joint planning of activities was quite useful. From the plans it was easy to realise actors, time and resources required. The plans involved the water utility, community (water committee), Municipality and NGOs.”* (Field survey, 2004)

According to the Programme Manager of UCLAS for Hanna Nassif: *“Planning of activities was developed by all actors. These were important during implementation and were also later referred during monitoring and evaluation of activities. These were developed in collaboration with all actors”* (Field survey, 2004).

In both case studies, NGOs were responsible for coordinating the development of plans. At Keko Mwanga B, joint plans were also used for monitoring the progress of activities. However, implementation of activities faced some challenges which led to delays on the project activities. For example at Keko Mwanga B, community slowness in providing labour and finance to the project activities was considered to be a major reason for the delay in project activities.

Also, the interviews with water utility shown in Box 6.20 noted that joint planning of activities with both NGO and the community was important for effective implementation of activities.

Box 6.20 An interviews with Water Utility on the components.

According to the Coordinator of CWSSP: "Major activities which have allowed the water utility and NGOs to collaborate together is through development of planning and implementation procedures. We have forums where partners meet to plan, review and evaluate our activities. This process helped a lot to build our relationships" (Field survey, 2005).

According to interview, joint meetings between water utility and NGOs within CWSSP were scheduled quarterly for partners to review project activities and develop future plans. The water utility coordinated these meetings which were useful in setting the right direction of the projects. The key outputs which were developed as a result of joint plans are: identification of CWSSP subprojects; appraisal of sub projects; set-up agreements with community; constructing schedule of the water systems; operation and maintenance schedule of the systems; and monitoring performance of the system.

From the discussion, joint planning was viewed by all partners as an important component. Apart from ensuring that roles and responsibilities are clear, joint plans were also useful for monitoring the progress of activities. However, the challenge noted was how to ensure that the plans are actually translated into actions. Therefore, there is a need for the partners to develop realistic plans and use those plans to monitor the activities.

6.3.3.4 Sharing of resources

Another component which was perceived by all actors is sharing of resources. The focus group discussion with CBOs at Keko Mwanga B and Hanna Nassif settlements Box 6.21 indicates aspects of resources committed.

Box 6.21 Focus group discussions at Keko Mwanga and a CBO at Hanna Nassif on the components

According to the leaders of water committee of Keko Mwanga B *“Resources which were provided by the community at Keko Mwanga B includes, human resources for the water committee to coordinate activities, free labour during construction, capital contributions and moreover contribution of time. In addition the individuals also provided land where the kiosks have been constructed”*. (Field survey 2004).

According to the leaders of a CBO at Hanna Nassif: *“The key resources which were provided by the community at Hanna Nassif include, a locally based CBO as a local institution, financial contribution, and locally based expertise was used for the implementation of the scheme. Moreover the CBO is involved in the management of the scheme which is a resource to the project”* (Field survey, 2004).

The focus group discussion at Keko Mwanga B indicated the resources which were contributed by the community as: cash and human resources. The cash contribution by the community was Tshs 1,000,000 (US \$ 1,000), and community provided labour for digging trenches for pipe network and construction of tanks. Moreover, the water committee is currently involved in the management operation and maintenance of the water scheme. However, one challenge on sharing of resources which was noted during the implementation was the delay within the communities to provide labour and cash for the project activities. As a result, a few enthusiastic members of the community made contributions on behalf of the whole community.

Similarly the CBO at Hanna Nassif settlement also indicated aspects of sharing of resources through community contribution and labour. Cash contribution at Hanna Nassif by the community was Tshs 550,000 (US \$ 550). In addition, community provided labour for construction work.

One aspect of sharing resources which was viewed differently Keko Mwanga B and Hanna Nassif settlements was on land for construction of water kiosks. While at Keko Mwanga B land acquisition was provided freely by household owners, at Hanna Nassif owners were not willing to provide the land freely, until an arrangement was established for a CBO to pay a monthly percentage (30%) of the total income of water to the owners of the land. This shows how land as a resource was more critical at Hanna Nassif than at Keko Mwanga B.

The importance of sharing of resources was also examined by NGOs. According to interviews with NGOs shown in Box 6.22, resource sharing was necessary component for enhancing relationships.

Box 6.22 Interview with WaterAid and Care International Organizations on the components

According to the WaterAid Programme officer *“Various resources were provided by WaterAid in the implementation of various water schemes. In particular, in the CWSSP, WaterAid provided staff, finance, skills and knowledge (expertise) of how to work with informal settlements. Financial contribution was determined by the time and staff salary spent by the staff”*. (Field survey 2004).

According to Care International officer: *“The key resource which is provided by Care International is experience of interaction with informal settlements. Care is a development organization which supports wider development agendas with a livelihood dimension. Our holistic approach of interventions has helped to address development in the wider perspective”* (Field survey, 2004).

From the interviews, it was found that NGOs provided significant resources to various water projects. This includes provision of staff, finance, and various technical skills. The potential of NGOs was also observed by the water utility in the CWSSP, where selection was based on the capacity and resources of the NGO. Moreover, an interview with WaterAid revealed that skills and knowledge on community management were necessary resources to the project. Similarly, an interview with Care International showed that the NGO provided additional skills on how to integrate water issues in the wider development agendas and the livelihood aspects.

The water utility also observed sharing of resources as an important component. The interviews indicate various resources which were provided by the water utility. They include: technical expertise in survey, design and supervision; and wider knowledge in the water service delivery and management expertise. Moreover, in the CWSSP the water utility played a coordination role for finances and activities.

From the discussion, sharing of resources was viewed by actors as an important component for developing partnership. Resources provided include: finances, human, skills, expertise and natural resources. It was observed that all actors provided resources on the different stages of the project implementation. However, coordination of resource allocation is necessary to ensure that all partners are committed in the sharing of resources.

The above sub-sections described components which were perceived by all actors for developing partnership. However, Table 6.8 reveals other components which were significant to a particular partner group. These are discussed below.

6.3.3.5 Trust and transparency

The importance of trust and transparency was noticed by the CBOs and NGOs. Trust is defined as a “feeling resulting from a belief that the other party is reliable and has a high level of integrity” (Anderson and Narus 1990). Also Morgan and Hunt (1994) refer to trust as “the willingness to rely on an exchange partner in whom one has confidence”. These authors conceptualize trust as something that exists when one party has confidence in the partner’s reliability, openness and integrity.

According to the focus group discussions with a water committee at Keko Mwanga shown in B Box 6.23, transparency of information from various actors was an important factor which led to building of trust.

Box 6.23 Focus group discussion at Keko Mwanga B on the components

According to the leaders of the water committee: *“Initially, we thought the current water scheme was just a mere story like the previous promises. Hence it was difficult to trust the promises. However, after continuously being involved and given much more transparency of information and budgets we started to build up trust”*. (Field survey, 2004)

According to the focus group discussions it was shown that, false promises of improving water services to the settlement which were previously given by the governments and water utilities, it made hard to trust them. However, the transparency and openness in the current project was very important in raising the level of trust among the communities and water committees. Indeed, trust among the communities is linked to how transparent and open agencies are in their activities.

Similarly, NGOs also noted the importance of trust in developing smooth working relationships with water utility. It was observed that NGOs had a negative perception of the water utility’s priority to informal settlements. The lack of involvement of NGOs in the privatization (PSP) debate for the urban water service, created a gap and suspicion among NGOs which affected their level of trust to the water utility. It was not until the water utility

started to share their plans and activities that NGOs and the CBOs started to build trust to collaborate effectively in the project activities e.g. CWSSP. The importance of trust and transparency in this case was more revealed by the NGOs and CBOs.

6.3.3.6 The use of contracts

The relationship between exchanges partners can be stabilized either through formal or informal contract mechanisms. A formal contract is a mechanism which clearly specifies the required degree of cooperation and conformity through the use of an official written document or agreement. On the other hand informal contracts are defined as unwritten agreements between partners which are enforced not by authority and power but rather by the desire to create and maintain a positive reputation and fairness (Frankel et al, 1996).

According to the interviews with the water utility shown in Box 6.24, it was found that the water utility was in favour of the formal contracts.

Box 6.24 Interviews with water utility on the components.

According to the interview with the Coordinator of CWSSP of the water utility on the partnerships components: *“As a water utility, we are used to documentation and paper work for all our agreements. This enabled players to have a fair playing field where roles are clarified. Under the CWSSP, contracts between the water utility and NGOs were developed which have been the basis for our cooperation. Moreover, implementation manuals which describe in detail the operation of the project as well as functions of the players were developed”* (Field survey, 2004).

The interviews found that the water utility considered partnership in a broader sense to include the long term interests in the relationship which if not properly documented, may have negative effects on the relationships. They noted that a written contract is useful: to ensure that contributions and sharing of resources from actors are properly documented; in making follow up of the commitment provided by actors; to ensure continuity of agreements in case of staff changes; and establishment of best practice for control purposes.

In this regard the water utility was more concerned in developing formal contracts with formal partners who have formal status. For instance the CWSSP involved contractual relationships between the water utility and larger NGOs which mostly had an international reputation. These were considered to be more knowledgeable on contract arrangements than smaller water providers of which the majority were informal. Moreover, the water utility

observed that for certain specific activities, the water utility has developed specific contracts with CBOs. Examples of such activities include functions like provision of labour for a tank construction or managing water kiosks.

On the other hand, NGOs and CBOs had a different perspective regarding the use of contracts. While the NGOs noted the importance of contracts in setting an effective framework for enhancing relationships, they also suggested that flexibility should be considered by water utilities in developing relationships to allow both formal and informal contracts. NGOs noticed that the use of informal mechanisms such as implicit social contracts could also be useful. They noticed that informal contracts could serve as a substitute for formal contracts when trust and commitment are exhibited.

The next section discusses findings on the partnership facilitators.

6.3.4 Analysis of partnership facilitators

The previous sections discussed partnership drivers and components which are necessary for developing partnership. This section presents analysis of partnership facilitators. As stated in chapter 2, facilitators are elements of the corporate environment which allow a partnership to grow and become strengthened. Partnership facilitators were investigated for the different partner levels including CBOs, NGOs and the water utility level.

The investigation was guided by the research question which stated: **What are the partnership facilitators which could support the development of partnership for improving water services to informal settlements?**

Data about facilitators are summarized in Table 6.9 below showing key facilitators which were noticed by respondents. Shaded cells indicate that a particular facilitator is relevant to a particular stakeholder group in a certain location. The need to gain understanding of facilitators is important for the partners.

Table 6.9 Summary of the analysis for partnership facilitators in Dar-es-salaam case study

Partnership Level	Case study	Supportive policy frameworks	Monitoring and Evaluations	Availability of Intermediary organizations	Size of partners
Community Based Organisations(CBOs)	Keko Mwanga				
	Hanna Nassif				
Water utility	Keko Mwanga				
	Hanna Nassif				
	CWSSP				
NGOs	Keko Mwanga				
	Hanna Nassif				
	CWSSP				
SUMMARY POINTS	TOTAL BLOCKS	8	7	7	5

Key

Shaded cells indicate that a particular facilitator is relevant to a particular stakeholder group in a certain location

	This block describes common facilitators which were significant to all partner groups
	This block describes common facilitators which were significant to water utility
	This block describes common drivers which were significant to NGOs

Based on the above analysis indicated in Table 6.9, the key partnership facilitators which were observed are:-

- Supportive policy frameworks
- Availability of intermediary organizations
- Numerical size and operation scale of partners
- Monitoring and evaluation

Details of these components are discussed below.

6.3.4.1 Supportive Policy Frameworks

Adequate policies and strategies were perceived by actors to be important facilitators encouraging development of partnership relationships. All partner groups recognized that without supportive policies it is difficult for the partners to work together. Key policies which supported partnership and provision of water services to informal settlements were examined. These include the: water policy, local government policy, and objective individual NGOs and objectives.

The Tanzania National Water policy recognizes that, for long there has been a failure to provide water services to low income groups thereby denying them an aspect of social development. Hence, the policy has suggested the need to (MOWLD, 2002)

- Establish criteria for defining the low income groups.
- Promote the use of appropriate and cost effective solutions to the provision of water supply in the relevant areas.
- Encourage NGOs and CBOs in financing, developing, and managing water supply services in low income areas.

According to the water policy, informal settlements are currently being recognized as legitimate customers who need to be considered for water services. Moreover other actors like NGOs and CBOs are also recognized as key players in the water service delivery.

Furthermore the current local government policy in Tanzania shows that over recent years there has been an emphasis on reforming the operation of local governments

with an aim of: establishing broad based community awareness; increasing effectiveness of local authorities in delivering quality service in a sustainable manner; and increasing availability of resources; and improving efficient usage. In essence, the local government reform programme is based on devolution of resources and authority, and increases opportunities for local stakeholders (local councils, NGOs, private sector and private sector) to become fully and accountably involved in local development. The reform is based on the premise that sustainable development can only take place through coordinated efforts of all those stakeholders (Local government policy, 2000). Indeed, the current trend in local government is to encourage local partnership and multi-sector cooperation for service delivery.

Moreover, the NGOs involved in the case studies had policies which support collaboration. For instance according to the interviews with Care International programme staff, It was shown that “*The principle of the Care International Organization is to work in partnership with others to maximize the impact of work; building alliances and partnership with those who undertake similar complementary approaches*”. This shows that the organization has policies grounded on the partnership agenda. This view was also noted by WaterAid Programme Manager who noted that: “*The mission of the WaterAid Organization is to seek to work through partner organizations which usually include: local NGOs; local government departments, and sometimes private companies*”. Based on this mission, WaterAid has endeavoured to develop partnership and relationships with various actors for improving water services.

Indeed, from the policy analysis, it shows that supportive policies which encourage implementation of water services to informal settlements do exists in Tanzania. Moreover the policies also encourage collaboration of multi-sector partners in urban services. Despite of this, the challenge which remains is how to translate these policies into actions or how to turn the implementation of partnership into reality.

6.3.4.2 Availability of intermediary organizations

The role of intermediary organizations was noted by all partners as playing a critical function for partnership development. Intermediaries are organizations or individual actors mediating between different functional levels or different actors. Interviews with the water utility shown in Box 6.25 noted the critical importance of intermediary organizations for partnership development.

Box 6.25 Interview with Water Utility staff on partnership facilitators

According to the water utility staff, *“NGOs played a very important coordination role in bringing the values of smaller water providers and communities to a larger water utility group. That’s why the CWSSP project was designed in order to maximize the potentials of NGOs in the facilitation process”*. (Field survey, 2004).

According to the water utility, the gap between the water utility and CBOs necessitates the need to have intermediary organizations which could facilitate the development of relationships.

Furthermore, NGOs also noted the importance of the intermediary in developing relationships. An interview with UCLAS in Box 6.26 noted their input at the Hanna Nassif water scheme.

Box 6.26 Interview with UCLAS (NGO) on the intermediary role

According to the UCLAS Programme officer, *“Existence of a local implementing agency (UCLAS) was necessary in coordinating activities at the community level. Indeed, UCLAS appointed a permanent staff who worked with on a daily basis with the settlement to co-ordinate project activities, monitoring the quality and workmanship of the technical works, supporting the communities in developing community contracts and implementation procedures of the work”* (Field Survey, 2004).

The interviews shows that due to the vast experience of NGOs in working with both CBOs and formal public sector; NGOs are better placed to provide an intermediary role. The role of intermediary organizations is important to realize the values and potentials of both formal and informal water providers. The water utilities are formal institutions with solid operational mechanisms while most CBOs are informal using flexible operations. Hence developing partnership between the water utility and CBOs requires the support of intermediary organizations.

The CBOs and communities also noted the critical importance of NGOs. At Keko Mwanga B, it was observed that the role of WaterAid as coordinator and facilitator of the project activities was critical in enhancing the relationships of all partners involved.

6.3.4.4 Monitoring and Evaluation

Indeed, the role of NGOs as intermediary between the water utility and CBOs was recognized. However, it was found that this requires NGOs to enhance their skills and knowledge to play an intermediation role.

collection and analysis of information to track the project implementation (Bank, 2003). According to the interviews with NGOs, monitoring is essential for the

6.3.4.3 Numerical size and operation scale of partners

partnership is adding value to what was already happening, instead, monitoring and

The difference in numerical size and operation scale between the water utility and CBOs was noted to be a factor affecting partnership relationships. According to interviews with the water utility shown in Box 6.27, strong partnership can be achieved when actors have similar characteristics in terms of values and working cultures.

Box 6.27 Interview with the water utility (DAWASA) on the facilitators

According to the coordinator of CWSSP on the aspect of size “*Development of partnerships between the water utility and CBOs needs to be considered carefully. This is due to the difference in numerical size and operation scale between the actors involved. Most CBOs have no formal structure and lack legal recognition, hence are subjected to conflicts and mismanagement. However, with support from intermediary NGOs and local governments, some CBOs are doing well*” (Field Survey, 2004)

However, the reports point to develop indicators which will be used as a tool for

It was revealed that characteristics between water utility and CBOs differ in terms of number of staff, financial capacity, volume of operations and implementation procedures. As a result, the water utility suggested that development of partnership with CBOs is better achieved when there is the presence of an active intermediary, which could be either an NGO or a strong umbrella association of CBOs. These intermediaries are assumed to reflect features of large size similar to the water utility.

This section has analyzed the partnership between water utility and CBOs.

On the other hand, NGOs did not perceive difference in numerical size and operation scale as a major hindrance for developing partnership. According to the WaterAid Programme Officer: “*For long, WaterAid has worked with small local communities to develop water systems. This has involved building mutual relationships with local*

partners and communities”. However, it was revealed that in developing partnership with CBOs, greater flexibility is required to balance the difference in the numerical size and operation scale and capability between organizations.

6.3.4.4 Monitoring and Evaluation

The need for partners to monitor and evaluate partnership activities was noted by NGOs and the water utility. Monitoring and evaluation is a regular, systematic collection and analysis of information to track the project implementation (World Bank, 2005). According to the interviews with NGOs, monitoring is essential for the partners in reviewing their expectations of the drivers, and observing whether the partnership is adding value to what was already happening. Indeed, monitoring and evaluation can help partners to modify direction of the partnership and resources required to support the activities. The key monitoring and evaluation arrangements which were put in place at Keko Mwanga B and Hanna Nassif settlements were regular meetings and reviews where all key stakeholders were involved.

Likewise, the water utility also noted monitoring and evaluation as opportunities for partners to assess partnership objectives. For instance, partnership arrangements within the CWSSP used quarterly meetings to review both the progress of activities and relationships. In addition, there are future plans to conduct an evaluation of the project. Indeed, monitoring and evaluation of the partnership is very important. However, this requires partners to develop indicators which will be used as a tool for measurement. Monitoring and evaluation enables partners to review the drivers and whether the partnership is adding value.

6.3.5 Summary of the partnership factors

This section has analyzed the partnership factors which encourage development of partnership between the water utility and CBOs. Table 6.10 provides the summary of the partnership factors which were observed by respondents during the field work in Dar-es-Salaam.

Table 6.10 Summary of partnership factors for Dar-es-Salaam case studies.

Partner/ Factors	Water Utility	NGOs	CBOs
Drivers	Improvement of water services Availability of finance Cost reduction Capacity building and learning		
	Increase the market for water Improve customer services	Supporting the organization vision Supporting advocacy	Job creation Addressing security of tenure Recognition and being valued.
Components	Effective communication Joint planning of activities Commitment of all actors Sharing of resources		
	The use of contracts	Trust and transparency	Trust and transparency
Facilitators	Supportive policy frameworks Availability of intermediaries Availability of funds		
	Numerical size and operation scale of partners	Numerical size and operation scale of partners	
	Monitoring and Evaluations	Monitoring and Evaluations	

Key

	This block describes common driver/component/ facilitator which were significant to all partner groups
	This block describes driver/component/ facilitator which were significant to water utility
	This block describes driver/component/ facilitator drivers which were significant to NGOs
	This block describes driver/component/ facilitator drivers which were significant to CBOs

Table 6.10 above indicates perceptions of the water utility, NGOs and CBOs on the partnership drivers, components and facilitators. Based on analysis of the partnership factors, the following key issues can be concluded:

- All partner groups have shown certain drivers which are common to all. These drivers include improvement of water services, availability of finance, cost reduction and capacity building and learning. It was revealed that these drivers suggest the general requirements for developing partnership.

- However, it was also observed that each partner group has specific drivers which were relevant to their organizational need, context and local circumstances. The partners were more passionate and motivated to achieve these drivers. It was found that sustainability of the partnership depends on whether an individual partner is achieving its own specific motives. Hence, it is necessary for agencies who promote partnerships to enhance understanding of these two aspects of drivers (common and specific drivers).
- The key components relevant to all partner groups examined in the study are: effective communication; joint planning of activities; commitment by actors; and sharing of resources. These components provide basic activities for developing partnerships and were regarded as the key to success for partnership development.
- Each individual partner noted other additional components which were relevant to their organizational style of operation. For instance, due to the experience of managing business relationships, the water utility supported the use of formal contracts for enhancing relationships. On the other hand, the CBOs and NGOs considered trust and transparency as the key components or enhancing relationships.
- The key facilitators which were revealed in the case study include: supportive policies and availability of intermediaries. Existence of these facilitators was essential for strengthening the partnership development. Moreover, both the NGOs and the water utility noted the importance of monitoring and evaluation. Through monitoring and evaluation, it is possible to identify mistakes and develop strategies for addressing them.

6.4 EFFECTIVENESS OF WATER SERVICES

6.4.1 Introduction

The previous section discussed factors that affect the development of partnerships between water utility and CBOs for improving water services to informal settlements. From discussions, various drivers, components and external facilitators were examined. This section compares effectiveness of water services between the partnership and non-partnership water schemes. By effectiveness it means a “measure through which the extent of service provision is achieved” (Erlendson, 2002). The purpose of this section is to determine whether there is significant difference in water service characteristics between the partnership and non-partnership water services. This section helps to answer subsidiary question 3 of this research which is stated as:

“Can water services be improved through partnerships between the water utility and CBOs?”

Household surveys were conducted using questionnaires in the two case studies areas in order to examine the effectiveness of water services. The CBOs at Keko Mwanga B and Hanna Nassif settlements were considered as partnership schemes because their implementation involved collaboration of actors. Non-partnership water services include the direct utility water services, and the household resellers’ water service within the same settlements.

The questionnaire that was used is contained in Appendix 3. The survey was conducted in 180 households which were chosen randomly. The data obtained from households were analyzed using SPSS version 12.

Fig 6.15 below shows the research hypothesis, questions and the variables which were used to analyze the effectiveness of water services.

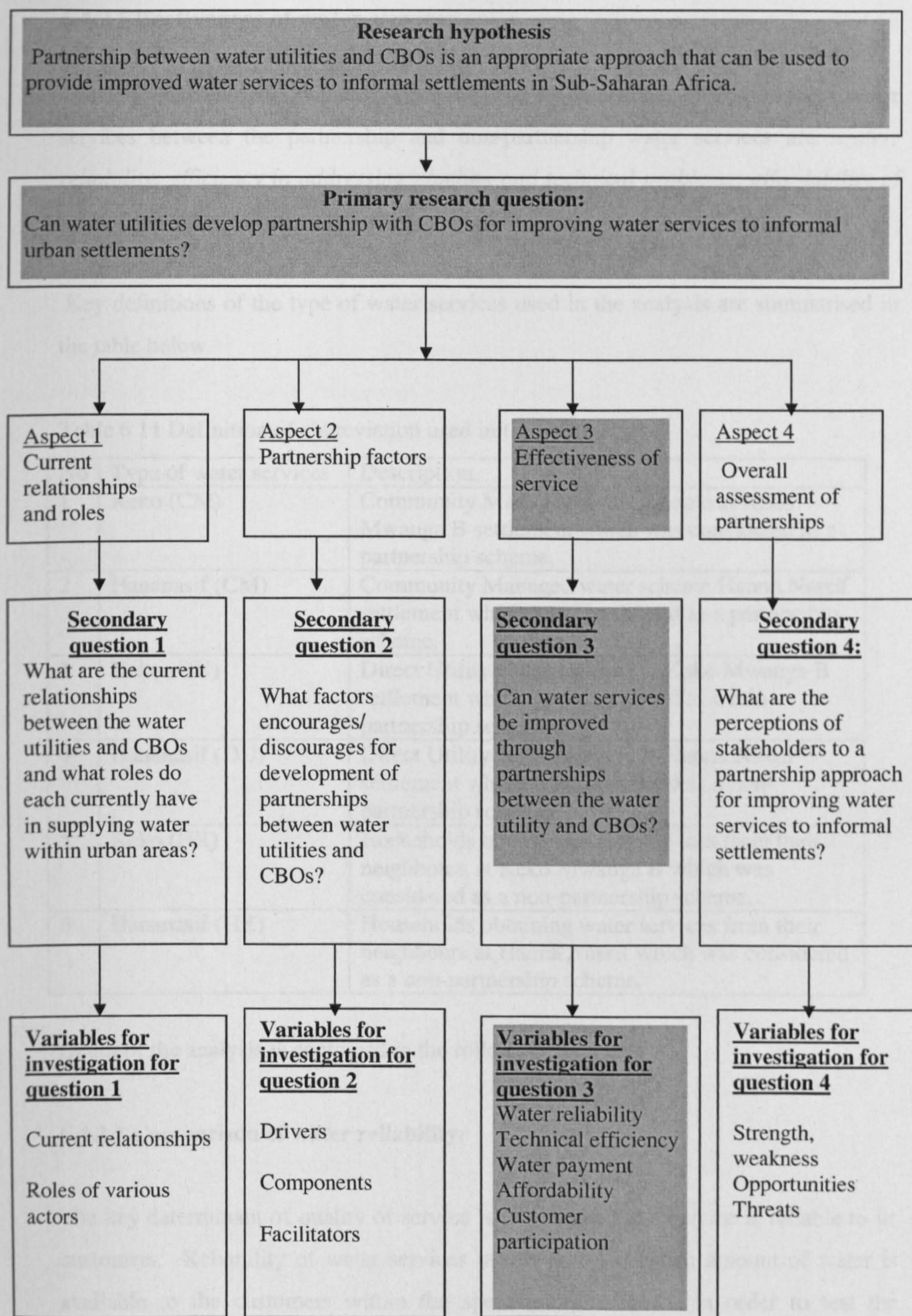


Fig 6.10 Research hypothesis, questions and variables for investigating the effectiveness of water services.

6.4.2 Effectiveness of water services

The key characteristics which were compared to determine effectiveness of water services between the partnership and non-partnership water services are: *water; reliability; efficiency in addressing pipeline and technical problems; affordability of service; water payment; customer participation.*

Key definitions of the type of water services used in the analysis are summarised in the table below.

Table 6.11 Definition of abbreviation used in the analysis

No	Type of water services	Description
1	Keko (CM)	Community Managed water scheme at Keko Mwanga B settlement which was considered as a partnership scheme.
2	Hananasif (CM)	Community Managed water scheme Hanna Nassif settlement which was considered as a partnership scheme.
3	Keko (DU)	Direct Utility water services at Keko Mwanga B settlement which was considered as a non-partnership scheme.
4	Hananasif (DU)	Direct Utility water services at Hanna Nassif settlement which was considered as a non-partnership scheme.
5	Keko (HR)	Households obtaining water services from their neighbours at Keko Mwanga B which was considered as a non-partnership scheme.
6	Hananasif (HR)	Households obtaining water services from their neighbours at Hanna Nassif which was considered as a non-partnership scheme.

Detail of the analysis is contained in the following sections.

6.4.2.1 Comparison of water reliability:

The key determinant of quality of service is how reliable the service is reliable to its customers. Reliability of water services means that a constant amount of water is available to the customers within the specified time limits. In order to test the difference in the level of reliability between the partnership and non-partnership types of service, and between partnership A and partnership B water services, the following

sub-hypothesis was tested. An explanation of hypothesis testing, the t-test method and associated terms can be found in Appendix 9.

Null hypothesis 1: There is no significant difference in the reliability of water services between the partnership water schemes and non-partnership water services.

H1: There is a significant difference in the reliability of water services between the partnership and non-partnership water services.

And

Null hypothesis 2: There is no significant difference in the reliability of water services between partnership A and partnership B water schemes.

H2: There is a significant difference in the reliability of water services between the partnership A and partnership B water schemes.

As a proxy of reliability, the households were asked, “How reliable are the water services in your household? Respondents were given choices as shown in the table below

Table: 6.12 Reliability of water services between various levels of services

Satisfaction levels		Street						Total
		Keko (CM)	Hananasif (CM)	Keko (DU)	Hananasif (DU)	Keko (HR)	Hananasif (HR)	
Very dissatisfied	Count	0	1	3	10	0	0	14
	% within Street	0	3.3	10.0	33.3	.0	.0	7.6
Fairly dissatisfied	Count	14	7	12	10	11	12	67
	% within Street	46.7	23.3	40.0	33.3	36.7	38.7	36.2
undecided	Count	0	0	1	2	0	0	3
	% within Street	.0	.0	3.3	6.7	.0	.0	1.6
Fairly satisfied	Count	13	19	14	8	18	16	88
	% within Street	43.3	63.3	46.7	26.7	60.0	51.6	47.6
Very satisfied	Count	3	3	0	0	1	3	13
	% within Street	10.0	10.0	.0	.0	3.3	9.7	7
	Total	30	30	30	30	30	31	181
	% within Street	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The results in Table 6.12 show a mixed feeling from respondents on reliability of water services. The data show that 55% of the total respondents were satisfied with

reliability of services. 45% of respondents were dissatisfied with the level of services. Hence, in order to ascertain the significance of household's perception of water reliability, a significance level of 0.05 was determined. Table 6.13 shows a comparison of water reliability at the household using the t-test. The null hypothesis can therefore be rejected at a significance level of $p < 0.05$ or accepted if $p > 0.05$

Table 6. 13 t-test of on water reliability as perceived by customers

Comparison of water reliability at the household	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Keko (CM) and Keko (DU)	0.072	1.017	0.313	Yes
Keko (CM) and Keko (HR)	2.839	-0.48	0.636	Yes
Keko (CM) and Hananasif (CM)	2.887	-1.28	0.206	yes
Keko (CM) and Hananasif (HR)	0.553	-0.54	0.591	Yes
Keko (CM) and Hananasif (DU)	0.295	2.967	0.05	Yes

Table 6.13 shows that all customer segments who are being provided by partnership and non-partnership water services, have indicated a $p > 0.05$ which means that we accept the null hypothesis 1 and 2 that there is no difference in the reliability of water services between the partnership and non-partnership schemes. This shows that the perceptions of households on reliability of water services were the same for all customer segment groups. This fact is also confirmed by the reality that water rationing is practised in Dar-es-Salaam for all clusters of customers hence the perceptions of reliability are reflected in all customers. Despite this the community water schemes have installed storage tanks to augment the supply.

6.4.2.2 Comparison of efficiency in addressing pipeline & technical problems

Efficiency in the context of this research is defined as systems and practices that are put in place to ensure that services are delivered with fewest constraints and bureaucracy. Hence, efficiency of the water service providers to address pipeline and technical problems was examined. In order to determine the perception between the customers who is being served water by partnership and non-partnership approach, the following hypothesis was tested:

Null hypothesis 1: There is no significant difference in the efficiency to address pipeline and technical problems between the partnership and non-partnership water service delivery.

H1: There is a significant difference in the efficiency to address pipeline and technical problems between the partnership and non-partnership water service delivery.

And

Null hypothesis 2: There is no significant difference in the efficiency to address pipeline and technical problems between partnership A and partnership B water schemes.

H2: There is a significant difference in the efficiency to address pipeline and technical problems between partnership A and partnership B water schemes.

Table 6.14 Efficiency of addressing pipeline and technical problems at water points

Satisfaction levels		Street						Total
		Keko (CM)	Hananasif (CM)	Keko (DU)	Hananasif (DU)	Keko (HR)	Hananasif (HR)	
Very dissatisfied	Count	0	1	2	9	6	0	18
	% within Street	.0	3.3	6.9	30.0	20.0	.0	9.8
Fairly dissatisfied	Count	11	5	18	13	15	3	68
	% within Street	36.7	16.7	62.1	43.3	50.0	9.7	37.0
undecided	Count	4	2	2	2	1	3	14
	% within Street	13.3	6.7	6.9	6.7	3.3	9.7	7.6
Fairly satisfied	Count	13	19	7	6	6	21	72
	% within Street	43.3	63.3	24.1	20.0	20.0	38.2	39.1
Very satisfied	Count	2	3	0	0	2	4	12
	% within Street	6.7	10.0	.0	.0	6.7	12.9	6.5
Total	Count	30	30	29	30	30	31	180
	% within Street	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6.14 shows the findings on efficiency to address the pipeline and technical problems. The rating used was satisfaction of the customers on how maintenance and repairs of their pipelines were being conducted by the service providers. The rating was from “very satisfied” to “very dissatisfied”. The customers who are being served by partnership approaches at Keko Mwanga B and Hanna Nassif settlement indicated a higher rating of satisfaction, shown by 50% and 73% respectively. A marked difference however, was noted within the non-partnership approaches. The ratings for non-partnership on efficiency to address pipeline and technical problems were between 20% - 40%. In order to determine the statistical significance of the results a statistical t-test was performed.

A question was posed as “*Are you satisfied by your service provider on the efficiency to address the pipeline and technical problems at your water points?*”

Table 6. 15. t-test of on the efficiency addressing pipeline and technical problems

Comparison of Efficiency of solving technical problems	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Keko (CM) and Keko (DU)	1.262	2.778	0.0032	No
Keko (CM) and Keko (HR)	0.265	2.626	0.011	No
Keko (CM) and Hananasif (CM)	1.223	-1.52	0.133	Yes
Keko (CM) and Hananasif (HR)	10.664	-2.74	0.008	No
Keko (CM) and Hananasif (DU)	0.394	3.781	0	No

From Table 6.15, customers who are served by the partnership scheme indicated a $p > 0.05$, which means we accept the null hypothesis 2 that there is no difference between the partnership water scheme at Keko Mwanga and the partnership water scheme at Hanna Nassif. On the other hand, the customers who are provided with non-partnership services have indicated a $p < 0.05$ implying that we reject the null hypothesis 1 and agree that there is a significant difference between the partnership and non-partnership water services on the efficiency of addressing the pipeline and technical problems. This result shows that the partnership water schemes are viewed to be more efficient in addressing pipeline and technical problems than non-partnership schemes. This finding confirms the facts gathered during the interviews with the water utility staff which indicated that the challenge faced by the water utility was due to shortage of staff, transport and equipment; for these reason it has been difficult for water utility to address all leakage and technical problems in various settlements in the city. These factors affect the capacity of the water utility to address leakages and maintenance of pipes.

6.4.2.3 Comparison of affordability of water services provided to the customers

The term affordability is used in various ways. In this context affordability is regarded as the ability of households to pay for water where such payments do not impose undue economic hardships on low-income households in the service areas. Affordability of water services was investigated between the different customer segments. The aim was to find out the perception of the households on the costs of water provided by different service providers. The following hypothesis was tested.

Null hypothesis 1: There is no significant difference in the level of affordability of water services between the partnership and non-partnership water service delivery.

H1: There is a significant difference in the level of affordability of water services between the partnership and non-partnership water service deliver.

And

Null hypothesis 2: There is no significant difference in the level of affordability of water services between partnerships A water schemes and partnership B water services.

H2: There is a significant difference in the level of affordability of water services between partnerships A water schemes and partnership B water service.

Table 6.16 summarizes the perception of customers on affordability of water services. From the results, the customers who are being served with the partnership approach perceived the costs of water to be more affordable than other customers. The customers at Keko (CM) and Hananasif (CM) have shown fairly satisfied rates of 63% and 53% respectively. While the customers at Keko (DU), Hananasif (DU), Keko (HR) and Hananasif (HR) have indicated satisfaction rates of 23%, 30%, 23% and 29% respectively.

Table 6.16 Perception of customers on the affordability of water service

Satisfaction levels		Street						Total
		Keko CM	Hananasif (CM)	Keko (DU)	Hananasif (DU)	Keko (HR)	Hananasif (HR)	
Very dissatisfied	Count	0	1	3	9	0	13	26
	% within Street	.0	3.3	10.0	30.0	.0	41.9	14.1
Fairly dissatisfied	Count	5	5	14	10	11	6	51
	% within Street	16.7	16.7	46.7	33.3	36.7	19.4	27.6
undecided	Count	6	8	6	2	12	3	37
	% within Street	20.0	26.7	20.0	6.7	40.0	9.7	20.0
Fairly satisfied	Count	16	12	7	8	7	7	57
	% within Street	53.3	40.0	23.3	26.7	23.3	22.6	30.8
Very satisfied	Count	3	4	0	1	0	2	14
	% within Street	10.0	13.3	.0	3.3	.0	6.5	7.6
Total	Count	30	30	30	30	30	31	181
	% within Street	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In order to determine the statistical significance of the results a statistical t-test was performed. The question was posed as “How is the affordability of water services provided at the water point/ household?

Table 6.17 Affordability of water services perceived by the customers

Comparison of affordability of service	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Keko (CM) and Keko (DU)	0.6	4.141	0	No
Keko (CM) and Keko (HR)	0.9	3.231	0.002	No
Keko (CM) and Hannasif (CM)	0.858	0.532	0.532	Yes
Keko (CM) and Hannasif (HR)	11.701	4.117	0	No
Keko (CM) and Hannasif (DU)	6.551	4.09	0	No

Table 6.17 below shows a comparison of affordability of water services as perceived by customers. The results shows that customers who are served by the partnership scheme have indicated a $p>0.05$, i.e. $p>0.532$ which means we accept the null hypothesis 2 that there is no significance difference between the two customer groups at Keko (CM) and Hannasif (CM) as these customers are being served by the same partnership approach. On the other hand, customers who are provided with non-partnership and those with partnership services indicated a $p<0.05$ implying that we reject the null hypothesis 1 and agree that there is a significant difference between them on the affordability of the customers on the water services.

As previously indicated, most community managed water schemes were implemented with support from donors, hence the water tariff in these schemes is low, covering only operation and maintenance. On the other hand, the investment costs to install the water systems and the cost for water from the household resellers and direct utility services were slightly higher for the services provided. This indicates that the partnership schemes were perceived by the community to be affordable. This is however the results of subsidy provided from the donor.

6.4.2.4 Comparison of Water Payments

Bill management and complaint procedures were investigated between the different customer segments. The aim was to find out how households perceived the bill

management and complaining procedures. In order to test the bill management the following hypothesis was tested:

Null hypothesis: There is no significant difference in how water payment is handled between the partnership and non-partnership water service delivery.

H1: There is a significant difference in how water payment is handled between the partnership and non-partnership water service delivery.

And

Null hypothesis 2: There is no significant difference in how water payment is handled between partnership A and partnership B water schemes.

H2: There is a significant difference in how water payment is handled between partnership A and partnership B water schemes.

Table 6.18 above summarizes the perceptions of customers on the water payment. From the results, customers who are being served by the partnership approach were more satisfied by how the water payments are handled. It shows that customers at Keko (CM) and Hannasif (CM) have a fairly satisfaction rates of 70% and 50% respectively. In contrast non- partnerships customers of Keko (DU), Hannasif (DU), Keko (HR) and Hananasif (HR) have indicated satisfaction rates of 26%, 10%, 17% and 42% respectively.

Table 6.18 Perception of customers on the water payments

Satisfaction levels		Street						Total
		Keko CM	Hananasif (CM)	Keko (DU)	Hananasif (DU)	Keko (HR)	Hananasif (HR)	
Very dissatisfied	Count	1	1	2	8	1	5	18
	% within Street	3.3	3.4	6.7	26.	3.3	16.1	9.8
Fairly dissatisfied	Count	5	7	17	16	13	12	70
	% within Street	16.7	24.1	56.7	53.3	43.3	38.7	38.0
undecided	Count	3	6	3	3	11	1	27
	% within Street	10.0	20.7	10.0	10.0	36.7	3.2	14.7
Fairly satisfied	Count	12	11	8	3	5	13	55
	% within Street	40.0	37.9	26.7	10.0	16.7	41.9	29.9
Very satisfied	Count	9	4	0	0	0	0	13
	% within Street	30.0	13.3	.0	.0	.0	.0	7.6
Total	Count	30	29	30	30	30	31	180
	% within Street	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In order to determine the statistical significance of the results a statistical t-test was performed. The question posed was as “*How is your satisfaction level on water payment procedures for your water services to your households?*”.

Table 6.19 below shows water payment procedures as perceived by the customers between the partnership and non- partnership scheme. . The null hypothesis can therefore rejected at a significance level of $p<0.05$ or accepted if $p>0.05$

Table 6.19 t-test on water payment as perceived by the customers

Comparison of water payments procedures	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Keko (CM) and Keko (DU)	0.258	4.33	0	No
Keko (CM) and Keko (HR)	2.727	4.259	0	No
Keko (CM) and Hananasif (CM)	0.16	1.422	0.16	Yes
Keko (CM) and Hananasif (HR)	1.483	3.506	0.001	No
Keko (CM) and Hananasif (DU)	3.832	6.476	0	No

The analysis shows that customers who are served by the partnership scheme have indicated a $p>0.05$ i.e. $p> 0.16$ which means that we accept the null hypothesis 2 that there is no significant difference between the two customer group at Keko(CM) and Hananasif (CM) as these customers are being served by the same partnership approach. On the other hand, the customers who are provided with non-partnership and those with partnerships services have indicated a $p<0.05$ implying that we reject the null hypothesis 1 and agree that there is a significant difference between them water payment procedures are perceived by customers.

The findings indicate that the households, who were billed on a regular basis i.e. buying daily at the water points, were more satisfied than the households who receive the bills from the utility. Discussions with households who are billed by the water utility indicated unfairness of the billing arrangements as sometimes households receive bills without being supplied with water. Moreover bills are always late.

6.4.2.5 Perception of Customer Participation in the scheme

Customer participation in various water services groups was investigated between different customer segments. The aim was to find out the perception of the household

on their participation in the decision making for their water scheme. The following hypothesis was tested:

Null hypothesis: There is no significant difference in the degree customer participation in the decision making for the water scheme between the partnership and non-partnership water service delivery.

H1: There is a significant difference in the degree customer participation in the decision making for the water scheme between the partnership and non-partnership water service delivery.

And

Null hypothesis 2: There is no significant difference in the degree of customer participation between partnership A and partnership B water schemes.

H2: There is a significant difference in the degree of customer participation between partnership A and partnership B water schemes.

Table 6.20 above summarizes perception of respondents on customer participation in the water services. From the results customers who are being served by the partnership approach showed more satisfaction in customer participation in the decision making process. Respondents of Keko (CM) and Hananasif (CM) showed satisfaction rates of 66.6 % and 70% respectively. Unlike respondents of customers at Keko (DU), Hannasif (DU), Keko (HR) and Hannasif (HR) who indicated satisfaction rates of 53.3%, 40%, 51% and 51.6% respectively.

Table 6.20 Perception of customer participation on the water services

Satisfaction levels		Street						Total
		Keko CM	Hananasif (CM)	Keko (DU)	Hananasif (DU)	Keko (HR)	Hananasif (HR)	
Very dissatisfied	Count	1	6	6	14	6	0	35
	% within Street	13.	6.7	.0	0.0	0.0	.0	18.9
Fairly dissatisfied	Count	19	15	22	16	20	16	108
	% within Street	3.3	10.0	.0	0.0	6.7	19.4	58.4
undecided	Count	6	3	2	0	2	9	22
	% within Street	20.0	10.0	6.7	.0	6.7	29.0	11.9
Fairly satisfied	Count	0	4	0	0	2	6	14
	% within Street	63.3	50.0	33.3	13.3	16.7	51.6	7.6
Very satisfied	Count	4	2	0	0	0	0	6
	% within Street	3.3	20.0	20.0	47.7	20.0	.0	3.2
Total	Count	30	30	30	30	30	31	181
	% within Street	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In order to determine the statistical significance of the results a statistical t-test was performed and results indicated in Table 6.21

Table 6.21 t-test on customer’s participation in the service provision

Comparison of customer participation in the service provision	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Keko (CM) and Keko (DU)	11.61	3.231	0.002	No
Keko (CM) and Keko (HR)	6.386	2.379	0.021	No
Keko (CM) and Hananasif (CM)	0.267	0.694	0.491	Yes
Keko (CM) and Hananasif (HR)	0.875	3.506	0.001	No
Keko (CM) and Hananasif (DU)	6.981	4.77	0	No

The findings indicated in Table 6.21 show that customers who are served by the partnership schemes have indicated a $p>0.05$, i.e. $p> 0.4.91$ which means that we accept the null hypothesis that there is no significance difference between the two customer groups at Keko (CM) and Hananasif (CM) as these customers are being served by the same partnership approach. On the other hand, customers who are provided with non-partnership and those with partnership services indicated a $p<0.05$ implying that we reject the null hypothesis and agree that there is a significant difference on how customer participation in the decision making in the water scheme.

The fact that community managed water schemes have some form of community participation, means that the households were involved in a certain level of participation. On the other hand, findings show that those supplied directly from the utility and household resellers are not involved by the water utility in the activities hence the level of understanding on participation in the services is limited.

6.4.3 Summary of Effectiveness of Services

- Reliability of water services was found to be a major problem resulting into water rationing in all settlements.
- Partnerships schemes were found to be more efficient to address pipeline and technical problems than non partnerships due to shared responsibility of all actors.
- The cost of water from the partnership schemes were found to be affordable than non partnership due to collaboration of various actors including NGOs, donors, governments and CBOs.

- Water payment procedures indicate that household under the partnership arrangement were happier with regular and smaller payments paid at the water points than those households who receive monthly bills.
- Customers who are served with partnership were more informed on the water services than customers who are served with non partnerships.

- **CHOs:** The commitment is that CHOs are involved in service delivery in informal settlements. These are important stakeholders in the partnership arrangement.
- **NGOs:** Various NGOs have initiated and supported water services in informal settlements. They are critical in the partnership process.
- **Water utilities:** These are the main responsible institutions with a mandate to provide water services to all customers in cities.
- **Municipal and Government officials:** These are responsible with legal authority, law and policy making organs, monitoring and regulatory functions. Hence their roles are critical for partnerships.

6.5 OVERALL ASSESSMENT OF THE PARTNERSHIP

6.5.1 Introduction

The previous section 6.4 analyzed the comparison of water services characteristics between the partnership and non-partnership water schemes. This section discusses an overall assessment of the partnership. It analyse stakeholders' perceptions towards the use of partnership approach for improving water services to informal settlements. Perception could mean observation and sensitivity but, as used in this context, it refers to insight and awareness that could influence the development of partnerships between the water utility and CBOs. A Stakeholder is someone who has a stake in an organization or a programme. They include people who staff a programme; people who are affected by a programme; people who contribute to a programme in other ways; and people with vested interests in the programme. The key stakeholders identified by the literature review as critical to improvement of water services to informal settlements were:

- CBOs: The current trend is that CBOs are involved in service delivery to informal settlements. These are important stakeholders in the partnership arrangement.
- NGOs: Various NGOs have initiated and supported water schemes to informal settlements. They are critical in the partnership process.
- Water utilities: These are the main responsible institutions with a mandate to provide water services to all customers in cities.
- Municipal and Government officials: These are responsible with legal authority, law and policy making organs, monitoring and regulatory functions. Hence their roles are critical for partnerships.

Fig 6.16 below shows the questions and area of investigation of the research

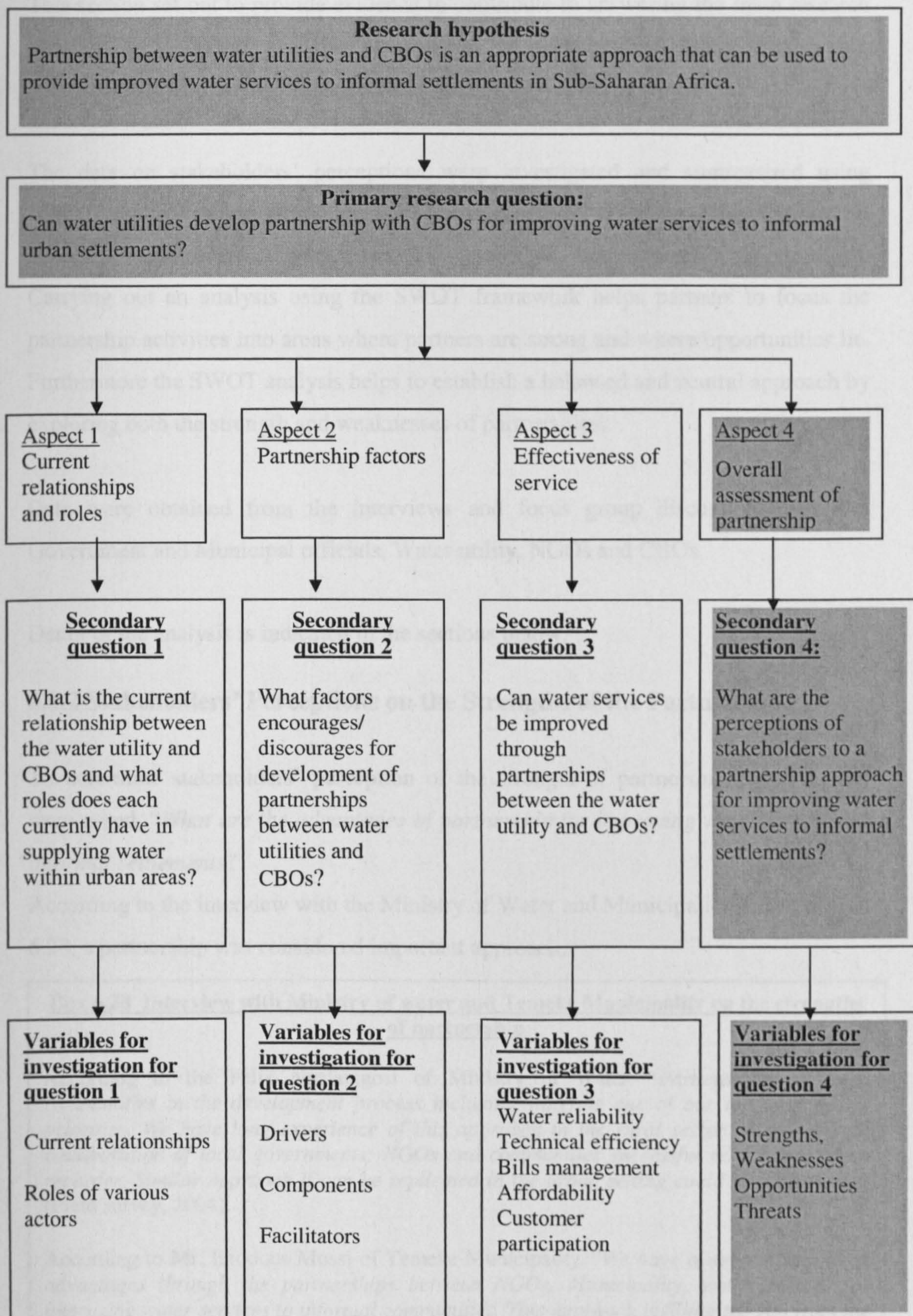


Fig 6.11 Research questions, indicators and variables for stakeholders' perception

This section set out to provide evidence to contribute to answering the main research question as: **What are the perceptions of stakeholders on a partnership approach for improving water services to informal settlements?**

The data on stakeholders’ perceptions were investigated and summarized using SWOT analysis where respondents were required to offer their perceptions on strengths, weaknesses, opportunities and threats of the partnership development. Carrying out an analysis using the SWOT framework helps partners to focus the partnership activities into areas where partners are strong and where opportunities lie. Furthermore the SWOT analysis helps to establish a balanced and neutral approach by exploring both the strength and weaknesses of partnerships.

Data were obtained from the interviews and focus group discussions with the Government and Municipal officials, Water utility, NGOs and CBOs.

Detail of the analysis is indicated in the sections below.

6.5.2 Stakeholders’ Perceptions on the Strengths of the Partnership

To determine stakeholders’ perception of the strength of partnerships, respondents were asked, *“What are the advantages of partnership for improving water services to informal settlements?”*

According to the interview with the Ministry of Water and Municipality shown in Box 6.28, a partnership was considered important approach.

Box 6.28 Interview with Ministry of water and Temeke Municipality on the strengths of partnership

According to the Felix Ngalamgosi of Ministry of Water *“Participation of local communities in the development process including water is one of our top most policy priorities. We have long experience of this approach in the rural sector where through collaboration of local governments; NGOs and communities successful results have been recorder. Similar approach if can be replicated in the urban setting could also be useful”* (Field survey, 2004).

According to Mr. Exodous Mossi of Temeke Municipality *“We have observed significant advantages through the partnerships between NGOs, Municipality, water utilities for improving water services to informal communities. This approach is filling the gap from the roles of the local government and water utility through sharing of resources and should be supported”*. (Field survey, 2004).

According to the interview, the government and municipality perceive partnerships as a viable approach to be used for improving water services to informal settlements. Moreover, they consider it to be one of their top priorities in terms of policy. Through sharing of resources it is possible to create a win-win situation where all actors involved could benefit.

Similarly an interview with the water utility shown in Box 6.29 reveals the strength of partnership.

Box 6.29 Interview with Water utility (Dawasco) on the strength of partnership

According to the operational manager of Dawasco *“The water utility has changed its image. We are now required us to respond more on customers services and social responsibilities. By developing partnerships and good working relationships with NGOs, CBOs and communities we hope to achieve our targets”* (Field survey, 2004).

According to the interview, the water utility who has the mandate to provide water services to all customers perceives partnership as an opportunity to complement resources with other actors for improving water services. Moreover the initiative is also viewed as an opportunity to respond to customer services.

Likewise, the interview with NGOs shown in Box 6.30 revealed that partnerships have significant strength.

Box 6.30 Interview with WaterAid and Plan International on the strength of partnership

According to the Programme Manager of WaterAid *“The partnership approach has potential to influence, the water utility and government to be more accountable. Through such accountability, it is possible to design and implement equitable water services to all people.”*(Field survey, 2004).

According to Programme Officer of Plan International *“Partnership has significant strength for empowering the community in the managing sustainable water schemes, hence should be promoted”*. (Field survey, 2004).

The NGOs perceives the partnership approach as a mechanism to enhance proper governance and accountability to its people. Moreover through community participation it is possible to design and implement sustainable water schemes to informal settlements.

Finally, the focus group discussions with CBOs at Keko Mwanga B and Hanna Nassif also noticed the strength of partnership.

Box 6.31 Interview with CBOs at Keko Mwanga B and Hanna Nassif on the strength of partnership

According to the focus group discussions with Keko Mwanga B *“Partnerships with WaterAid and DAWASA has helped the community to implement a sustainable water scheme. We hope through this approach we can initiate other similar project.”*(Field survey, 2004).

According to the focus group discussions with a CBO at Hanna Nassif *“We have achieved our dreams of having improved water services. This also has helped to reduce the cost of water we used to buy. Hence the approach has a positive implication to our livelihood ”.* (Field survey, 2004).

According to the focus group discussions, The CBOs noted partnership as an opportunity to improve water services in their settlements. Moreover, they considered partnerships as an opportunity to enhance their economic base.

Key points on the perception of the strengths of partnership.

- Partnership provides opportunities to improve the level of water services through complementary scarce resources.
- Partners provides opportunities for learning of new skills
- Partnership could enhance governance and accountability of actors involved in the service delivery.
- Partnership has potential for enhancing operation and maintenance of water schemes.
- Partnership offer opportunities for a win-win situation in which all stakeholders do benefit.

6.5.3 Stakeholders' Perceptions on the Weaknesses of the Partnership

To determine stakeholders' perceptions on the weaknesses of partnerships, respondents were asked, *“What are the challenges/ barriers which need to be observed during the partnership development?”* Data were obtained from the

interviews and focus group discussions with the Government and Municipal officials, Water utility, NGOs and CBOs. Details of these are discussed below.

According to the interviews, the government and municipality were aware that although partnerships are good, they also have some challenges. Box 6.31 provides the view of respondents on this aspect.

Box 6.32 Interview with Ministry of water and Temeke Municipality on the weaknesses of partnership

According to the Felix Ngalamgosi of Ministry of Water *“On our own opinion, we feel that partnerships requires huge commitments in terms of time and human resources. The government has noticed and will try within our capacity to provide such support”* (Field survey, 2004).

According to Mr. Exodous Mossi of Temeke Municipality *“One handicap which faces partnerships development is time to attend frequent meetings. While this is good for partnership development, it requires commitment of all partners. Moreover partner”*. (Field survey, 2004).

From the interviews, it was revealed that working in partnerships can be labour and time intensive. It can involve frequent meetings to discuss the project and progress with the result that participants can feel that they are managing a process of working together rather than getting the job done.

Similarly an interview with water utility shown in Box 6.32 reveals the weakness of partnerships.

Box 6.33 Interview with Water utility (Dawasco) on the weaknesses of partnership

According to the operational manager of Dawasco *“The key barriers for water utility to develop partnerships is the lack of time to initiate those process and financial back up. Moreover there is a problem of the informality of CBOs which makes difficulty to recognise them and establish relationships. ”* (Field survey, 2004).

According to the interview, the water utility noted three barriers which to them was critical. These are time necessary to develop relationships and feasible plans, finances to support the relationships and to fund the projects; and finally the informality nature of most CBOs. They argue that although community management huge potential in planning and mobilisation of community, it has limitations during operation and management. However there are few successful CBOs which manage kiosks and most of these are supported by NGOs and donors.

Likewise, the interview with NGOs shown in Box 6.33 revealed the barriers on partnership.

Box 6.34 Interview with WaterAid and Plan International on the weaknesses of partnership

According to the Programme Manager of WaterAid *“The most barriers for developing partnership is attitude. Most people and organisation are not ready for change. This leads to the lack of trust which is fundamental to partnerships development.”* (Field survey, 2004).

According to Programme Officer of Plan International *“Partnerships needs to be traded carefully due to imbalance of vision and objectives. Balancing the key objectives of an organisation and those of the partnerships requires huge commitments. Moreover the lack of implementing strategies and finances to support these initiatives is a huge problem”.* (Field survey, 2004).

From the interviews, the NGOs argue that working in partnerships requires good working relationships based on trust. The lack of trust reduces the morale and motivation. Moreover NGOs expressed fear of losing their identity by being overwhelmed within the larger entity.

Finally, the focus group discussions with CBOs at Keko Mwanga B and Hanna Nassif also identified the barriers towards partnerships development.

Box 6.35 Interview with CBOs at Keko Mwanga B and Hanna Nassif on the weaknesses of partnership

According to the focus group discussions with Keko Mwanga B *“The key barriers to development of these partnerships is the lack of ground level. Although community are part of part of partnerships it requires huge commitment and strategies to make them achieve power and control”* (Field survey, 2004).

According to the focus group discussions with a CBO at Hanna Nassif *“The level of engagement in the partnership was more critical during planning and implementation of the scheme. This is not the case during the operation and management stage of the schemes. There is a need to clarify roles of each actor at all stages of the scheme ”.* (Field survey, 2004).

From the focus discussions, CBOs noted inequalities of power and control as the major barrier. Partners will not tend to work if there are significant differences in terms of voice and power within the partnership. The issue of balancing power and control represents a significant challenge. It was noticed that insufficient resources by the CBOs was perceived as lack of power to negotiate with water utility. Moreover they noticed the lack of clarity on roles, responsibilities and strong leaderships. It was

informed that projects involving partnerships can fail if the participants do not clarify who will do what and when.

Key points on the Weaknesses of the Partnership

- Partnership arrangement can be labour and time intensive hence it is necessary to allow enough resources.
- Partnership approach can have additional costs to the partners. Long term plans to sustain the partnerships are essential.
- Keeping up morale, enthusiasm and motivation of partners could be a challenge. Constant review meetings could be useful to boost the morale
- Inequalities of power and control can have a detrimental effect on the commitment of partners. Open discussions and transparency of actions could help to address this problem.
- Lack of clarity on the roles and responsibilities.

6.5.4 Stakeholders’ Perceptions on the Opportunities for Developing the Partnership.

To determine stakeholders’ perceptions on the opportunities of partnerships, respondents were asked, *what are the opportunities which can enhance partnership development?*” Data were obtained from the interviews and focus group discussions with the Government and Municipal officials, Water utility, NGOs and CBOs. Other data were obtained from the household interviews. Findings from the stakeholders’ perceptions of the opportunities are summarized in Table 6.24.

Table 6. 22 Stakeholders’ perceptions on the opportunities for enhancing partnerships for water services.

Actor	Stakeholders perceptions on the opportunities of partnership
Government and Municipality	The major opportunities on which actors can capitalize include available policies which encourage collaboration and partnership According to the Ministry of Water official: <i>“We have numerous policies which encourage partnerships and services to informal settlements. These are water policy, decentralisation and human settlement policy. Actors need to capitalise on this opportunities”</i> (Field survey 2004).

Water utility	According to the water utility operational manager: <i>“Availability of donor funding from those who are currently funding initiatives in the city is one of the important opportunity for engaging CBOs and NGOs. Other opportunities include the existing good working relationships which the water utility has established with other actors; and the available market of the customers within informal settlements”</i> .(Field Survey, 2004)
NGOs	WaterAid and Plan International noted: Existence of favourable policies, availability of funds, needs and demands for water and availability of stakeholders as key opportunities which need to be considered.
CBOs	CBOs and Keko Mwanga B and Hanna Nassif noted: availability of funding to support the activities, willingness, commitment and experience of CBOs, as important opportunities.

Key points on the Opportunities for enhancing Partnerships

- Actors need to capitalize on the available market in the informal settlements
- Availability of NGOs and CBOs who are working on the ground is an opportunity which could be utilized.
- Availability of various supportive policies e.g. water policy and PSP
- Availability of funds from various donors is an opportunity.
- Existing good working relationships among various players in Dar-es-Salaam

6.5.5 Stakeholders’ Perceptions on the Threats that can affect Partnership

To determine stakeholders’ perception on the threats of partnership, respondents were asked, *“What are the threats that can affect partnership development?”* Data were obtained from the interviews and focus group discussions with the Government and Municipal officials, Water utility, NGOs and CBOs. Other data were obtained from the household interviews. Findings from the stakeholders’ perceptions of the strengths are summarized in Table 6.25.

6.5.6 Summary of stakeholders’ perceptions

This section analyzed stakeholders’ perceptions on the use of partnerships between the water utility and CBOs to serve water to informal settlements. A SWOT analysis was used to highlight key issues on the partnership.

Table.6. 23 Stakeholders' perceptions on the threats that can affect partnership between water utilities and CBOs

Actor	Stakeholders perceptions of the threats of partnership
Government and Municipality	Lack of government support. It was found that the role of government is important towards setting of policies, regulations and laws.
Water utility	Most of the funds for improving water to informal settlements is from donors and NGOs. Lack of funds will have a have a negative impact on the pace of achieving the targets. Another critical threat is one of water shortage due to droughts.
NGOs	Frequent changes on the institutions responsible for the urban water services affect the momentum of the process. Also inflexibility of actors in the activities. Political interference and unfaithful leaders can affect the management of the water systems
CBOs	Difference in the numerical size and operation scale of partners involved can affect the compatibility of partnerships. Better tactics are needed which if not considered could affect the development of partnerships. Lack of incentives and motivation to continue with the partnership development.

Key points on the Threats than can affect the Partnership

- Lack of government support
- Lack of funds to support continuity of partnership activities as well as the projects.
- Water shortages due to drought which has hit the country
- Frequent changes of institutions and staff responsible for the projects.
- Difference in size between partners which can affect compatibility
- Lack of motivation and incentive to continue with the partnership activities.
- Political interference and unfaithful leaders.

6.5.6 Summary of stakeholders' perceptions

This section analyzed stakeholders perceptions on the use of partnerships between the water utility and CBOs to serve water to informal settlements. A SWOT analysis was used to highlight key issues on the perceptions.

Table 6.24 Summary of SWOT analyses towards the use of partnerships in Dar-es-Salaam case studies.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> Partnerships could improve the level of water services by complementing scarce resources. Partners could enhance learning of new skills Partnerships could enhance governance Partnerships could enhance operation and maintenance for the communities Create a win-win situation where all stakeholders do benefit 	<ul style="list-style-type: none"> Partnerships can be labour and time intensive Partnerships can have additional costs to the partners. Keeping up morale, enthusiasm and motivation of partners could be a challenge. Inequalities of power and control have a detrimental effect on the commitment of partners Lack of clarity on the roles and responsibilities.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> Water utility needs to capitalize on the available market in the informal settlements. Availability of NGOs and CBOs who are working on the ground is an opportunity which could be utilized. Availability of various supportive policies. Willingness of customers to pay for water could enhance cost recovery Availability of funds from various donors is an opportunity. Existing good working relationships among various players in Dar-es-Salaam. 	<ul style="list-style-type: none"> Lack of government support Lack of funds to support partnership activities as well as the projects. Water shortage due to drought which has hit the country Frequent changes of institutions and staff responsible for the projects. Difference in size between partners which can affect compatibility Lack of motivation and incentive to continue with the partnership activities. Political interference and unfaithful leaders.

Source: (Author, 2006)

6.6 CHAPTER SUMMARY

The purpose of chapter six has been to present and analyse data collected during the research against the key research questions outlined in chapter 3 and Fig 6.1. The chapter was divided into sections covering key aspects relevant to the key research questions. These aspects include: supply chain analyses, current relationships and roles; partnership factors; comparing effectiveness of water services and SWOT analyses towards partnership development. Detailed summary of findings of each aspect is as follows:

Supply Chain Analysis.

The study shows that through the use of supply chain analysis, key parameters relevant to water services could be identified. These include: the quantity of water delivered by different actors; demand of water; major actors involved in the service delivery and the costs involved. Moreover, the supply chain for Dar-es-Salaam case study indicated that water kiosks already have major market share in water service delivery, so there are good prospects for the kiosks to be included in the partnership approach.

Current Relationships and Roles of Water Utility and CBOs

Most of CBOs kiosks in Dar es Salaam are supported by NGOs, Municipality and donors. The potential of CBOs managed kiosks include properly designed water systems with storage tanks which are useful during shortage. They also involve distribution networks allowing installation of water points in the settlements. In most cases the CBOs kiosks are recognized by the water utility as formal customers. However, the challenge for the relationships is that most CBOs particularly water committees are informal, which makes difficult for the water utility to further the relationship.

Partnership Factors

Investigation of partnership factors included the analysis of drivers, components and facilitators. These factors were examined by the water utility and CBOs in Dar es Salaam.

The analysis of partnership drivers indicated the common drivers and specific drivers. The common drivers which were recognised by all partners provide the general requirement for the partnership development. The specific drivers reflected the organizational/ institutional needs, context and the local circumstances. These drivers were considered to be essential for enhancing long term partnership relationships as well as achieving sustainability. During the development of partnerships for the water services, it is necessary to observe both common and specific drivers.

In addition, critical components noted in the study were effective communication, joint planning, commitment of all actors and sharing of resources. Another component is the use of contracts and trust. While the water utility is more concerned with the use of formal contracts, the NGOs were more flexible and most advocated for trust among the partners for developing successful partnerships. Partnership components are necessary activities for enhancing relationships. Hence it is necessary for partners to develop an understanding of all the components.

Furthermore, the analysis examined key facilitators which included supportive policies, funding and availability of intermediary organizations. Other facilitators identified were the need to undertake regular reviews; monitoring of the partnerships activities and the differences in the size of organizations. The study noted that while the water utility was more concerned over its limitations to develop partnerships with CBOs; the NGOs and CBOs were of the opinion that with a flexible arrangement it is still possible for a formal organization to establish partnerships arrangements with informal organizations. It is therefore necessary for partners to investigate these factors prior to the development of partnerships.

Effectiveness of Water Services

Effectiveness of water services was compared between the partnership and non-partnership water schemes. The study noted that reliability of water services in all schemes is a major problem. This is due to lack of water supply from the water utility which has resulted in water rationing in all settlements. Furthermore, the study found that partnership schemes are more efficient in addressing pipeline and other technical problems within their water supply than non-partnership schemes. This is a result of availability of local technicians who were involved in undertaking routine maintenance, as opposed to the staff from the water utility who always faced bureaucracy and logistics challenges.

The cost of water from the partnership schemes was found to be more affordable by the customers than the costs of water from non partnership schemes. This is due to the fact that schemes implemented under the partnership approach involved cost sharing through collaboration of various actors including the community, NGOs, water utilities and donors. Moreover, the water payment procedures indicated that customers under the partnership arrangement were happier with regular and smaller payments paid at the water points than those households who received monthly bills.

Finally, the study found that customer participation in the water services by partnership schemes showed a higher level of involvement in the decision making process. In addition, the levels of information between the customers and service providers were much higher in the partnership schemes. This was contrary to non partnership schemes where involvement of communities was minimal.

The findings observed that customers who obtain water from the partnership schemes were more satisfied by the service compared to those customers using non partnership schemes; hence partnership for improving water services to informal settlements should be promoted.

Overall Assessment of the Partnership

SWOT analysis was used as a tool to examine an overall assessment of partnerships' strengths, weaknesses, opportunities and threats. This process was important for establishing a neutral and balanced approach towards partnership development.

The key strengths of partnership noted by actors include an opportunity to create win-win beneficial arrangements to all partners. On the other hand, the critical weaknesses (disincentives) of partnership noted were inequalities of power among the partners due to difference in size and the costs involved. The key opportunities identified were availability of water markets and actors who were willing to participate in the partnership activities. Finally, the critical threats found were lack of government support and political interference.

Indeed, SWOT analysis can help water utilities and policy makers inform the preparation of performance improvements for enhancing water services to informal settlements.

CHAPTER 7

ANALYSIS OF FIELD RESULTS FOR LILONGWE CASE STUDIES

7.1 INTRODUCTION

Chapter five presented an overview of the case studies in Lilongwe. This chapter outlines analysis obtained from the study conducted to explore partnership relationships between the water utility and CBOs in Lilongwe. The relationships between the research questions and the presentations of sections in this chapter are reflected in Table 7.1

Table 7.1 Comparison of key research questions and organizations in chapter 7

Key research questions	Section
What is the current relationship between the water utility and CBOs and what roles does each currently have in supplying water within urban areas?	7.2
What factors encourage/discourage development of partnerships between the water utility and the CBOs for improving water services to informal settlements?	7.3
Can water services be improved through partnerships between the water utility and CBOs?	7.4
What are the perceptions of stakeholders on the use of partnerships for improving water services to informal settlements?	7.5

Primary and secondary data for this study were obtained from qualitative interviews with NGOs, the water utility, Lilongwe city assembly and government representatives. Other data were obtained from focus group discussions with the CBO (water committee) at Chipasula settlement. Wherever possible, quantitative data from questionnaire surveys and documents were documented to support the qualitative arguments.

The first section of this chapter presents the analysis of the current relationships and roles between the water utility and CBOs. This is followed by the analysis of factors which encourage actors to develop partnerships. Water service characteristics of partnership and non-partnership water schemes are then compared. This is followed by overall assessment on the use of the partnership approach for improving water

services to informal settlements. Finally, summaries of key findings of the chapter are presented at the end of chapter.

7.2 CURRENT RELATIONSHIPS AND ROLES

7.2.1 Introduction

This section analyses current relationships between the water utility and CBOs for providing water services to informal settlements. It also analyses different roles played by actors and stakeholders in service provision. The purpose of this section is to help answer the subsidiary question 1 of this research which is stated as:

“What is the current relationship between the water utility and CBOs and what roles do each currently have in supplying water within urban areas in Lilongwe?”

Data for this section were collected from interviews with the water utility, CBOs and households. Data from the public sector institutions were also collected in order to triangulate the findings. Additional data were obtained from secondary reports. Using supply chain concepts presented in chapter 2, the results were analyzed in order to provide answers to the research questions.

7.2.2 The Supply Chain of Water Services in Lilongwe

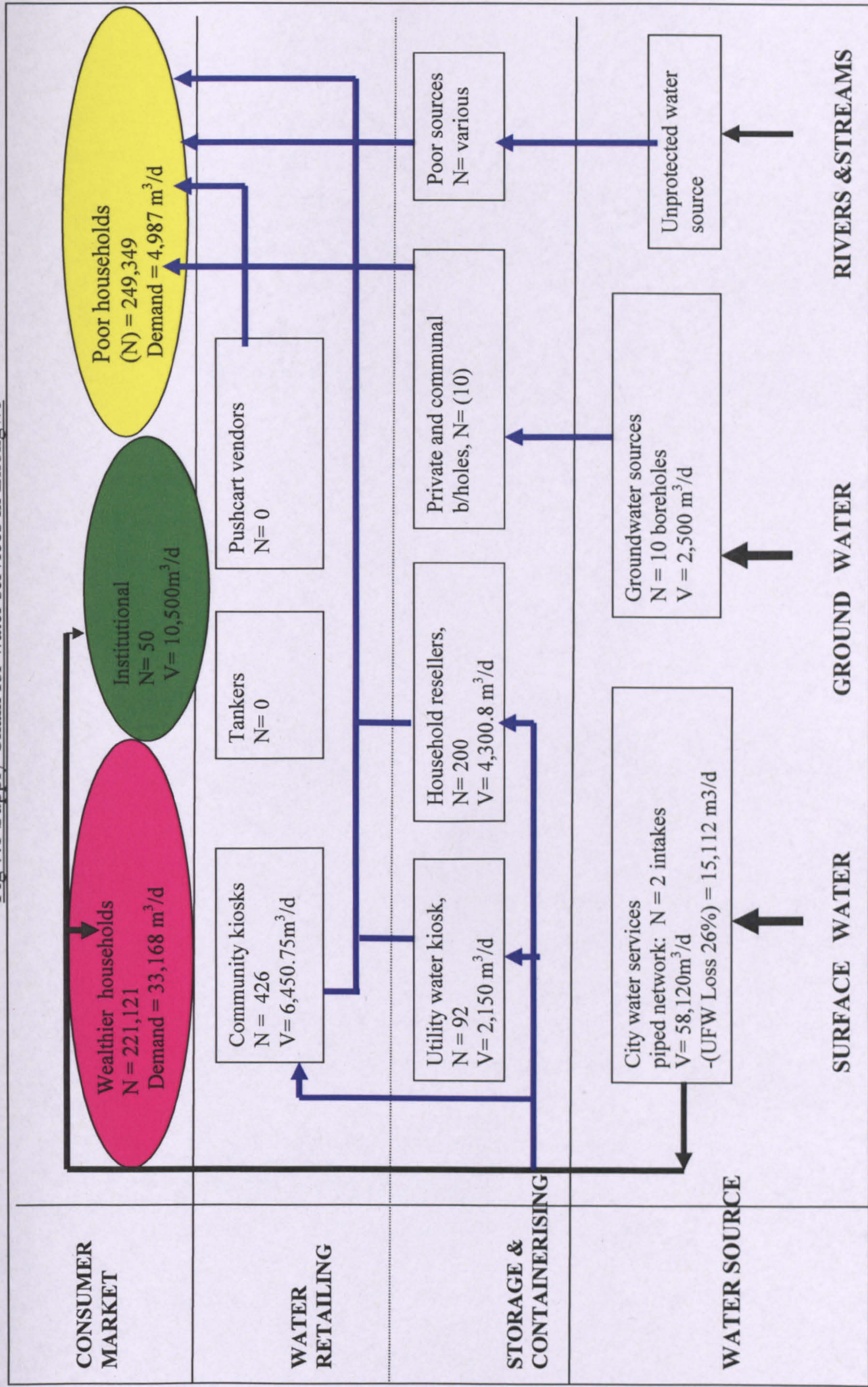
Supply chains for water services in Lilongwe were analyzed in a similar way to the Dar-es-Salaam case study and are shown in Fig 7.1. It indicates estimated population and water demand for wealthier households, institutions and commerce and the population and water demand for poor households. The types and the number of retailing actors who provide water services to various segments of customers are shown in addition to water sources. Other aspects which are included in Fig 7.1 include volumes of water provided by different actors.

The data for the supply chains were obtained from the secondary reports and interviews with the water utility in Lilongwe. Computations of the key parameters are presented in Table 7.2 below.

Table 7.2 Calculations of water volumes within supply chains for Lilongwe case study

<ul style="list-style-type: none">▪ Total wealthier population is N= 221,121, hence with a demand of 150/c/day ,the total demand is $221,121 \times 150 \text{ l/c/d} = 33,168 \text{ m}^3/\text{d}$.▪ Total poor population is N= 249,349 , hence with a demand of 20 l/c/d, the total demand is $249,349 \times 20 \text{ l/c/d} = 4,987 \text{ m}^3/\text{d}$.▪ Total demand for water for institutions and commerce is $10,500 \text{ m}^3/\text{d}$▪ Total water supply from the sources is $58,120 \text{ m}^3/\text{d}$. However unaccounted for water (UFW) is 26% hence available supply is $43,008 \text{ m}^3/\text{d}$.▪ Supply of water to wealthier households is 70% of available supply i.e. $70\% \times 43,008 \text{ m}^3/\text{d}$ which is $30,106 \text{ m}^3/\text{d}$.▪ Supply of water through household resellers is 10% of available supply i.e. $10\% \times 43,008 \text{ m}^3/\text{d}$ which is $4,300.8 \text{ m}^3/\text{d}$.▪ Supply of water through water kiosks is 20% of available supply i.e. $20\% \times 43,008 \text{ m}^3/\text{d}$ which is $8,601 \text{ m}^3/\text{d}$.▪ Supply of water to Lilongwe Water Board kiosks is $\frac{1}{4}$ of the available supply to kiosks i.e. $2,150 \text{ m}^3/\text{d}$▪ Supply of water to community water kiosks is $\frac{3}{4}$ of the available supply to kiosks i.e. $6,450.75 \text{ m}^3/\text{d}$
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Fig 7.1 Supply Chain for water services in Lilongwe



Based on the supply chain analysis, the following key issues are summarized below in Table 7.3

Table 7.3: Summary of key issues emerging from supply chains in Lilongwe

No	Type of supply chain	Number	Water supplied m ³ /day	Key intermediary	Costs involved	Water price/tariff
1	Utility - wealthier households	221,121	30,106	No intermediary	Individual connection MK 25,000 – 50,000 (US \$ 192 – 384)	1 st 10m ³ @ MK 38/m ³ (US 0.3) 2 nd 30m ³ @ MK 56/m ³ (US 0.43) Next @ MK 78/m ³ (US 0.6)
2	Utility household resellers – households	200	4,300.8	Household resellers	Individual connection MK 25,000 – 50,000 (US \$ 192 – 384)	1 st 10m ³ @ MK 38/m ³ (US 0.3) 2 nd 30m ³ @ MK 56/m ³ (US 0.43) Next @ MK 78/m ³ (US 0.6)
3	Utility - water kiosks – households	518	8,601	Community City Assembly LWB Joint management	Ranges between MK 350,000 per kiosk (US \$ 2,692)	Community kiosks MK 44/m ³ (US 0.34) Private kiosks MK 49/m ³ (US 0.38) Water vending price is MK1.5 (US 0.01) for a bucket

7.2.3 Current Relationships between Water utility and other service providers

This sub-section examines the current relationships between the water utility and other service providers. Aspects of the supply chain for water services in Lilongwe indicate that major actors who are involved in water service include: Lilongwe water utility, household resellers and CBOs which manages water kiosks. Based on the analysis, and the summary in Table 7.2, the following major types of relationships are noted. They include:

- Utility – wealthier households (Supply chain 1)
- Utility – Household resellers – Poor households (Supply Chain 2)
- Utility – water kiosks – Poor Households (Supply Chain 3)

These relationships are discussed below.

7.2.3.1 The utility – Wealthier Households (Supply chain 1)

Fig 7.2 shows the relationship involving the water utility (Lilongwe Water Board) and the wealthier household customers. Wealthier households have access to water services directly from the water utility. According to Fig 7.1, the number of households with direct connection is 221, 121 with a demand of 33, 168m³/d. However the analysis shows that supply of water from the water utility (LWB) to the wealthier households is 70% of the total supply which is 30,106m³/d. This shows 91% of the total water demand from the wealthier households is provided by LWB. All the wealthier households are located in the formal settlements where the utility’s pipeline exists.



Fig 7.2 utility – wealthier households relationship

The nature of relationships between the water utility and wealthier households in Lilongwe is formal. It was observed that the wealthier households are recognized as formal customers, with each of them having an account to the water utility. Application letters, agreement forms and monthly water bills are the only documents which indicate formalization of the relationships. In return, wealthier households are obliged to pay water bills for the volume of water consumed. Communication and linkages between actors were found to be good. According to the household customers: *“the only linkage and communication we have with the water utility is when we go to pay our monthly bills or report a fault. Generally the relationship has been good”*. It was also found the water utility (LWB) paid more attention to this group of customers as they were regular customers who paid their water bills.

7.2.3.2 Utility – Household Resellers – Poor households (supply chain 2)

This relationship involves the water utility (Lilongwe Water Board), household resellers and poor households as indicated in Fig 7.3. In this relationship the poor households access water services through resellers, most of whom are their neighbours. According to the water utility, the number of resellers in Lilongwe is 200 and most of them are located in informal settlements. According to the water utility,

the number of poor households is 249,349 with a total demand of 4,987m³/d. However, the total demand of water for those who collect from household resellers is quarter of the total demand which is 1,247m³/d. Table 7.2 shows that supply of water through household resellers is only 4,300.8m³/d, which means that household resellers have the capacity to address the demand. However, the high tariff regime set by the water utility has discouraged most resellers to sell water to their neighbours.



Fig 7.3 utility – household resellers – poor households relationship

The nature of relationships between the water utility and resellers is formal with resellers being recognized as formal customers. However, many resellers are not motivated to sell water to their neighbours due to the higher water tariff imposed on them. In Lilongwe, water tariffs are structured as lifeline and increasing block tariffs. For the first 10 m³, households are charged at MK 38/m³ (US \$ 0.3); up to 30m³, households are charged at MK 56/m³ (US \$ 0.43) and beyond that households are charged at MK 78/m³ (US \$ 0.6). These tariffs show that reselling water to neighbours will consume water beyond 30m³ which means that their tariff is at MK 78/m³ (US \$ 0.6). The relationship between the resellers and household customers is informal and is based on the selling of water at the water point.

Communication between the water utility and resellers is good, although the resellers are not satisfied with current water tariff arrangements. On the other hand the households recognized the importance of resellers in the water service, although they were concerned over the lack of consistency in the opening times.

7.2.3.3 Utility – Water kiosks – Households (Supply chain 3)

Fig 7.4 indicates the relationship between the water utility (Lilongwe Water Board), water kiosks and poor households. In this relationship water is provided through different models to poor households. The total number of water kiosks in Lilongwe is 518 of which 426 are managed by the CBOs and 92 by the Lilongwe Water Board and

other institutions. Most of the CBO kiosks were funded by NGOs, donors and Lilongwe City Assembly.

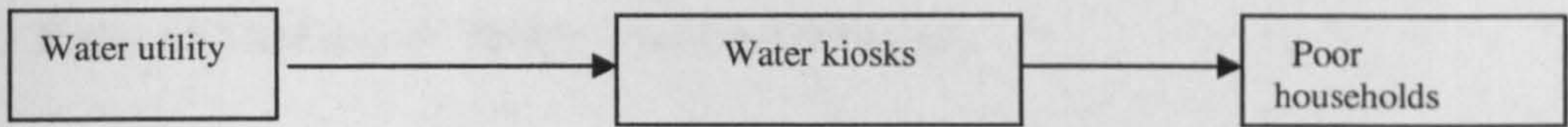


Fig 7.4 utility – water kiosks – poor households relationships

Relationships between the water utility and CBOs kiosks are formal. All kiosks are recognized by the water utility and each has a meter and account number. The water tariff charged for the CBO water kiosk is MK 44/m³ (US \$ 0.34). However, due to the lack of cohesion of a community, the kiosks are registered under the name of the local chief or local government official and these have been acting as focal points in the relationship between the water utility and the community. Consequently, there is gap between kiosk operators and the local chiefs leading to poor management. On the other hand, Lilongwe Water Board kiosks are managed by the water utility themselves. The management is through appointed kiosk operators who are supervised by the water utility’s revenue officer. The water tariff charged for Lilongwe water board kiosks is MK 49/m³ (US \$ 0.38). The difficulty for the water board is the additional costs of management in these kiosks.

This section has shown various relationships between the water utility, CBOs and its customers. From analysis, it was found that the wealthier households in Lilongwe have formal relationships with the water utility and coverage of water is good. Also even though the relationships between the water utility and community kiosks are formal there are difficulties in identifying a community and local chiefs are representing the community in the negotiations with the water utility.

7.2.4 The roles of various actors in providing water services to informal settlements in Lilongwe

This subsection explores roles of various actors in provision of water services to informal settlements. The actors include: the Ministry of Water and Development,

Lilongwe City Assembly, Lilongwe Water Board, NGOs, water committees and private individuals.

7.2.4.1 Roles of Ministry of Water and Development

The Ministry of Water and Development in Lilongwe is responsible for setting policies and guidelines for smooth implementation of various water programmes. In the urban setting, the overall national policy objectives are to provide frameworks for improving clean and potable water to all people so as to reduce the incidence of water borne diseases and reduce the time spent looking for water (MOWD, 2003). For informal settlements, the policy is clear that water supply in these areas should be improved and such a mandate has been given to Lilongwe Water Board as the executing agency. It also recognizes and encourages the role of other actors in the services including CBOs, NGOs and communities.

7.2.4.2 Roles of Lilongwe City Assembly

The emergence of Lilongwe City Assembly is part of a decentralization policy which gave birth to the local governments and municipalities in Malawi. Major functions and responsibilities of the City Assembly in water services to informal settlements are:-

- “Provision and maintenance of water supplies, which includes boreholes, piped water projects, protected wells, distribution of water.
- Maintenance and management services for collection and removal and treatment of solid and liquid waste.
- Coordination of activities conducted by NGOs and various donors in water services” (Kariuki, 2003)

Through these roles, Lilongwe City Assembly in collaboration with LWB and NGOs has also implemented various water schemes for the communities particularly in the informal settlements.

7.2.4.3 Roles of Lilongwe Water Board

The waterworks act 1995 mandates the Lilongwe Water Board to develop, operate and maintain waterworks within the service areas. There are two current levels of water supply services available to consumers in the LWB area that predominate. The major roles of Lilongwe Water Board for the water kiosks are:-

- To provide technical expertise during construction and implementation.
- To advise the kiosk operators on appropriate water prices
- To inspect and collect cash from kiosks on a daily basis
- To undertake maintenance and repairs of the kiosks
- In some cases to manage the water kiosks.

7.2.4.4 Roles of NGOs

A number of NGOs are available in Lilongwe which has given support to water services for informal settlements. These have provided funds for financing water supply, training communities in the implementation and management of water projects and technical skills during the implementation of water projects. Most NGOs are demand driven and in most cases have worked in partnership with the Lilongwe Water Board and/ or Lilongwe City Assembly and communities. Examples of these NGOs include Save the Children, Concern Universal, Plan International, Action Aid, WaterAid, and CCODE (Centre for Community Development).

7.2.4.5 Roles of communities

The communities in various informal settlements in Lilongwe are involved in the management of water kiosks. The operation of these kiosks was designed to be managed by communities. Hence the role of community include: their commitment to participate in labour activities during implementation; establishment of a CBO arrangement to manage the kiosks and finally to protect the facilities against vandalism and illegal connections.

The next section analyses factors that encourage the development of partnerships and how the water utility could enhance partnerships with community water schemes for providing water services to informal settlements.

7.3 FACTORS TOWARDS DEVELOPMENT OF PARTNERSHIP

7.3.1 Introduction

Chapter 5 gave an overview of water services in Lilongwe. In this section a case study of the partnership initiatives for managing water kiosks in Lilongwe is presented. The initiative was designed to improve the management of water kiosks. Lilongwe city has more than 500 water kiosks located in 15 informal settlements. The key partners which were involved in the process are Lilongwe Water Board (water utility, WaterAid and CCODE (NGO) plus the communities, making a tripartite arrangement as indicated in Fig 7.5 below.

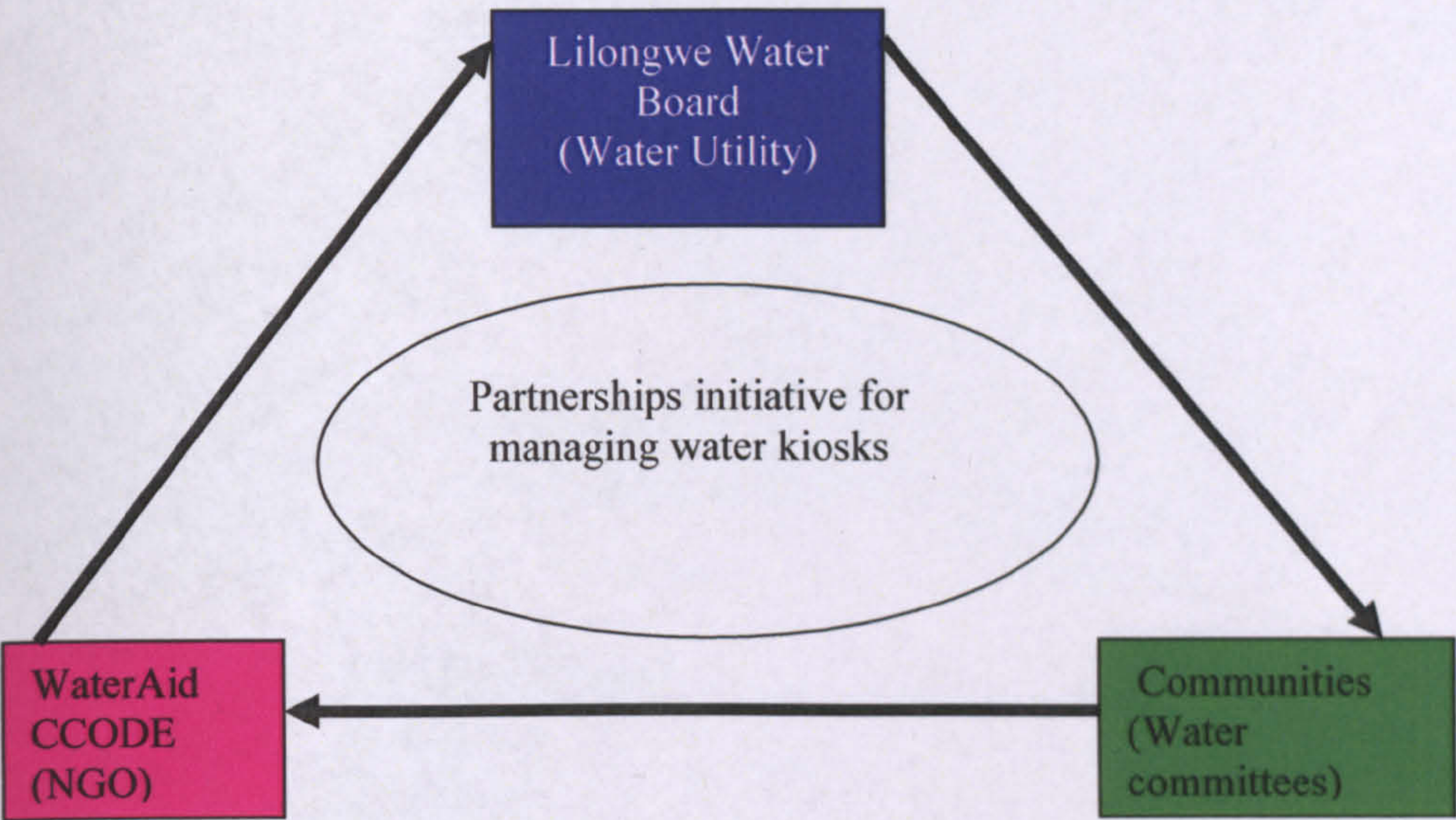


Fig 7.5 Tripartite partnership initiative for managing water kiosks in Lilongwe

Data for this research were obtained from the interviews with the water utility and the key NGOs involved in the partnership which included: WaterAid and CCODE. Other data were obtained from focus group discussions with Chipasula water committee. The first part of this section explores the partnership drivers which encouraged partners to work together. This is followed by investigation of components and finally the section examines the facilitators.

7.3.2 The partnership drivers.

Fig 7.2 shows the summary of the analysis of partnership drivers which conducted for Lilongwe case study. The summary indicates the common drivers which were significant to all partner groups and the drivers which were specific to CBOs, NGOs and LWB.

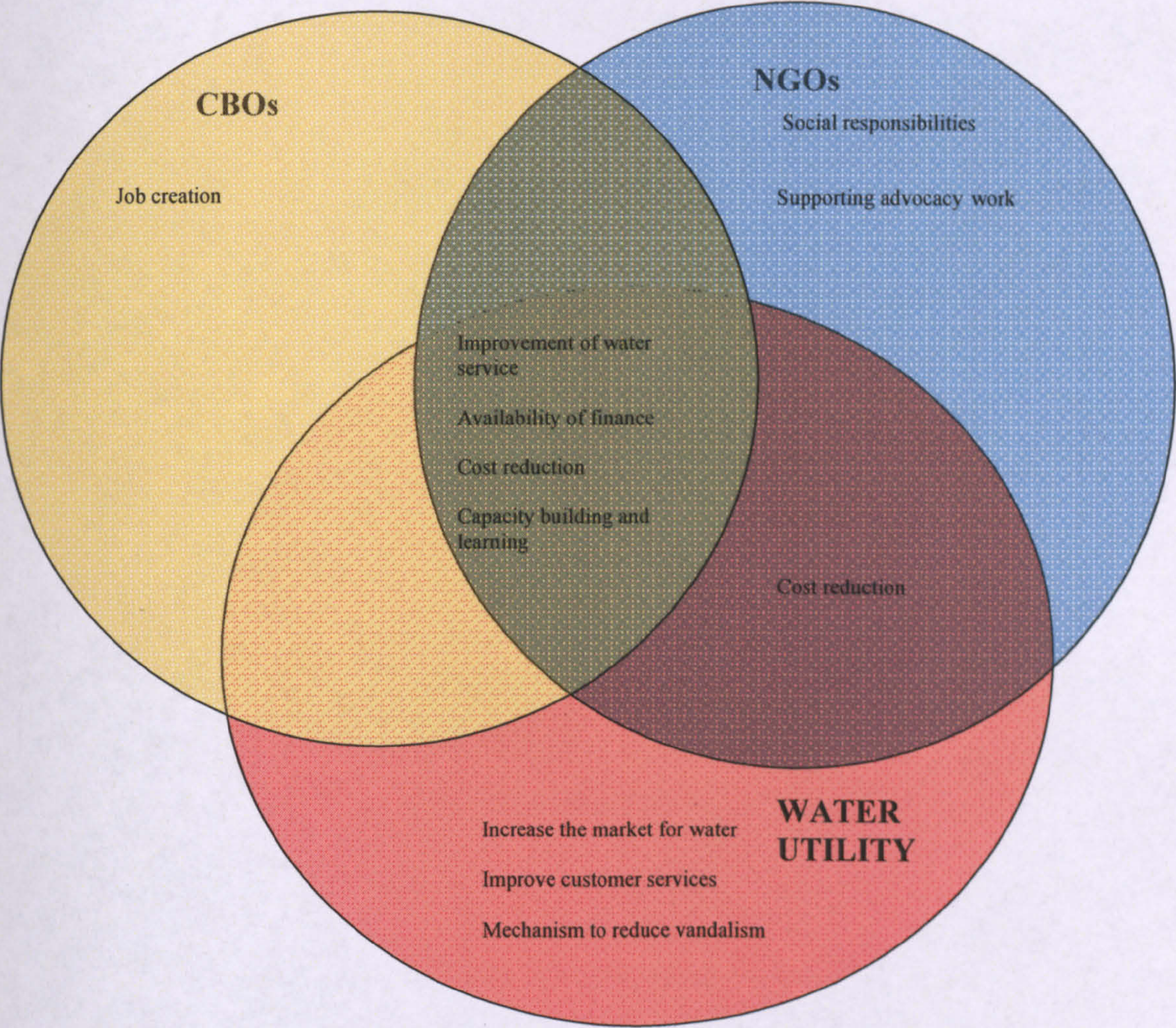


Fig 7.6 Summary of partnership drivers for the urban water services in Lilongwe.

The common drivers which were noticed by all actors (Water utility, NGOs and CBOs) in order of importance include: improvement of water service; availability of funding, cost reduction, capacity building and learning new approaches. The specific driver which was considered by CBOs is job creation. Also the specific drivers which were considered by water utility are increase market sale of water; improved customer services; cost reduction and mechanism to reduce vandalism. Finally the specific

drivers which were relevant to NGOs include social responsibilities, supporting advocacy work and cost reduction.

Further discussions of these drivers are narrated below.

7.3.2.1 Improvement of water services

All partner groups noted that extending water services to un-served areas was one of the major motives to develop partnership relationships. An interview with Lilongwe Water Board CEO Box 7.1 indicates that improvement of water services was a top agenda item to LWB.

Box 7.1 Interviews with the CEO of Lilongwe Water Board on the drivers.

The interview with the CEO of Lilongwe Water Board noted that: *“Lilongwe Water Board is mandated by the Government to supply water to all citizens in the city. We feel this is our obligation to work with other actors to achieve the goal of improving water services to un-served areas and increase coverage. We have enough water supplies but the major challenge is management”* (Source: Field survey, 2004).

According to the interview, for long LWB has tried to supply water to informal settlements through more than 500 water kiosks, however, the challenge lies in the management of the kiosks. It was apparent that most kiosks lacked an effective management structure which prevented them from raising enough funds to pay the water bills, leading to disconnection of many kiosks. Hence, the water utility was motivated to develop partnerships with NGOs and communities on the understanding that effective management of the water kiosks would be established in many informal settlements.

An interview with NGOs also noted the same trend. According to the interview with the Director of CCODE in Box 7.2, the demand for water in all settlements was the top priority amongst the needs of the community.

Box 7.2 Interviews with NGOs on the drivers

According to the CEO of CCODE, Ms Sikhu: *“Our organisation works with women’s federations and through our enumeration water is always considered a priority by many communities. This need has greatly motivated us to work with other players including WaterAid, Lilongwe water board and the City Assembly to find common solutions to the common problems”* (Source: Field survey, 2004).

According to the Programme Manager of WaterAid, Mr. Amos *“ WaterAid has been supporting Malawi mainly on rural water projects. However, water needs in urban areas are quite remarkable and have compelled us to consider making interventions”* (Source: Field survey, 2004).

According to the CCODE Director, working together to find a common solution for water services was a major reason for the NGOs to collaborate with other actors. The Programme Officer of WaterAid in Lilongwe also observed that the major reason for collaborating with the water utility and the community was to improve the water services to the large number of urban poor in Lilongwe.

Furthermore, the CBOs also noted the gap of services in their settlements which motivated them to seek support and assistance from other players. These comments were revealed by the focus group discussions at Chipasula Box 7.3.

Box 7.3 Findings of focus group meetings at Chipasula on the drivers

According to the meeting at Chipasula: *“Our collaboration with water utility and other actors is based on the facts that accessibility of water services in our settlements be improved. Although the support has helped to install 50 kiosks in our settlements, more people still lack accessibility of water which through working together we can manage to address. Furthermore, collaboration with Lilongwe Water Board has helped to install effective management systems for the kiosks.”* (Source: Field survey, 2004).

According to the focus group discussions at Chipasula, it was evident that collaboration between the community and the Lilongwe Water Utility has helped to install effective management systems of water kiosks. Through proper operations, all kiosks were re-connected after paying the outstanding water bills accrued from the previous management system. According to discussions, the water committee was satisfied with the current management arrangements although they requested further management training.

It can be concluded that improvement of water services in the city was perceived by all actors as their duty.

7.3.2.2 Learning and innovation.

Learning and innovation for an appropriate management approach was viewed by all partner groups as important. An interview with the CEO of Lilongwe Water Board Box 7.4 revealed that the water utility viewed innovation and learning as important drivers for developing partnerships with NGOs and communities.

Box 7.4 Interviews with the CEO of Lilongwe Water Board on the partnership drivers.

The interview with the CEO of Lilongwe Water Board noted that: *“The management of the water kiosks in informal settlements is a major headache to us. We have more than 500 water kiosks scattered in informal settlements, but the problem is management. Most kiosks do not pay their monthly bills. However collaboration with WaterAid, CCODE and community is opening our understanding on how things should be done. The support and skills of NGOs in the process has been tremendous”* (Source: Field survey, 2004).

an opportunity to learn and innovate new skills for managing water kiosks. Through this process, the water utility has encouraged collaboration and coordination of activities among different actors

Similarly, the interviews with NGOs shown in Box 7.5 also revealed the importance of learning.

Box 7.5 Interviews with NGOs (WaterAid and CCODE) on the drivers

According to the Programme Manager of Water Aid - Mr Amos: *"Being involved in the collaboration has meant a lot to us. We have acquired greater understanding on how the water utility works and together we are making differences to the community"* (Source: Field survey, 2004).

According to the CEO of CCODE Ms Sikhu: *"We are learning every day. The partnership arrangement has really helped us to design innovative approaches to serve the community. Currently there is great awareness among the community on the proper management"* (Source: Field survey, 2004).

The above comments indicate that learning and innovation were regarded by NGOs as important aspects for developing partnerships. Both NGOs have appointed specific staff who are part of the collaboration team. Through the new skills generated, partners are beginning to make a difference to the communities.

A focus group discussion with a water committee at Chipasula in Box 7.6 also found that learning better management was a necessary driver encouraging them to develop collaborations.

Box 7.6 Focus group discussions at Chipasula on the components .

According to the meeting at Chipasula: *"Before the collaboration with LWB, the management of our water scheme was horrible. The joint management approach between water utility and community has helped to enhance management skills. Now the roles are clear and proper systems are in place"* (Source: Field survey, 2004).

According to the focus group discussions, the need for the community to enhance their skills for managing their water kiosks was necessary.

In summary, it was shown that all partners observed the aspects of learning and innovation as an important driver. However, achieving innovation requires partners to be committed to learn from each other on a day to day basis. Appointment of specific

persons from partner organizations to act as focal points for learning has helped to ensure continuity of capacity building and skills.

The next sub-sections describe the drivers which were specific to individual partner groups.

7.3.2.3 Key specific drivers for CBOs

According to focus group discussions at Chipasula shown in Box 7.7, the water committee was also motivated to continue with the partnership because of the expectation of obtaining job and income opportunities.

Box 7.7 Focus group discussion at Chipasula on the components

According to the focus group meeting to Chipasula settlement, : *“The water scheme at our settlement provides employment to 54 kiosks operators the majority from whom are women. Currently each operator is paid MK 1800 – MK 2800 depending on the volume of water sold. Indeed the water scheme has opened an opportunity for us to gain income”* (Source: Field survey, 2004).

From the group discussions, job creation was considered by the CBO as a specific factor for them to join the partnerships schemes. However, proper arrangements are required to avoid situations where misappropriation of funds can occur.

7.3.2.4 Key specific drivers for the water utility

The key specific drivers which were noted by the water utility included: increased market sales of water; improved customer services; and a mechanism to reduce vandalism of water pipes. These are summarized in Table 7.4.

Table 7.4 Summary of specific drivers for the water utility

No	Partnership driver	Description of the findings
1	Increase market sale of water	LWB considered partnerships as a vehicle to increase the market for water services. According to the revenue officer: <i>"the new partnership approach has enabled us to establish a water kiosk unit through which planning and management of existing and future kiosks are monitored and supported"</i> . This shows how the water utility considers partnership as an opportunity for enhancing market and revenue streams.
2	Improved customer service	The water utility was also motivated to develop collaboration with the community in order to enhance customer services on water delivery in the settlements. The key problem which LWB faced was the poor management of water kiosks which resulted in the disconnection of many kiosks. Partnership improved accountability in the kiosk management.
3	Cost reduction	The water utility in Lilongwe noted cost reduction as an important driver. Operation and maintenance costs for the kiosks used to strain the budget of LWB to pay for staff and maintenance, but the partnership initiative with the communities and NGOs was considered by the water utility a cost reduction strategy. More water kiosks are currently managed by communities, with LWB providing supervisory support under the Kiosk unit.
4	Mechanism to reduce vandalism	The need to address vandalism, illegal connection and leakages of water was a significant driver. Currently a large proportion of water is lost through unaccounted for water which is 26%. The perception of the water utility is that through partnership with communities and NGOs, it would be possible to track down such practices and be able to increase the volume of water retained.

These drivers are important to the water utility because they are related to the business operation of the water utility. Although LWB is a public utility, it has the obligation of managing its operation in a commercial manner to achieve cost recovery.

7.3.2.5 Key partnership drivers for the NGOs

The key specific drivers which were noted by the NGOs included: *Social responsibility; supporting advocacy work; Cost reduction.*

These drivers were not identified by either the water utility or CBOs. Observation of these drivers to NGOs shows the specific values of these motives to the wider objectives of the organizations. Table 7.5 provides a summary of key partnership drivers as perceived by NGOs.

Table 7.5 Summary of the key partnership drivers for NGOs

No	Partnership driver	Description of the findings
1	Social responsibility	The interview with NGOs shows that their specific motive for developing collaboration with the community and the water utility was to achieve their core value of social responsibility. This includes addressing equity and access of water services to the vulnerable and underprivileged segments of the communities.
2	Supporting advocacy work.	Findings from the field show that most NGOs were also motivated by opportunities of advocacy and influence.
3	Cost reduction	Cost reduction was also observed by NGOs as the driver for partnerships. According to the interviews with CCODE, it was found that cost of provision of water in many informal settlements is enormous for an individual actor. The partnership arrangement between the water utility, NGOs and communities has enabled them to increase the capacity of services and reduce the cost burden for a single actor to invest alone.

These drivers were important to NGOs because they indicate the aspects towards the key operations of NGOs. It is necessary for other partners, when considering working with NGOs to also evaluate how these drivers could be achieved.

The next section discusses the partnership components which are important for partnerships.

7.3.3 Analysis of partnership components

An examination of the partnership components in the case studies was undertaken to find out key components which were considered important by respondents for developing partnerships for improving water services. Investigation was guided by the research question:

What are the partnership components which could be employed in the development of partnerships for improving water services to informal settlements in Lilongwe?

The common partnership components which were observed by all partner group are:

- Effective communications

- Commitment of all actors
- Trust and transparency

7.3.3.1 Effective communication

Effective communication was considered by all partners as important. The interview with the water utility in Lilongwe shown in Box 7.8 reveals that through proper communication systems, it was possible for actors to develop smooth relationships.

Box 7.8 An interview with the CEO of the water utility on partnership components

According to the interview with the CEO of LWB Mr. McLawrence. *“We have seen the progress in our partnership initiatives. One of the factors that have helped to enhance the relationships between NGOs and communities is effective communication. NGOs feel free to contact me at any time. We feel by removing all the barriers we can understand each other much better”* (Field notes, 2004).

According to the interview, it was found that Lilongwe Water Board has established the Kiosks Unit which acts as a link to all partners. Currently the water utility is more open to all partners and has removed all bureaucracy to allow smooth development of relationships. As a result, NGOs and communities are now accepted by the water utility as equal partners in water services.

Box 7.9 An interview with the CCODE on the partnership components

According to the interview with the CEO of CCODE Ms Sikhu. *“Initially, it was difficult to know which route to pass for negotiations on the water needs of the community. However through various meetings and communication it was possible to enhance our confidence and position in the partnerships.”* (Field notes, 2004).

The importance of communication was also noticed by NGOs. According to CCODE, in shown in Box 7.9, it was noted that communication between partners was essential. In particular, the NGO gained significant confidence in establishing relations with the water utility through effective communications. Much of the progress has been achieved due to the openness and effective communications between all partners involved in the water services. It was also noted that effective communication was enhanced through various meetings and forums which were organized by the water utility.

Similarly, the CBOs viewed communication as an important aspect of partnerships. According to the focus group discussions with the water committee at Chipasula settlement shown in Box 7.10, effective management of the scheme was achieved through open communication between the water utility and the community.

Box 7.10 Focus group discussions with a CBO at Chipasula on the components

According to the focus group discussions with a CBO at Chipasula. *“The water committee used to manage water kiosks, although the local chief was responsible for paying the water bills and enhancing relationships and communication with the water utility. However, due to poor management and misunderstanding between the water committee and the local chiefs, water bills were not paid. Currently, water kiosks are managed jointly by the water utility and the community and relationships have greatly improved through open communications which are done through regular meetings”* (Field notes, 2004).

It was found that initially communication between the CBO and local chiefs at Chipasula was poor because of lack of transparency on the funding for water. However, when the management of water kiosks was changed to joint management, the relationships improved. Frequent meetings have helped the water committee to enhance understanding on the roles and responsibilities.

In summary, the study has shown that effective communication is useful. All partners have indicated the advantages obtained through effective communication. However, for communication to be effective, partners have to be willing to share information and be committed to attend the communication events e.g. meetings etc.

7.3.3.2 Commitment

The aspect of commitment was also noted by all partners in Lilongwe. The key indicators for commitment which were examined include time spent and resources provision. The focus group discussion at Chipasula indicated in Box 7.11 found that the CBO were committed in various tasks of the schemes.

Box 7.11 Focus group discussions at Chipasula on the components

According to the focus group discussions at Chipasula *“The water committee has huge responsibility to ensure that water services are available to the kiosks. These include ensuring that kiosk operators perform their duties properly, and water bills are collected for the water utility. All these activities are undertaken by the water committee on a voluntary basis. We are just committed to help our society”*. (Field survey 2004)

The commitment includes time for the CBO to participate in meetings, project activities, and operation and management. All these activities were voluntary, which required huge commitment from water committees and communities. Despite this, the aspect of volunteering in the urban context is questionable because most of the water committee members consider time a valuable commodity for doing other economic and development activities and are not ready to volunteer for a long period of time. Indeed this aspect, if not well looked into can lead to misuse of water funds.

The NGOs also perceived commitment as a necessary component for building effective partnerships. According to the interviews with NGOs shown in Box 7.12, levels of commitment were perceived by the form of their contributions to the project activities.

Box 7.12 Interviews with WaterAid and CCODE on the partnership components

According to the interviews with the Programme Officer WaterAid in Lilongwe. *“Since the beginning of the programme, WaterAid has shown great commitment in various activities. This has been demonstrated through allocation of funds, time and staff to undertake partnership activities. Moreover, WaterAid was part of the review team which was assigned to review and propose a viable management option for the kiosk model in Lilongwe ”.* (Field survey, 2004).

According to the CEO of CCODE in Lilongwe: *“As an organisation CCODE has been involved in the process from the beginning. Our commitment in this course is built from our experience of working with the urban poor communities. Our key contribution in the process is our availability as an NGO and representative of the urban poor in Lilongwe. We also have some funds which once available will be allocated to support the partnership initiative.”* (Field survey, 2004)

Lilongwe Water Board also expressed its level of commitment in the partnerships arrangement. Box 7.13 shows aspects of commitment by water utility.

Box 7.13 An interview with the Revenue manager of Lilongwe Water Utility on the components.

According to the Revenue Manager of Lilongwe Water Board. *“Lilongwe Water Board has a mandate to supply water to all people. Hence our commitment to achieve such a goal is intact. The partnership initiative is one of the tools which we are very committed to support. Initially we have allocated an office space, planning to recruit staff and allocation of budgets for the Kiosk Unit. Moreover our CEO is very much interested in these partnership initiatives and always enquires of the progress”* (Field survey, 2004).

According to interview, the commitment was indicated by the LWB agreement to establish a kiosk unit which will be responsible for managing all kiosks in Lilongwe.

Moreover, LWB has allocated budget to pay for the staff and operation costs of the unit. The general observation from the interview showed that the water utility was enthusiastic and expressed willingness to work with NGOs and communities.

In summary, it can be concluded that all partner groups noted commitment as an important component. It was revealed that partners were ready to provide various levels of commitment in terms of finance, staff, time and local expertise. Achieving successful partnerships require partners to be committed to the project.

7.3.3.3 Trust and transparency

All partners groups noted the importance of trust and transparency. During a focus group discussion with water committees at Chipasula shown in Box 7.14, it was observed that trust and transparency were necessary components for enhancing relationships.

Box 7.14 Focus group discussions at Chipasula on the component

According to the water committee at Chipasula: *“The joint collaboration between the water utility and the water committee has enabled us to build trust. This indeed improved the management of our water services to the kiosks”* (Field survey, 2004).

According to the focus group discussions at Chipasula, involvement of the community and the water committee in deciding on a proper management model enhanced the level of trust to the water utility. It was found that initially the water utility was very far from the community which created a huge gap in the relationships. However, the joint management of the scheme has enhanced the relationships and level of trust among themselves. The water scheme at Chinsapo is still facing challenges due to poor relationships and mistrust between the water committee, local chief and water utility. This statement is supported by chairman of the water committee at Chinsapo who argue that: *“The management of the water kiosk has been unstable due to the lack of proper guidelines. The system lack clear roles and responsibilities among the actors which lead to misuse of the water funds.”*

The aspect of trust was also noted by NGOs in Lilongwe. According to the interview with WaterAid shown in Box 7.15, success of all activities was built on trust and respect.

Box 7.15 Interviews with WaterAid on partnership components

According to the interviews with the Programme Officer WaterAid - Mr Amos. *“Initially we were worried to develop partnerships with the LWB due to the lack of honesty and openness which have been there for years. However, with closer communication and personal relationships we are currently seeing a high level of trust.”* (Field survey, 2004).

According to WaterAid, trust among the actors was key to the success of the partnerships. Trust was expressed in terms of loyalty to agreements and commitment by the actors. However, it is noted that initially that the level of trust between NGOs and the water utility was low. This was due to the lack of information and involvement of NGOs in various aspects of the water service. However, the new approach which encourages partnerships between the water utility and NGOs has enhanced the level of trust among the partners.

The water utility also noted the importance of trust among partners as shown in Box 7.16.

Box 7.16 Interviews with the Water Utility on the partnership components

According to the interviews with the Lilongwe Water Board Revenue office – Mr. Zachariah *“Our partnerships with NGOs and communities are built on trust and mutual understanding. Even before we signed the memoranda of understandings, we had begun various activities. It is trust and respect among us that has enabled us to achieve such success.”* (Field survey, 2004).

According to LWB, it had no policy of providing water services to informal settlements as these areas were considered illegal. Within this understanding it was not appropriate to support any programme or organizations supporting these areas. However the policy direction has changed which recognizes the informal settlements and encourages the water utility to work in partnership with other actors including NGOs and communities. This has encouraged the water utility to establish relationship with NGOs players and hence has begun to trust them.

Indeed, it was found that trust among partners is an essential component for developing relationships. However achieving levels of trust is not easy especially for organizations with huge differences. It requires openness and transparency among the members to build the required trust.

The above sub-sections described partnership components which were of importance to all partners. However, other components which were perceived to be important by a particular partner groups were: *sharing of resources- perceived by both the water utility and NGOs; joint planning of activities-perceived by both the water utility and NGOs; and the use of contracts- perceived by both the water utility and NGOs.* Details of these components are discussed below.

7.3.3.4 Sharing of resources

Sharing of resources was considered an important component for developing partnerships. This aspect was mainly considered by the water utility and NGOs. Table 7.6 summarizes resources which were provided by the partners.

Table 7.6 Resources allocation by the water utility for the partnership activities

Type of resources	Resources provided by the water utility	Resources provided by NGOs
Finances	Lilongwe water board provided MK 5,000 (as finances for the partnership initiative.	WaterAid provided finance to the partnership initiative. The first year about MK 20,000 were contributed for paying partnership expenses.
Staff	Lilongwe Water Board provides managerial support to the Kiosk Unit. The unit has six staff who are responsible for providing day to day support.	Both WaterAid and CCODE employed key managers who were responsible for working with Lilongwe Water Board. The major tasks were to provide social and intermediary skills in the partnerships
Office space	Lilongwe Water Board provided an office space for the kiosk unit.	
Equipment	Lilongwe Water Board has provided vehicles and motorcycles which are used by revenue inspectors who collect water revenues from the water kiosks.	WaterAid provided computers for the kiosk unit and stationery.
Technical data and information	Lilongwe Water Board provided technical skills and standards.	NGOs provided skills on intermediary, social and community management, necessary for implementation of kiosks.

The above summary indicates that sharing of resources between major partners in Lilongwe was a major component for improving water services to informal settlements. Relationships of actors are strengthened when there is sharing of resources.

7.3.3.5 Joint planning of activities

The importance of joint planning of activities was noticed by the water utility and NGOs. According to the interviews with the water utility shown in Box 7.17, joint planning was necessary for enhancing relationship between partners.

Box 7.17 Interviews with Water Utility on the partnership components

According to the interviews with the Lilongwe Water Board Revenue office – Mr. Zachariah “The key to our success has been our open planning between all implementing partners. Moreover, the kiosk unit is the focal coordinating office to which all partners have access for meetings or any clarifications. So far we have quarterly and yearly planning meetings which involve major partners. The monthly plans are for the staff in the office although major partners could attend the meetings at any time.”. (Field survey, 2004).

According to Lilongwe Water Board, the joint planning of activities was essential in ensuring coherent of activities by all partners. Moreover, establishment of the kiosk unit was also considered to be exemplary in raising the profile of informal settlements. The kiosk unit is managed jointly by all partners.

Participating NGOs in the partnerships also noted the importance of joint plans. Box 7.18 shows responses of the interviews with WaterAid.

Box 7.18 Interviews with WaterAid on the partnership components

According to the interviews with the WaterAid Programme Manager – Mr. Amos “Various activities have been implemented in the partnerships activities. However, all activities were planned together by all of us. This process is achieving good success as many kiosks are now being re-connected after the payment of water bills.”(Field survey, 2004).

According to WaterAid, joint planning was necessary to ensure that resources are properly allocated and actors are aware of their responsibilities. All major activities were planned by all partners in quarterly meetings where key actors are involved. Moreover, joint planning of activities enabled all partners to develop effective systems for monitoring and evaluation of activities. The system included regular meetings and reviews.

7.3.3.6 The use of contracts

Contracts arrangement between the water utility and NGOs were examined. According to the interviews shown in Box 7.19, the water utility favoured formal contract relationships between the water utility and CBOs.

Box 7.19 Interviews with Lilongwe Water Board on the partnership components

According to the interviews with the Lilongwe Water Board – Mr. Zachariah “*The relationships between partners are through contract arrangements. Currently there is a memorandum of understanding (MOU) which specifies responsibilities of each partner and the joint responsibilities of all partners. There are numerous advantages in using contracts and memoranda of understanding which in summary make relationships easier, more clear and effective.*” (Field survey, 2004).

Observations by the LWB show that formal contracts can help in a number of ways including: ensuring that commitment and resources provided by the partners are well documented; ensuring there is continuity of activities even during staff changes; ensure effective monitoring of partnership progress; clarifying different roles and responsibilities to avoid misunderstanding. Hence, according to the water utility, contracts and formal relationships are necessary for establishing proper working arrangements.

The NGOs also gave comments on the use of contracts as indicated in Box 7.20

Box 7.20 Interviews with an NGOs on the partnership components

According to the interviews with the CEO of CCODE Ms Sikhu “*Our experience with working with the local community is that we don’t have contracts with them but we have mutual agreements which are built on mutual understandings and trust. However linking with the water utility necessitates the development of contracts. I think they are useful although they should only be used as a blueprint.*” (Field survey, 2004).

The NGOs, viewed contracts as a useful tool although they argued that because many CBOs are informal, flexibility and innovation should also be allowed. They are therefore encouraged informal relationships to be developed.

The above comments indicate the importance of contracts and memoranda of understandings for enhancing partnerships relationships. However contracts should not be used as a blueprint which means there should be flexibility to allow innovations

The next section discusses the partnership facilitators which are essential factors for enhancing partnership relationships.

7.3.4 Partnership Facilitators

The previous sections analysed partnership drivers and components. This section presents findings from analysis of partnership facilitators. The investigation was guided by the research question which stated:

What are the partnership facilitators which could support the development of partnerships for improving water services to informal settlements?

An examination of partnership facilitators in the case studies was undertaken to find out key facilitators for enhancing partnership for improving water services in Lilongwe. Based on the above analysis, the key facilitators which were observed by all actors are:

- Supportive policy frameworks
- Availability of intermediary organizations
- Availability of funding

Details of these facilitators are discussed below.

7.3.4.1 Supportive policy frameworks

Policy frameworks were recognized to be important facilitators for developing partnerships. For instance, the water policy in Malawi recognizes the need to empower communities or beneficiaries to invest, own, operate and manage their own water systems. In informal settlements, the water policy is clear that the water supply in these areas should be improved and such a mandate is given to Lilongwe Water Board as the executing agency to implement the policy. Furthermore, the policy

- “Recognizes and encourages the role of other actors in the services including CBOs, NGOs and communities.

- Promotes local resources mobilization and project financing that supplement and complement public investment in water supply development and management.
- Considers the need to empower the beneficiary to operate, maintain and manage their water supply system. (MOWD, 2003)

Observation of the Lilongwe Water Board on policy issues showed that initially the development of water services to informal settlements was carried out on a restricted basis, limited mostly through a few public stand posts. Although the policy encourages the provision of water services to informal settlements, and has supported the work of NGOs and communities to date, there are no comprehensive documented guidelines that outline the preferred approach for serving the informal settlements. As a result, the process of identifying communities, working with communities to select options, develop and manage projects is done on an ad-hoc basis and, when necessary, approaches have been tailored to the needs of specific funding and agencies (Kariuki, 2003). The need to develop concrete strategies on how water services could be delivered to informal settlements is necessary.

7.3.4.2 Availability of intermediary Organizations

The importance of intermediary organizations in the partnership process was critically observed. The water utility saw the presence of the NGOs as an important facilitator for the interface with the communities. It was noted that for a long time, Lilongwe Water Board has been managing the community water kiosks without collaboration with NGOs. The work was quite challenging leading to many kiosks being disconnected. The realization that NGOs have skills and ability to interact with communities more easily, led to the incorporation of NGOs into the process. The importance of intermediary organizations was also noted by the water committees and communities. They considered the major roles undertaken by NGOs as trainers and facilitators. Most NGOs have skills in community mobilization and facilitation which are useful in working with communities.

7.3.4.3 Availability of funds

Availability of funds was observed to be an important facilitator for enhancing partnership development. A joint funding mechanism between the Lilongwe Water Board and NGOs was significant for achieving success in the partnerships.. Within the partnership arrangement for the Kiosk Unit, Lilongwe Water Board contributed MK 2,500,000 (US \$ 20,000) and WaterAid contributed MK 2,000,000 (US \$ 16,000) . It was found that partnership arrangement is strengthened by availability of funding from both partners.

7.3.4.5 Summary of the Partnership factors in Lilongwe

This section presented an analysis of the partnership factors which encouraged development of partnerships between the water utility and CBOs. Based on the analysis, it describes the drivers, components and facilitators. Table 7.7 shows the summary of the partnership factors.

Table 7.7 Summary of partnership factors for Lilongwe case studies

Partner/ Factors	Water Utility	NGOs	CBOs
Drivers	Improvement of water services Learning and innovation		
	Increase the market sales for water Improve customer services Cost reduction Mechanism to reduce vandalism	Social responsibility Supporting advocacy Cost reduction	Job creation
Components	Effective communication Commitment of all actors Trust and transparency		
	Sharing of resources The use of contracts Joint planning of activities The use of contracts	Sharing of resources The use of contracts Joint planning of activities The use of contracts	
Facilitators	Supportive policy frameworks Availability of intermediaries Availability of funds		

Key

	This block describes common drivers/components/ facilitators which were significant to all partner groups
	This block describes drivers/components/ facilitators which were significant to water utility
	This block describes drivers/components/ facilitators drivers which were significant to NGOs
	This block describes drivers/components/ facilitators drivers which were significant to CBOs

Table 7.7 provides the summary of partnership factors which were derived from the analysis in Lilongwe case studies. The following key issues are concluded.

- The common drivers which were perceived by all partners include: improvement of water services, learning and innovation. However each partner organisation noted specific drivers. While the drivers specific to CBOs include opportunity for job creation, the water utility perceived increased in market sales for water, improved customer services, cost reduction and a mechanism to reduce vandalism of water pipes as their specific drivers. The NGOs however noted: social responsibility, cost reduction and supporting advocacy work.
- The key components which were observed in the case studies include: effective communication, commitment, and trust. However the water utility and NGOs observed the importance of sharing resources, joint planning and the use of contracts. These were most observed by the water utility and NGOs because of their current involvement in the partnership activities in Lilongwe. Observation of these components in building partnerships is necessary.
- The key facilitators which were observed in the Lilongwe case studies include supportive policy frameworks, availability of funds and supportive role of intermediary organizations. Existences of these facilitators provide favourable conditions for enhancing partnerships growth.

7.4 EFFECTIVENESS OF WATER SERVICES

7.4.1 Introduction

This section compares effectiveness of water services between the partnership and non-partnership water schemes. The purpose of this section is to determine whether there is any significance difference in water service between the partnership and non-partnership water services in Lilongwe. This section helps to answer subsidiary question 4 of this research which is stated as:

“Can water services be improved through partnership between the water utility and CBOs?”

In this case study, water scheme at Chipasula was considered to be a partnership scheme as its water kiosks are managed jointly by the community and Lilongwe water board. Chinsapo water scheme is considered as non-partnership as its management is done by the community water committee themselves. In each settlement, segments of customers were sampled and their households interviewed. Detail of the analysis is contained herein.

7.4.2 Effectiveness of water services

The key water service characteristics which were compared are:

- Water reliability at the household
- Efficiency in addressing pipeline and technical problems.
- Affordability of service
- Water payment
- Customer participation in the service provision

7.4.2.1 Comparison of water reliability

In order to test the difference in the level of reliability between the partnership and non-partnership types of service, the following sub-hypothesis was tested.

Null hypothesis: There is no significant difference in the reliability of water services between the partnership water schemes and non-partnership water services.

H1: There is a significance difference in the reliability of water services between the partnership and non-partnership water services.

As a proxy of reliability, the households were asked, “How reliable are the water services in your household? Respondents were given choices as shown in the table below.

Table: 7.8 Reliability of water services between various levels of services

		Water reliability at your household					Total
		Very dissatisfied	Fairly dissatisfied	Uncertain undecided	Fairly satisfied	Very satisfied	
Chinsapo	Count	0	31	0	17	1	49
	% within Area	.0	63.3	.0	34.7	2.0	100.0
Chipasula	Count	13	2	4	6	25	50
	% within Area	26.0	4.0	8.0	12.0	50.0	100.0

The results in Table 7.8 show that households 62% of respondents at Chipasula were more satisfied with reliability against 36.7% of respondents at Chinsapo settlements. In order to ascertain the significance of how households perceived water reliability, a significance level of 0.05 was determined. The null hypothesis can therefore rejected at a significance level of $p < 0.05$ or accepted if $p > 0.05$

Table 7. 9 t-tests on water reliability as perceived by customers

Comparison of water reliability at the household	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Chipasula and Chinsapo	0	3.9	0	No

Table 7.9 shows the t-test comparison between reliability of water services at Chipasula and Chinsapo settlements indicating a $p < 0.05$; i.e. $p = 0$ which means that we reject the null hypothesis and accept the alternative hypothesis that there is a difference in water reliability between the water services at Chipasula and Chinsapo water schemes. The fact that Chipasula water scheme is being served by a partnership scheme means that water services have been demonstrated to be more reliable.

7.4.2.2 Comparison of efficiency in addressing pipeline & technical problems

In order to determine the difference in perception between the customers who are being served water by partnership and non-partnership approaches, the following hypothesis was tested:

Null hypothesis: There is no significant difference in the service efficiency to address pipeline and technical problems between the partnership and non-partnership water service delivery.

H1: There is a significant difference in the efficiency to address pipeline and technical problems between the partnership and non-partnership water service delivery.

Table 7.10 Efficiency of addressing pipeline and technical problems at water points

		Efficiency of solving technical problems at water kiosks					Total
		Very dissatisfied	Fairly dissatisfied	Uncertain undecided	Fairly satisfied	Very satisfied	
Chinsapo	Count	13	14	2	11	10	50
	% within Area	26.0	28.0	4.0	22.0	20.0	100.0
Chipasula	Count	22	2	4	3	19	50
	% within Area	38.	4.0	8.0	6.0	44.0	100.0

Table 7.10 shows the perception of customers on service efficiency to address pipeline and technical problems. The rating used was the satisfaction of the customers on how maintenance and repairs of their pipelines were being conducted by the service providers. The households who are being served by a partnership approach at Chipasula indicated a satisfaction rate of 50%, while households who are served by the non-partnership water scheme at Chinsapo indicated a satisfaction rate of 42%.

In order to determine the statistical significance of the results a statistical t-test was performed. The question posed was “Are you satisfied by your service provider on the efficiency to address the pipeline and technical problems at your water kiosk?”

Table 7. 11 t-test on the efficiency to address pipeline maintenance at the kiosks

Comparison of Efficiency of addressing pipeline maintenance to the kiosks	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Chipasula and Chinsapo	0.04	-0.235	0.815	yes

Table 7.11 shows a t-test comparison of efficiency to address the pipeline and technical problems between the partnership and non- partnership scheme. The findings indicated customers who are served by the partnership scheme indicated a

$p > 0.05$, i.e. $p = 0.815$ which means we accept the null hypothesis that there is no difference in the efficiency to address pipeline and technical problems. In both water schemes, Lilongwe water board was responsible to undertake maintenance. However, both schemes rated average satisfaction of how the water utility was responding to the maintenance.

7.4.2.3 Comparison of affordability of water services provided to the customers

In order to compare the levels of affordability between the customers who are being served water by the partnership and non-partnership approach, the following hypothesis was tested:

Null hypothesis: There is no significant difference in the level of affordability of water services between the partnership and non-partnership water service delivery.
H1: There is a significant difference in the level of affordability of water services between the partnership and non-partnership water service delivery

Table 7.12 Perception of customers on the affordability of water service

		Assess affordability				Total
		Very dissatisfied	Fairly dissatisfied	Fairly Satisfied	Very satisfied	
Chinsapo	Count	20	1	25	4	50
	% within Area	40.0	2.0	50.0	8.0	100.0
Chipasula	Count	8	1	2	39	50
	% within Area	16.0	2.0	4.0	78.0	100.0

Table 7.12 summarizes the perception of customers on affordability of water services.. From the results, the customers who are being served with the partnership approach at Chipasula have indicated a satisfaction rate of 82% while customers who are being served with a non-partnership approach at Chinsapo have indicated a satisfaction rate of 58%. However in order to determine the statistical significance of the results a statistical t-test was performed. The question was posed as “How affordable are the water services provided at the water point/ household?”

Table 7.13 t-test on affordability of water services perceived by the customers

Comparison of affordability of service	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Chipasula and Chinsapo	0.005	3.373	0	No

Table 7.13 indicates that customers who are served by the partnership scheme have indicated a $p \leq 0.05$, i.e. $p=0$ which means we reject the null hypothesis and accept the alternative hypothesis that there is a significant difference between the perception of households on affordability of water services between the partnership scheme at Chipasula and non-partnership water scheme at Chinsapo. The fact that at Chipasula, the water utility and community were involved jointly in setting the tariff is different from Chinsapo where the water tariffs were set by the local chief and did not consider the aspect of cost recovery or the ability of all people to pay for water.

7.4.2.4 Comparison of water payment procedures

In order to test the difference in the bill management and complaints procedures between the customer who are being served water by partnership and non-partnership approaches, the following hypothesis was tested:

Null hypothesis: There is no significant difference in how water payment is handled between the partnership and non-partnership water service delivery.
H1: There is a significant difference on how bills water payment is handled between the partnership and non-partnership water service delivery.

Table 7.14 Perception of customers on water payment

		Assess water payment procedure					Total
		Very dissatisfied	Fairly dissatisfied	Uncertain undecided	Fairly satisfied	Very satisfied	
Chinsapo	Count	8	13	1	7	21	50
	% within Area	16.0	26.0	2.0	14.0	42.0	100.0
Chipasula	Count	19	4	4	6	17	50
	% within Area	12.0	8.0	8.0	38.0	34.0	100.0

Table 7.14 above summarizes the perception of customers on water payment procedures. From the results, customers who are being served by the partnership approach at Chipasula indicated satisfaction levels of 72% on how the bills and complaints are being handled by respective institutions compared with households

who were being served by non-partnerships at Chinsapo water schemes who indicated a satisfaction rate of 56%.

However in order to determine the statistical significance of the results a statistical t-test was performed. The question was posed as “How satisfied are you with the water payment procedures for water services to your households?”

Table 7.15 t-test on water payment procedure

Comparison of water payment procedure	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Chipasula and Chinsapo	0.258	1.297	0	0

Table 7.15 shows that customers who are served by the partnership scheme have indicated a $p = 0$ which means that we reject the null hypothesis and accept the alternative hypothesis that there is a significant difference in the way water payment procedures are perceived by households of Chipasula and Chinsapo. As previously indicated, the water billing arrangement at Chinsapo was a flat rate charged per household. However at Chipasula water billing arrangement for water was charged at the water point per volume of bucket sold.

7.4.2.5 Comparison of the customer participation in the scheme

In order to test customer participation between the partnership and non-partnership schemes, the following hypothesis was tested:

Null hypothesis: There is no significant difference in customer participation in the decision making in the water scheme between the partnership and non-partnership water service delivery.

H1: There is a significant difference on how customer participation in the decision making for the water scheme between the partnership and non-partnership water service delivery.

Table 7.16 Perception of customer participation in the water services

		Customer participation in the service provision				Total
		Very dissatisfied	Fairly dissatisfied	Uncertain undecided	Fairly satisfied	
Area Chinsapo	Count	8	33	1	8	50
	% within Area	16.0	66.0	2.0	16.0	100.0
Chipasula	Count	0	9	11	30	50
	% within Area	.0	18.0	22.0	60.0	100.0

Table 7.16 above summarizes perceptions of respondents on customer participation in the water services. From the results, households who were being served by the partnership approach at Chipasula showed a satisfaction rate of 60% in customer participation in the decision making process as compared to households who were being served by a non-partnership approach at Chinsapo who showed a satisfaction rate of 16%. In order to determine the statistical significance of the results a statistical t-test was performed.

Table 7.17 t-test on customer's participation in the service provision

Comparison of customer participation in the service provision	Levene's test p	t	p' df(2-tailed)	is p' >0.05?
Chipasula and Chinsapo	12.798	-9.650	0	No

Table 7.17 shows that customers who are served by the partnership scheme have indicated a $p = 0$ which means we reject the null hypothesis and accept the alternative hypothesis that there is a significant difference in customer participation in the services perceived by households of Chipasula and Chinsapo. Chipasula water scheme was designed in a more consultative way where the water utility and water committee jointly managed the scheme. This is different from Chinsapo where the level of involvement and participation of communities was minimal.

7.4.2.6 Summary of effectiveness of service in Lilongwe

- Households who were being served by the partnership approach at Chipasula were more satisfied with the reliability of the water service than households at Chinsapo.
- The partnership water scheme at Chipasula was found to be more affordable to the households than the water scheme at Chinsapo. This was due to proper management including setting of realistic tariff to households.
- Households under the partnership arrangement were found to be happier on daily billing arrangement i.e. daily using a bucket, than those households who received monthly bills.

- Households who are served with the partnership scheme were more involved in the water services activities than customers from settlements served with non-partnership services.

7.5 OVERALL ASSESSMENT OF THE PARTNERSHIP

7.5.1 Introduction

This section discusses an overall assessment towards the use of a partnership approach for improving water services to informal settlements in Lilongwe. The key stakeholders included were: CBOs, NGOs, Water utilities, Municipal and Government officials. Detail of the analysis of perceptions is indicated in the sections below.

7.5.3 Perception of CBOs towards Partnership

The key informant interviews with leaders of water committees at Chipasula and Chinsapo were conducted to determine the perceptions towards development of partnerships. The discussions centred on the strengths, weaknesses, opportunities and threats of partnerships. Table 7.18 summarizes the perceptions of CBOs on partnerships development.

Table 7.18 Summary of key perceptions of CBOs on partnerships

Perceptions	descriptions
Strengths	Recognized the potential of the water utility to support communities and CBOs in terms of technical and management aspects.
Weaknesses	Realization that community representation in the partnership arrangement is a problem. In the absence of a strong community organization, the local chiefs are representing the communities in the relationships with the water utility.
Opportunities	Availability of many water kiosks in Lilongwe (more than 500 water kiosks) provide a possible option for developing association of water kiosk operators which could have a potential for being recognized by the water utility.
Threats	Political interference in the water scheme operation. As partnership entails an open and transparent system, local chiefs who are not honest could create barriers to the initiative.

Despite of the threats and weaknesses noted, the CBOs were of opinion that partnerships approaches are more beneficial in the improvement of water services to informal settlements.

7.5.4 Perception of NGOs towards Partnership

The key informant interview with NGOs was conducted in order to determine the perception of NGOs towards partnerships. The NGOs which were involved include WaterAid and CCODE. Table 7.19 summarizes the perceptions of NGOs towards partnership development. The discussions centred on the strengths, weaknesses, opportunities and threats of partnerships.

Table 7.19 Perceptions of NGOs towards partnership development.

Perceptions	descriptions
Strengths	Creation of opportunity for partners to share resources and benefits for all members involved
Weaknesses	The need for partners to be committed for the long term. This may also require additional time and resources which may be lacking for NGOs.
Opportunities	Existing relationships between the water utility and NGO could be used to stabilize the relationships.
Threats	Changes of staff in NGOs and the water utility could affect the continuity of the relationships.

7.5.4 Perception of Water Utilities towards Partnership

The key informant interview with the water utility was conducted to determine their perception towards the development of partnership with CBOs. Table 7.20 summarizes the perceptions of the water utility on the strength, weaknesses, opportunities and threats.

Table 7.20 Summary of perception of the water utility towards partnerships

Perceptions	descriptions
Strengths	Partnerships create opportunity of the water utility to extend coverage to meet the national and MDG targets.
Weaknesses	Partnerships requires huge commitment of individual and organizations which may require substantial resources to implement and sustain for the longer period of time
Opportunities	Availability of funding from donors and NGOs to implement various water schemes to informal settlements.
Threats	Institutional changes of the water utility from public to private which were about to take place, were feared to have implications on the priority of the water utility towards partnership arrangements.

7.5.5 Perception of Government and Municipality towards Partnership

The key informant interview with officials from Ministry of Water and Development and Lilongwe City Assembly were conducted to determine their perception towards development of partnerships. The discussions centred on the strengths, weaknesses, opportunities and threats of partnerships. Summary of perceptions of the Government and Municipal officials are shown in Table 7.21.

Table 7.21 Perception of Government and Municipality towards partnerships

Perceptions	descriptions
Strengths	Partnerships between the water utility and CBOs have more potential to improve the management of water kiosks which was a major problem.
Weaknesses	Development of partnerships may require time and enormous resources to sustain the process.
Opportunities	Availability of various policies which support collaboration and partnerships of various actors.
Threats	Shortage of water due to droughts which could affect availability of water services to the people.

7.5.6 Summary of stakeholders' perceptions

This section has analyzed stakeholders' perceptions on the use of partnerships between the water utility and CBOs to serve water to informal settlements. Stakeholders who were involved were: water utility; NGOs; CBOs; Government and Municipal officials. A SWOT analysis was used to highlight key issues on the

perceptions. Table 7.22 provides the summary of SWOT analysis on the stakeholders' perception.

Chapter seven presented the analysis of data collected during the research for

Table 7.22 Summary of SWOT analyses towards the use of partnerships in Lilongwe case studies

STRENGTHS	WEAKNESS
Strength <ul style="list-style-type: none"> Partnerships have more potential to improve the management of water kiosks which is currently a major problem. Partnerships bring an opportunity to maximize the potential of “forgotten players” in the water services. Partnerships help to reach the national targets and MDG’s of service delivery for informal settlements. Partnerships have helped to enhance proper operations of kiosks and avoid disconnections. 	Weakness <ul style="list-style-type: none"> Partnerships require time and high commitment of actors. Partnerships require additional finances which have to be sought from actors. Reaching mutual understanding of various issues is very difficult
OPPORTUNITIES	THREATS
Opportunities <ul style="list-style-type: none"> Availability of a large population of people living in informal settlements opens a huge market. Willingness of the water utility, NGOs and communities to work together. Availability of funding from water utility and NGOs for the activities. Existing good working relationships between Lilongwe Water Board, NGOs and communities Utilization of available policies. 	Threats <ul style="list-style-type: none"> Politics from local chiefs who may interfere with the process because of being cut off from their source of funds. Changes of staff from NGOs and utility can affect the pace of the process. The institutional changes of the water utility to PSP may affect the initiative.

Source: (Author, 2006)

Partnership Factors

The analysis of partnership drivers in Lilongwe indicated that factors are common and specific drivers. The common drivers were considered important by all partner groups. These drivers included improvement of water services, capacity building and learning. The specific drivers included increase in market sales for water, improved customer services and cost reduction relevant to the water utility, supporting social responsibility, advocacy (relevant to NGOs) and job creation (relevant to CBOs). These drivers reflected the organization’s institutional needs, context and the local circumstances. Generally it was found that in developing partnerships it is necessary to analyze the drivers/motives which encourage partners to work together. This will help partners to prioritize allocation of resources and time.

7.6 CHAPTER SUMMARY

Chapter seven presented the analysis of data collected during the research for Lilongwe case study. The following points provide summary of the findings.

Supply Chain Analysis

The study showed that CBOs managed kiosks provided large volume of water to poor households in Lilongwe. Hence the need for LWB to establish partnerships relationships with CBOs is important.

Current relationships and roles between Water Utilities and CBOs

There is formal relationship between the water utility and wealthier households in Lilongwe. The water utility has given priority to wealthier customers by installing water pipes for the existing and future customers in the areas. However the relationship between the water utility and CBOs kiosks has some limitations. Although the water kiosks are recognized by the water utility, lack of community identity has encouraged local chiefs to represent the community in negotiations with LWB, in which they sometimes represent their own interests.

Partnership Factors

The analysis of partnership drivers in Lilongwe indicated that there are common and specific drivers. The common drivers were considered important by all partner groups. These drivers included improvement of water services, capacity building and learning. The specific drivers included increase in market sales for water, improved customer services and cost reduction relevant to the water utility, supporting social responsibility, advocacy (relevant to NGOs) and job creation (relevant to CBOs). These drivers reflected the organizational/ institutional needs, context and the local circumstances. Generally it was found that in developing partnerships it is necessary to analyze the drivers/motives which encourage partners to work together. This will help partners to prioritize allocation of resources and time.

The key components noted in the research were effective communication, commitment, trust and transparency. Other components which were observed by the water utility and NGOs involved in the partnership include sharing of resources and the use of contracts. These components were necessary for ensuring partnership activities are properly structured and implemented.

The key facilitators for developing partnership noted were supportive policy frameworks, availability of funding and intermediaries.

The findings indicated that both government and NGOs policies were supportive to the development of partnership between water utility and CBOs. Furthermore it was revealed that all partners considered availability of funds to be important for enhancing relationships. Finally, the role of NGOs as intermediary was noted to be essential. NGOs provided skills on community mobilization and facilitation which was necessary in the partnership development.

Effectiveness of Water Services

Comparison of effectiveness of water services was conducted in order to determine significant differences in water services between the partnership and non-partnership schemes in Lilongwe. The analysis showed that households who were being served by the partnership approach at Chipasula, expressed satisfaction on water reliability than households who were served with non partnership scheme at chinsapo. In addition water services by the partnerships scheme was found to be more affordable to households than by the non partnership scheme. This was due to proper management of water services by the partnership schemes including setting of realistic water tariff to households. Moreover, households under the partnership arrangements were found to be happier on regular bills than those households who received monthly bills under non partnership schemes. Finally, households who obtained their water services from partnership scheme were more involved in the water service activities than households from non-partnership water scheme. In comparison, the effectiveness of water services shows that partnerships water schemes have more potential for providing effective water services, hence should be promoted.

Overall Assessment of Partnership

SWOT analysis was used to assess partnership between the water utility and CBOs in Lilongwe. The key strengths of partnerships noted in Lilongwe were the need for establishing proper management of kiosks to the informal settlements. However, the critical weaknesses (disincentives) of partnership include time, finances and commitment of all actors. The key opportunities include available water markets and existing good working relationships between Lilongwe Water Board, NGOs and communities. Finally, threats identified were institutional changes of water utility to PSP, which may affect the already established relationships and politics from the local chiefs.

CHAPTER 8

SUMMARY AND IMPLICATION OF FINDINGS

8.1 CHAPTER OUTLINE

Chapters six and seven presented analysis of field results for the case studies in Dar-es-Salaam and Lilongwe respectively. This chapter presents a synthesis of the key findings from the study and their implications. First, the guiding hypothesis and the research questions that directed the study are revisited with a view to testing the evidence that support them. Secondly, the findings from the household interviews, key informant interviews and focus group discussions are then distilled into a discussion of the implications of the research. Where relevant, the literature mainly from practitioners' sources is referred to support the arguments.

8.2 RESPONSES TO RESEARCH QUESTIONS AND HYPOTHESIS TESTING

This section presents the implications of the findings in relation to the primary and secondary research questions that were identified in Chapter 3 (section 3.4) and test the hypothesis (in section 3.3) in relation to evidence from the data collection and analysis.

The primary research question was stated as:

Can water utilities develop partnership with CBOs for improving water services to informal urban settlements?

This question is based on the premise that partnership arrangements will help to improve water services. In this context partnership means a voluntary collaborative agreement between the water utility and CBOs to work together for improving water services to informal settlements. The key partners who were explored in this research were water utilities, NGOs and CBOs.

The secondary research questions examined in order to answer the primary research question in detail were:

- **What are the current relationships between water utilities and CBOs; and what roles does each have in supplying water within urban areas?**
- **What factors encourage/ discourage development of partnership between water utilities and CBOs?**
- **Can water services be improved through partnership between the water utility and CBOs?**
- **What are the perceptions of stakeholders to the use of partnership approach for improving water services to informal settlements?**

The section ends with an examination of the main hypothesis that guided data collection and analysis. Findings from the research indicated that partnership between water utilities and CBOs are viable options for improving water services to informal settlements, hence should be given priority by the water utility.

Through partnership approach, water utilities and CBOs acquire benefits to suit their needs. The key benefits of partnership for water utilities include: obtaining reliable customer information which could be used for effective planning and implementation of the water schemes (see section 6.3.2.6), and access of resources for the implementation of water schemes to the informal settlements (see sections 6.3.2.3 and 7.3.2.4). The benefits of partnership to the CBOs are: establishment of reliable water services to informal settlements and recognition of CBOs as important players in the water service delivery (see section 6.3.2.5).

8.2.1 Primary Research Question

Can water utilities develop a partnership with CBOs for improving water services to informal urban settlements?

The research question stated in (section 3.4) led the researcher to explore aspects of partnership between water utilities and CBOs. The research compared effectiveness of the water services between partnership and non-partnership water schemes. Finally the research explored perception of stakeholders on the use of partnership approach.

The primary research question is explored in more detail through examination of the secondary research question.

8.2.2 Secondary research question 1

The first secondary research question is: What are the current relationship between the water utilities and CBOs; and what roles does each have in supplying water within urban areas?

The literature review in chapter two noted that water utilities have difficulty in supplying water to informal settlements. As a result CBOs and other informal water providers have stepped in to fill the gap. However, the study showed that donors, NGOs and water utilities are currently instigating the development of partnership for improving water services to informal settlements. An objective of this section is to discuss the existing relationships between water utilities and CBOs.

The study used supply chain analysis to identify key actors involved in the water services. The supply chain in Dar-es-Salaam indicated many types of informal water providers including household resellers; tank operators; kiosks and boreholes. However in Lilongwe, the supply chain showed that water kiosks are the major type of informal water providers. In both case studies, the role of CBOs in managing kiosks for providing water services to informal settlements was evident. Hence

establishing and strengthening partnership between water utilities and CBOs could enhance service delivery to these areas.

The relationship between water utilities and CBOs in the case studies varies. All water kiosks in Lilongwe are recognized and owned by the water utility, LWB. Kiosk operators are contracted to sell water on behalf of the water utility, hence there is a formal recognition with a contract between the water utility and kiosk operators. The roles of the water utility in the contract are to provide water to the kiosks and to undertake pipeline maintenance. In return, water kiosk operators are responsible for paying water bills. Most contracts were developed by the water utility in order to ensure that kiosk operators pay the water bills. Despite of all these initiatives, most CBOs have been facing difficulties in managing the kiosks leading to failure in paying their water bills.

Similarly, in Dar-es-Salaam, the relationship between the water utility, DAWASA, and community managed kiosks are formal. Formalisation included registration of these kiosks by the water utility with an account number to facilitate payments. However, lack of community identity has affected the level of their involvement. These findings supports the literature which argue that community management in the urban setting has challenges mainly due to the lack of homogeneity (Batchelor and Scott, 2001; WSP (2005).

The roles of the water utilities, NGOs, and CBOs in both case studies were examined in sections 6.2.3 and 7.2.3. Findings showed that the roles of NGOs in water services included: facilitation, capacity building, provision of finances and intermediary function. However, water utilities were responsible for providing technical and managerial support towards water supply services. The CBOs have a critical role for mobilizing community and retailing water services to the customers. Each actor plays a significant role in the service delivery; therefore integration of activities is necessary to ensure effective water services to informal settlements.

8.2.2.1 Implications

The significant role played by CBOs in informal settlements implies that it is important for water utilities to develop partnership with them in order to improve water services to informal settlements. However, a partnership between water utilities and CBOs is a recent phenomenon which needs capacity building on partnership skills through training, on how such partnerships could be developed. Aspects such as formal/informal contracts are crucial on the relationships. Furthermore adequate support for CBOs is required to enable them acquire a stable institutional structure which could be used to establish relationship with water utilities. This may require proper registration as water user associations, with clear roles, responsibilities and leadership.

8.2.3 Secondary research question 2

The second secondary research question is: **What factors encourage/discourage development of partnership between water utilities and CBOs for improving water services to informal settlements?**

Findings to respond to this research question necessitated the researcher to investigate the drivers, components and facilitators as developed in the conceptual framework in section 2.6.3. Discussions of these factors are detailed below.

8.2.3.1 Partnership drivers

In both case studies, respondents indicated their perceptions on the drivers towards partnership development. These include the common drivers and specific drivers.

The common drivers

Findings of the analysis shown in sections 6.3.2.1 to 6.3.2.4 indicated the common drivers for the Dar-es-Salaam case studies as: *improvement of water services, capacity building and learning; availability of finance and cost reduction*. Similarly

the common drivers which were revealed in Lilongwe and discussed in sections 7.3.2.1 and 7.3.2.2 are: the *improvement of water services; learning and innovation*.

However, the drivers on the *availability of finance* and *cost reduction* were more critical in the Dar-es-Salaam case studies than in Lilongwe. This is because respondents in Dar-es-Salaam considered the importance of these drivers in order to address poor infrastructure of water supply in the city. By contrast, in Lilongwe, the water supply infrastructure was observed to be much better developed with water supply systems available to all areas, including informal settlements.

The findings of these drivers are also discussed in the literature. For instance, discussing the goal for developing partnership, Plummer (2002b) argues that the key motive for developing partnerships should always be to improve service delivery to all people in the cities. When partners are connected to this goal they will collaborate effectively to achieve the goal.

Ogu (2000) noted the importance of partnership as a strategy for enhancing financial, material resources and expertise of various sectors towards the improvement of urban environment infrastructure. He argues that through partnerships more resources can be attained. This argument is also supported by the finding in Dar-es-Salaam where it was revealed that the enthusiasm of the water utility to work in partnerships with NGOs and the community was mainly motivated by availability of funds from the World Bank and NGOs. However, the roles of donors and NGOs in financing partnerships have been criticised. For example, while investigating partnerships between International NGOs and local NGOs in Bangladesh, Ahmad (2006) argue that donor influence towards partnership development if not well planned can be detrimental leading to dependent partnerships. Dependent partnerships have a blue print character and are constructed at the project planning stage according to the rigid assumptions about comparative advantages of partners involved (Lewis, 1998; James, 2000). Indeed there is a need to have clear guidelines through which partnerships can be funded.

On the other hand Tear Fund (2001) noted the importance of cost reduction. They argue that the water utility in Cape Town was motivated to work with communities and CBOs in order to reduce the costs and enhance customer services. The costs of

water schemes which were implemented with community involvement were 60% less when compared with the schemes which were implemented by conventional methods (Tear Fund, 2001). This argument is further supported by BPD (2002) who argues that innovative partnerships can help to reduce both the capital and operation costs of new infrastructure to serve the poor customers. The research findings have also shown that water utilities, NGOs and CBOs considered cost reduction as an important driver for building partnership.

The perspective of capacity building as a motivation for developing partnerships was also observed by Mvula (2002). They argue that partners who were involved in BOT (Builds Operates Transfers) contracts for managing water services for the urban poor in South Africa were motivated to develop partnership in order to enhance skills for managing community managed water schemes. Findings from the research also indicated that water utilities, NGOs and CBOs were motivated to develop partnership in order to gain skills and tactics on how to provide better services to informal settlements.

The specific drivers

The specific drivers which were observed by the water utility in Dar-es-Salaam in section 6.3.2.6 are: *increase in the market and customer relationships*. These drivers were similarly observed by the water utility in Lilongwe with an additional driver on the need to: *identify mechanisms to improve management of water kiosks*.

Both water utilities in Dar-es-Salaam and Lilongwe were more concerned with these first two drivers because they are key attributes of water utilities, which include its mandate to provide water services to all people as well as to achieve cost recovery. These findings confirm the earlier observation noted in section 2.6.5.1 that drivers for business partnerships should be to enhance market advantages and that the stronger integration of actors can enhance an organization's marketing mix and create new markets (Lambert et al 1996). In addition, they noted that integration of activities through partnerships can lead to service improvement for customers in terms of accurate information and participation. Plummer (2002) also supports these

findings and argued that the drivers for a water utility to form partnerships are to generate profit and subsequently more opportunities for further profit. It is therefore clear that a driver for water utilities to develop partnership with other actors is to enhance their business commitment.

On the other hand, findings in sections 6.3.2.7 and 7.3.2.5 reveal specific drivers perceived by NGOs in Dar-es-Salaam and Lilongwe respectively, which are: *supporting an organization's vision, advocacy and achieving social responsibility*. These drivers show characteristics of NGOs which have been to support and advocate for the social needs of the people. These findings are also supported by Plummer (2002c) and Mvula (2000) who argue that most NGOs are motivated to develop partnerships with the water utility in order to ensure equality and improvement in the quality of services for the poor (Plummer, 2002c; Mvula, 2000). Hence, the role of NGOs is important in supporting participation of people in the partnership process.

The findings in section 6.3.2.5 also indicate specific drivers of the CBOs in Dar-es-Salaam which include: *job creation, addressing security of tenure and recognition*. These drivers were considered important because most settlements in Dar-es-Salaam have no security of tenure; hence communities and CBOs are not officially recognized by service providers. Moreover due to poverty and lack of formal occupations, the community considered job creation as an opportunity for income. This result corroborates the findings of the Lilongwe case studies analysed in section 7.3.2.3 indicating the importance of job creation as a driver for developing partnerships. Plummer (2002c) also supports these findings and argues that, the motive of all CBOs is to make a living, hence when developing partnerships this need has to be considered.

8.2.3.2 Partnership components

The key components for developing partnerships as analysed in sections 6.3.3.1 to 6.3.3.3 for the Dar-es-Salaam case studies are: *effective communication, commitment of partners, joint planning and sharing of resources*. These components were also observed in Lilongwe. However, the aspects of joint planning and sharing of

resources were strongly considered by the partners in Lilongwe. This is because the partnership in Lilongwe has evolved from the needs of the partners themselves; hence their commitment in planning and sharing of resources was much clearer. On the other hand, the partnership in Dar-es-Salaam, especially the CWSSP, was more influenced by the World Bank and there was an indication of less commitment in terms of sharing resources.

Similar findings on these components are also reflected in the literatures. Innocencio and David (2006) described the public-private community partnerships to deliver water services to the urban poor in Metro Manila the Philippines. They argue that the key to success of partnerships depends on effective communication of partners. They noted that through effective communication it was possible for partners to develop plans together and have strong coordination. Furthermore, WSP (2005) described a case study of private, public and social partnership in Peru and noted that implementation of water schemes to the community was achieved through effective communication strategies which existed among all the stakeholders involved, and recognition of each partner's contribution.

Moreover, sections 6.3.3.5 and 7.3.3.3 analysed the importance of trust for both Dar-es-Salaam and Lilongwe case studies. NGOs and CBOs noted that openness and transparency of activities undertaken by the water utility with other players are the keys for their participation in various processes. These findings are also supported in the literature. BPD (2006) describes the essence of trust among partners as necessary in order to avoid opportunistic behaviour which may not be welcomed by the other partners. This argument is also supported by Badshah (1996) who suggests that genuine partnerships must include the principles of equity and transparency of operations. He further argues that the importance of trust in collaboration for urban services is critical for successful programmes.

Finally, the use of contracts as a component for developing partnership was analysed in sections 6.3.3.6 and 7.3.3.6 for Dar-es-Salaam and Lilongwe case studies respectively. In both cities, water utilities noted the importance of using formal contracts for enhancing partnership. The study found that formal contracts have the potential for clarifying relationships among actors hence enhancing the commitment

of partners in the relationship. Box 8.1 shows key points noted in the Lilongwe water contracts

Box 8.1 key points noted in Lilongwe contract relationship

- The obligation of the water utility (LWB) in the contracts is to ensure that water is available to the kiosks at all times. Moreover LWB is responsible for all maintenance and repairs of the large pipe networks.
- The obligation of NGOs is to mobilise communities to plan and manage the water scheme in a sustainable manner. This includes ensuring that systems are in place to recover the costs of water consumed.
- The role of CBOs is to operate and manage the water kiosk. This also includes undertaking minor maintenance to the kiosk.

However, NGOs in the case studies argued that while formal contracts may have importance, the need for the water utilities to be flexible in developing working relationships with other actors, especially the CBOs is also important.

Various scholars have argued the rationale of contracts relationships. For example Poppo and Zenger, (2002) argue that the governance of inter-organisational relationships involve more than formal contract and requires flexibility. Formal contracts specify roles and responsibilities to be performed and penalties for non compliance, informal contracts refer to enforcement of obligations, promises and expectations that occur through trust and commitment (Goo and Nam, 2007). However the type of relationships to be developed will vary depending on the context and capacity of the partners. For instance, in an attempt to provide guidelines on structuring partnerships agreements in water and sanitation for low-income communities, Evans et al (2004) argue that field experience shows that practices vary widely with some partnerships relying on formal, binding contracts and others being more loosely and informally organized. Also the Blantyre Water Board (BWB) in Malawi which experience of working in partnerships with CBOs and NGOs for a number of years had to relax some of the building and pipeline standards in order to establish relationships with communities (Moran and Batley, 2004). This view is also echoed by Hoffman and Schlosser (2001) who argue that despite the importance of strategic planning and partnership preparations, the value of partnerships has to be developed as it evolves, hence flexibility is very important. This shows that in

developing partnerships, flexibility should be considered to allow both formal and informal relationships to be developed, depending on the local context.

8.2.3.3 Partnership facilitators

The key facilitators which were analysed in sections 6.3.4.1 to 6.3.4.4 for the Dar-es-Salaam case studies are: *available policy frameworks; availability of intermediary organizations, numerical size and operation scale of partners; and monitoring and evaluation*. Moreover findings shown in section 7.4.3.1 to 7.3.4.3 for the Lilongwe case study indicated the key facilitators as *available policy framework, availability of intermediary and availability of funds*.

These findings are also supported by the literature. For instance, Hardoy et al (2005) argue that in Buenos Aires, the water utility failed to provide water services to low-income neighbourhoods because of the absence of specific pro-poor policies within the concession contract. Plummer (2002b) also argues that policy and legislation are very important for allowing smooth operation of the CBOs. Therefore governments should aim to create a policy framework that not only ensures long term service provision but also includes recognition of CBOs in the service delivery.

In addition, some literatures also support the importance of NGOs as intermediaries in the water services. For example Nickson and Franceys (2003) suggest that NGOs have a critical role in bringing their experience of working with communities and their potential skills of acting as intermediary between the public sector, private sector and the urban poor. This argument is further supported by Marvin and Laurie (1999) who argue that in Cochabamba in Bolivia, the involvement of community water users in the extension and management of water works was made possible through the active role of NGOs. It is not an exaggeration to say that NGOs have made an immense contribution towards development of community organizations and management of water schemes in various countries (Snell, 1998). Lessons on inclusive partnership for water services indicate that NGOs play a critical role in supporting initiatives for water services delivery to informal settlements (Plummer, 2001c), hence their engagement should be encouraged.

Difference in numerical size and operation scale of partners was evident in Dar-es-Salaam. Findings in section 6.3.4.4 show that, all CBOs operate in isolation without a representative body or association, which means it is difficult for the water utility to establish a relationship with all actors unless there are NGOs to act as intermediaries. This observation was not evident in Lilongwe because CCODE, as a local NGO, represented the views of the women associations which were most involved in managing water kiosks from households in many parts of Lilongwe. The difference in numerical size and operation scale of partners is very much related to power difference between the partners which was discussed in Chapter 2. According to Blagescu and Young (2005), a power balance can be achieved by engaging more partners into joint planning and open communication. Other consideration should include the possibility of forming associations where their efforts, resources and voice can be heard by the water utilities. For instance WUP (2003) supports the establishment of tanker and vendor associations in countries such as Ivory Coast, Ghana, Nigeria and Benin. Through associations, the vendors entered into dialogue with utilities, and thus improved the terms and conditions under which they work (WUP, 2003). The current research indicate that formation of an umbrella association of CBOs in the case study locations could have mutual advantages for both its members and the water utilities, hence should be considered.

Finally, monitoring and evaluation were analysed in both case study locations. Findings in sections 6.3.4.4 and 7.3.3.5 shows that water utilities and NGOs in Dar-es-Salaam and Lilongwe respectively supported establishment of effective monitoring and evaluation systems. They considered frequent meetings and reviews as important tool to ensure that the activities planned are being achieved. Through monitoring and evaluation, it is possible to assess whether the partnership is adding value to what was already happening. Moreover, the importance of monitoring and evaluation is also supported in the literature. El Ansari et al (2001) and Tennyson (2004) who argue that key aspects which are critical when considering monitoring and evaluation of partnerships are: “evaluating whether a partnership is doing what it set to do; assessing whether a partnership has an impact beyond its immediate stakeholder group members; determining whether a partnership is sustainable and self sustaining; and evaluating whether a partnership has added value”. Therefore there is a need for partners to consider establishment of effective monitoring systems.

8.2.3.4 Implications

Both case studies in Dar-es-Salaam and Lilongwe have revealed the factors which motivated all actors to develop partnerships, hence it is crucial for agencies promoting partnerships to gain understanding of drivers, component and facilitators as key factors which form basis for planning and development of the partnerships. Moreover, partnership development is a process which requires constant innovation; it is important for the partners to enhance their skills and knowledge on partnership development and processes.

8.2.4 Secondary research question 3

The third secondary research question is: **Can water services be improved through partnership between water utilities and CBOs?**

In order to respond to this question, effectiveness of water services between the partnership and non-partnership water schemes in both case studies was compared for both case studies. Key issues which were compared include reliability of water services, efficiency to address pipeline and technical problems, affordability of services, water payment procedures and customer relationships. These are discussed below.

8.2.4.1 Reliability of water services

Reliability of water services between the partnership and non-partnership scheme was analysed in section 6.4.2.1. It was found that due to poor infrastructure in Dar-es-Salaam, reliability of water services was a major problem leading to water rationing in all settlements. On contrast, findings shown in section 7.4.2.1 for Lilongwe case studies, revealed a much better reliability of water services at Chipasula, a partnership water scheme, than Chinsapo, a non-partnership scheme. Consequently, reliability of water services in Lilongwe was more related to poor management resulting in disconnection of water services to the kiosks rather than the actual supply problem as was evident in the Dar-es-Salaam case study.

8.2.4.2 Efficiency in addressing pipeline and technical problems

Efficiency in addressing maintenance and technical issues was compared between the two case study cities. Section 6.4.2.2 showed that in Dar-es-Salaam, the partnership schemes had more capacity and sense of maintenance than the non-partnership schemes. In contrast section 7.4.2.2 showed that in Lilongwe, both schemes at Chipasula and Chinsapo indicated no significant difference on how the maintenance of water systems was addressed. This was due to the fact that in both schemes, the water utility was responsible for undertaking maintenance; therefore maintenance was not part of partnership arrangements. Unfortunately, Water schemes in Lilongwe have not been effective due to various problems including transportation, insufficient skills on maintenance by the CBOs.

8.2.4.3 Affordability of services

In both study locations, affordability of water services was examined. Section 6.4.2.3 showed that in the Dar-es-Salaam case study, the combination of efforts by different stakeholders in the partnership water schemes had enabled the price of water to be more reasonable than in those water schemes managed by private individuals. For instance, while the price of water charged at the CBO kiosks at Keko Mwanga and Hanna Nassif settlements were purchasing water at Tsh 20/- (US \$ 0.02) per 20 litres of bucket, the price of the same volume charged by household resellers were Tshs 50/- (US \$ 0.05). The price of water sold by water vendors varied between Tshs 50/ (US \$ 0.05) - to Tshs 200 (US \$ 0.2) depending on the distance and availability of water.

Similarly, section 7.4.2.3 indicates that in Lilongwe, the price of water was also felt affordable by the households using a joint management (partnership approach) water scheme at Chipasula than at Chinsapo. Initially, the price of water at Chipasula was slightly higher at MK 50 (US \$ 0.38) per pail to take care of the previous water bill debts but during the study period price was MK 10 (US\$ 0.08) per pail. In contrast, poor management of water scheme at Chinsapo has led to disconnection of water services from kiosks therefore households were obtaining expensive water, MK 100(US\$ 0.8) from other alternative sources.

8.2.4.4 Water payment procedures at household

The arrangement of water billing and water payment was investigated in both case studies. It was found in section 6.4.2.4 that households in Dar-es-Salaam case study who are served by partnerships schemes were more satisfied with the on-the-spot smaller payments for the water collected at the water points. This was due to their informal employment and lack of regular income. Similarly, this aspect of water payment was also observed in Lilongwe. Section 7.4.2.4 shows that involvement of the water utility at Chipasula facilitated establishment of realistic and affordable water prices to the community, unlike previous arrangements where the water committees and local chiefs used to suggest monthly water sales which were not related to the water consumed.

8.2.4.5 Customer participation

The levels of customer participation and involvement in water services activities were examined. Section 6.4.2.5 shows that in the Dar-es-Salaam case study, households who were being served by partnership arrangements appeared to be more informed and involved about various aspects of the water services than households who were being served by non-partnership water schemes. For instance households at Keko Mwanga B who used the partnership water scheme from kiosks were relatively more informed and involved about the water prices and maintenance plan for their water scheme than other households who used other options. This result corroborates the findings from the Lilongwe case studies analysed in section 7.4.2.5, where it was found that customers at Chipasula, a partnership scheme, were more involved and felt a greater sense of participation in their water project than the customers at Chinsapo, which was a water scheme with no partnership arrangements.

8.2.4.6 The implications

The analysis of effectiveness of water services in both case studies has shown that appropriate technical design and implementation of the water systems is necessary to ensure availability and reliability of water services to the customers. Hence involvement of water utilities should be involved from the beginning to ensure that technical expertise is available. Moreover, the study revealed that an appropriate mechanism to establish pricing for water services is important to enhance affordability of water services to all customers. Achieving affordable price levels may require involvement of the community, CBOs, and water utilities to gain an understanding of household income levels and their willingness to pay. Hence, facilitation inputs in this process are required. Finally, customer participation in water service was found to have potential for enhancing relationships. Partnership need to establish mechanisms through which customers could also be involved in the process. This could include regular meetings and establishment of customer care services within water utilities office to respond to the needs of customers.

8.2.5 Secondary research question 4

The fourth secondary research question is: What are the perceptions of stakeholders to the use of partnership approach for improving water services to informal settlements?

The research analyzed stakeholders' perceptions on the use of partnerships for improving water services to informal settlements. Stakeholders' satisfaction is very important as their views and support can lead to indications of how the systems can be sustained. Key stakeholders who were involved in the analysis in the two case studies include the Ministries of water, water utilities, Municipalities, NGOs, and CBOs. Key parameters which were analysed include strengths, weaknesses, opportunities and threats of partnerships; and these are discussed below.

8.2.5.1 The strengths of Partnership

Findings on the stakeholders' perceptions noted that all respondents indicated that partnerships have significant potentials and strengths. They explained that through partnerships it is possible to improve water services to informal settlements. In Dar-es-Salaam, the respondents considered partnership as a mechanism to enhance governance and accountability of water schemes. This was found critical in Dar-es-Salaam because no co-ordinated framework for managing water systems for informal settlements had yet been developed. Each actor was implementing its own independent projects. On the other hand respondents in Lilongwe revealed the strength of partnerships as a mechanism to improve the management of the available water kiosks. The strengths of partnerships were also related to the motives which encourage partners to develop collaboration.

8.2.5.2 The Weaknesses of partnership

Findings on the stakeholders' perceptions on the weaknesses revealed that partners were aware of the weaknesses and challenges affecting the development of partnerships. It was noted that development of partnerships is not easy, and requires substantial time and commitment of individuals within organizations. Moreover it requires substantial resources to support the activities. It was also found that keeping the morale and momentum going for a long time could be a challenge, especially if there is inequality of partners in terms of size, structure and is apparent. Frequent monitoring and review activities were found to be necessary to ensure that partners were continually motivated in the process. Discussions on these barriers are also supported by the literature. O'Looney (1997) noted the key disincentive to partnership development as power difference among the partners. Poor structures and lack of legality of the water committees was also revealed as a barrier to water utility to develop partnerships (WUP, 2003).

8.2.5.3 Opportunities for partnership

The case studies in Dar-es-Salaam and Lilongwe indicated that respondents were aware of the available opportunities for partnerships. Both case studies locations

revealed availability of large populations of people living in informal settlements who lack adequate water services, indicating the opportunity for partners to work together to address the need. Moreover in both cities, the existing CBOs and NGOs were willing to collaborate with water utilities for improving water services to informal settlements.

Other opportunities include available policies and potential donor support. It was revealed that in both case studies locations, government policies supported the initiatives for providing water services to informal settlements. They also recognised the role of CBOs in the water service delivery. In addition, it was found that due to the current trend of many donors to support collaborative projects, many actors including governments, water utilities and NGOs have noticed this trend as an opportunity.

8.2.5.4 The Threats for Partnership

Despite the strengths and opportunities, partnerships have certain threats which were observed by respondents in both cities. The aspect of political interference was noted to be critical for developing partnerships. With multiparty systems in place in both countries, there was a trend for some leaders to use water schemes to gain political powers leading to unnecessary conflicts in the communities. Another threat which was more critical in Dar-es-Salaam case study was shortage of water supply. It was revealed that current water sources were not enough to supply to the entire population and therefore the city would need to invest in other water sources. Finally, the aspect of transfer of staff within the NGOs and the water utility was noted in Lilongwe as a threat towards sustainability of partnerships.

8.2.5.5 The Implications

Findings indicated the potential for partnership to improve water services to informal settlements. Hence there is a need for water utilities to initiate the process through which this approach is put into practice. However sustainability of such partnerships depends on significant funding, effective governance and accountability. Donors and NGOs should be encouraged to provide funds for the partnerships projects. Moreover

systems need to be developed which will enhance effective governance and accountability among all partners involved.

8.2.6 Hypothesis testing

The guiding hypothesis stated in section 3.3, and tested in order to answer the research questions is:

“Partnership between water utilities and CBOs is an appropriate approach that can be used to improve water services to informal settlements in Dar-es-Salaam and Lilongwe”.

The research hypothesis directed the research towards examining the key aspects of partnership. The study revealed that while partnership between water utilities and CBOs are appropriate for improving water services to informal settlements, they are not a panacea. They require time, efforts, resources and supportive role of NGOs intermediation to make it work. Moreover it requires skills and ability of partners to balance power relationships which exists among partners.

8.3 IMPLICATIONS OF THE THEORETICAL FRAMEWORK

The primary purpose of this research was to investigate how water utilities and CBOs in developing countries could develop partnerships and whether partnerships are beneficial. From the literature review in chapter 2, (section 2.6.6), the partnership model based on supply chain concepts was proposed as a tool for investigating the factors that encourage development of partnerships. The partnership model asserts that for a successful development of partnership, partners must be motivated by certain benefits which they will obtain from the partnership. Moreover, the partners must be willing to participate in the partnership activities. The model also suggests supportive environmental factors which could allow partnership to grow and be strengthened.

This section reflects on the impact of this study on the conceptual partnership model.

8.3.1 Implications of the Elements of Partnership

The literature in section 2.6.4 proposed the partnership model as a framework for this research. As noted, the elements of the partnership model were the drivers, components and facilitators. However, the partnership model was initially developed for business supply chains where actors related through business and logistic relationships (Mentzer, 2001; Lambert et al, 1996). Also the model was designed primarily as a tool to help design new partnerships. In this regard, each party desiring to join the partnership should assess the drivers and appropriateness of partnering. If both parties decide that a partnership is viable, they must jointly evaluate the facilitators and agree on the type of partnership and implementation of the components (Lambert et al, 1996). However, from different perspective, Xiangyang et al (2003) used the partnership model to investigate the difference between existing traditional distribution channels of fresh produce and coordinated supply chain partnerships of fresh produce for supermarkets. Through the application of the model, they were able to determine the differences in relationships between the traditional and coordinated supply chains. They noted that customers within the supply chain partnerships were more satisfied by the level of services than other customers who were served by traditional distribution channels.

The research has shown that water services to informal settlements, where water utilities and CBOs are involved, have similarities with supply chain concepts. However, the partnership model was applied differently in the following aspects. First the partnership model was used to investigate partnerships between water utilities and CBOs. In the current research, the difference in numerical size and operation scale of partners was noted to have an influence in the partnership arrangement. Second, indicators for assessing the factors that encourage formation and development of partnerships between water utility and CBOs were determined in the literature and verified by the stakeholders prior to the field research. Analysis of the partnership factors was geared towards determining the common factors which were relevant to all partners and the specific factors which were relevant to individual partner groups. The final observation noted that the Lambert Model had limitations in investigating disincentives of partnerships which necessitated the research to use SWOT analysis approach.

8.4 IMPLICATIONS OF THE FINDINGS: GUIDANCE ON HOW TO DEVELOP PARTNERSHIP

The thesis so far has addressed the findings from the data in a logical manner. Initially, the results were compared to the guiding hypothesis and the research questions with a view to testing their validity. Furthermore, the implications of the research on the theoretical framework used were discussed. In this section, a further analytical step is taken by applying the findings of the research to existing practice. While most partnerships share some common elements or characteristics, there is no ideal or benchmark relationship which is appropriate in all situations because each relationship has its own set of motivating factors driving its development. Hence some guidance points derived from this study can enhance development of partnerships development. Data from the field in both Dar-es-Salaam and Lilongwe showed that partnerships between water utilities and CBOs can be developed through planning, implementation and monitoring and evaluation stages.

The planning stage involves analyzing the context through which partnerships will be developed. It also involves examination of the partnership factors (drivers, components, facilitators) and disincentives which are critical factors for partnership development. Implementation stage involves institutionalization and engagement process of the activities to create and develop partnerships. The monitoring and evaluation stage include monitoring of on going partnership activities, and making necessary modifications.

Detail discussion of the key elements shown in Fig 8.1 is as follows.

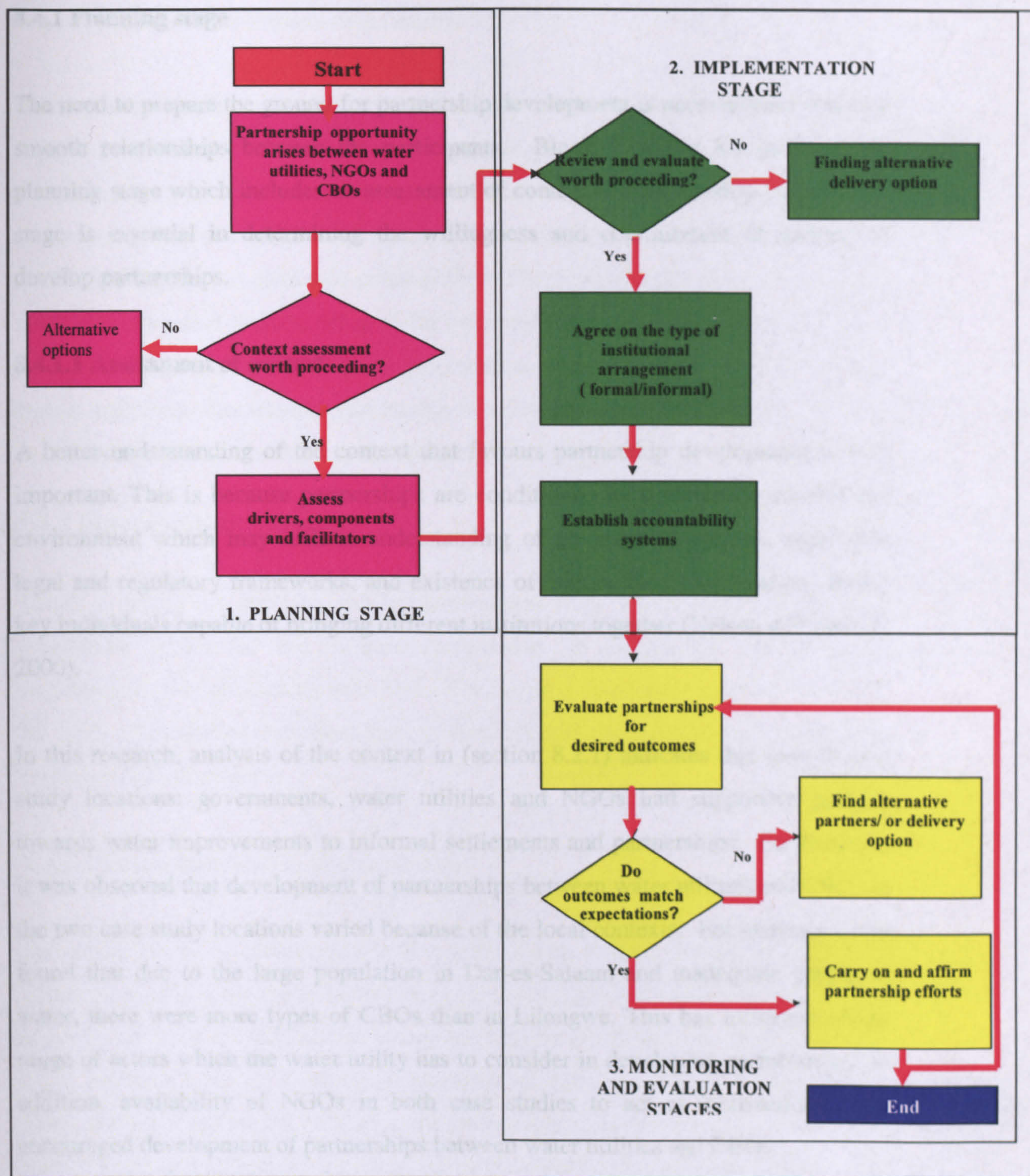


Fig 8.1 Guideline for developing partnerships between water utilities and CBOs.

8.4.1 Planning stage

The need to prepare the ground for partnership development is necessary for ensuring smooth relationships between the participants. Block 1 of Fig 8.1 indicates the planning stage which includes an assessment of context and partnership factors. This stage is essential in determining the willingness and commitment of partners to develop partnerships.

8.4.1.1 Assessment of context

A better understanding of the context that favours partnership development is very important. This is because partnerships are conditioned by a particular context and environment which may include understanding of government policies, supportive legal and regulatory frameworks, and existence of intermediary organizations and/or key individuals capable of bringing different institutions together (Nelson and Zadeck, 2000).

In this research, analysis of the context in (section 8.2.1) indicates that in both case study locations: governments, water utilities and NGOs had supportive policies towards water improvements to informal settlements and partnerships. Furthermore, it was observed that development of partnerships between water utilities and CBOs in the two case study locations varied because of the local contexts. For instance it was found that due to the large population in Dar-es-Salaam and inadequate supply of water, there were more types of CBOs than in Lilongwe. This has influence on the range of actors which the water utility has to consider in developing partnerships. In addition, availability of NGOs in both case studies to act as intermediaries has encouraged development of partnerships between water utilities and CBOs.

It is therefore important for agencies and actors who promote partnerships to develop more time to understand the contexts in which the partnerships will function. Through the assessment of the context, actors may decide if it is worth continuing with further development of the partnership, or looking for an alternative option.

8.4.1.2 Assessment of Partnership factors

Successful development of partnerships between water utilities and CBOs will also depend on the three factors: drivers, components and facilitators. Findings on the analysis of partnerships factors in sections 6.6 and 7.6 noticed the critical importance of understanding the motivating forces (incentives) and disincentives behind the decision of partners to enter into collaboration. This is also supported by Austin et al 2004 who argue that understanding of the partnership factors is essential because they form the cornerstone upon which the partnerships are built. The assessment of these factors will determine whether partnership is a feasible option for the water services, or whether an alternative delivery option should be sought.

8.4.2 Implementation stage

Block 2 of Fig 8.1 indicates the implementation stage which involves setting up appropriate levels for the various components in partnership activities, and implementation of partnership activities. Key issues at this stage include decisions on the types of institutional relationships, governance and accountability of partnership. These are described below.

8.4.2.1 Institutionalisation of Partnership

The development of partnerships will require water utilities, NGOs and CBOs to agree on specific components (activities). However, this may require partners to first agree on the type of institutional arrangement to be developed. As noted in section 8.3.2, different types of institutional arrangement exist for managing water kiosks. These include both formal and informal arrangements. However, the complexity of how to manage partnerships may lead partners to institutionalize their collaboration. Kjaer, (2003) argues that formalizing the relationships among partners has potential to achieve sustainable services and have wider societal impact. The institutionalization process may involve: engagement of all actors in a partnership; development of mechanisms to sustain partnerships and institutional reform e.g. MOUs and regular reviews; where partnerships influence institutions to enable them to function more effectively and efficiently (Tennyson, 2004).

The importance of institutionalisation of partnerships was noticed in this study. For instance, findings in section 7.3 show that the institutionalisation of partnership initiatives in Lilongwe gave rise to a well established special unit to deal with the management of water kiosks in informal settlements. The unit is supported by all implementing agencies and was designed to improve the management of water kiosks. While it is understandable that water utilities may have challenges in developing formal relationships with CBOs, this process suggests that flexible arrangements should be adopted to structure relationships to suit their needs.

8.4.2.2 Establish accountability systems

The importance of accountability is critical for achieving sustainability of partnership for the water services. This is due to the fact that most partnerships are voluntary, and in most cases there is no central authority that co-ordinate or oversees partnership activities. There could therefore be serious concerns about the accountability of those involved in partnerships (White et al, 2003). Accountability and governance procedures are achieved when there is establishment of strong systems for decision-making including development of clear definitions of responsibilities of all partners involved; governance procedures developed by stakeholders for making different kinds of decision affecting partnership; channels of communication that allow partners to share information and transparency about funding (Stott, 2004; Tennyson, 2004).

This research found that successful partnerships can be achieved if there is a proper accountability. For instance section 7.3.3.6 shows that in Lilongwe, the partnership between the water utility and NGOs for managing water kiosks was based on an agreed MOU (Memorandum of Understanding) where the roles and responsibilities of all actors involved were clear. The summary of the key provisions in the MOU is shown in section 5.4.4. Within the MOU channels of communication and governance of partnerships are clearly defined. Moreover, section 6. 3.3.5 shows that in the Dar-es-Salaam case studies, transparency and openness of the water utility to other stakeholders enabled trust and accountability to be developed among the members. Indeed, there is a need for programmes which promote partnerships between water

utilities and the CBOs to develop accountability systems which could allow effective relationships.

8.4.3 Monitoring and Evaluation stage

Block 3 of Fig 8.1 indicates the importance of monitoring and evaluation systems. Monitoring and evaluation of partnership activities are crucial for ascertaining whether the targets and purposes for developing partnerships have been reached. The importance of evaluation is not only crucial for partners who are involved but also for beneficiary and other stakeholders including the government's officials and donors (Stott, 2004). For example in Dar-es-Salaam different approaches were in place to monitor partnerships activities. These include regular and quarterly meetings, brief written reports and reviews. Similarly, these monitoring activities were also considered essential for partners in Lilongwe. The findings indicated that through monitoring and evaluation it was possible to overcome weaknesses and disincentives and identify areas which needed adjustment and improvement. The evaluation outcome can recommend continuation and affirmation of partnerships or suggest identification of other partners or an alternative delivery option. It is therefore necessary for partners to develop monitoring and evaluation systems.

8.4.4 Summary on the Guidance of how to Develop Partnership

This section has discussed guidelines through which partnerships between the water utility and CBOs could be developed. It was shown that development of partnerships has three stages which include planning, implementation and evaluation.

The planning stage requires assessment of the context, and the partnership factors which include the incentives and disincentives. An assessment at this stage will determine whether it is worthwhile for the partners to continue with the partnership. The implementation stage requires the partners to agree on the type of institutional structure to be adopted; which may be either formal or informal. It also requires partners to set-up proper accountability systems. Monitoring and evaluation systems are necessary to ensure that the partnership is not deflected from progress towards the goal and objectives.

It is imperative for all partners to have an understanding of these processes because they are critical for development and sustainability of partnerships.

8.5 CHAPTER SUMMARY

This chapter summarizes the research findings around the research questions and hypothesis. The implications of the thesis follow on from the findings. The significance of this chapter lies in how this work relates to existing thinking and practices for provision of urban water services to informal settlements.

The following key points can be highlighted from this chapter.

- The study applied supply chain partnership concepts to the subject of urban water services. This demonstrated that through a proper working framework, it is possible for a water utility to develop partnerships with CBOs.
- The framework for developing partnerships needs to include preparation, implementation, monitoring and evaluation stages. This framework was developed to provide a coherent guideline for developing partnerships for urban water services.
- Key implications for the research include: NGOs need to be encouraged and empowered to play a role as intermediaries between a water utility and CBOs; Flexible arrangements should be adopted by water utilities in developing partnerships with CBOs; CBOs should be empowered with skills and capacity to enter into negotiations with water utilities; governments need to establish conducive policies which could allow development of partnerships and a coordinated financing mechanism.

CHAPTER 9

CONCLUSIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

Chapter eight contained a discussion of findings with identified implications, and guidance on how to develop partnerships. This chapter concludes the thesis by highlighting the most important findings from the study in relation to the overall research process and outcome. The recommendations that emerge from the study with respect to future research are contained herein.

A thorough literature review identified key obstacles facing water utilities in delivering services to informal settlements. This helped to identify the gaps that exist in knowledge and practice with regard to water service delivery to informal settlements, and also to identify current knowledge of the subject. The review confirmed that publications on existing knowledge and approaches for providing water services are limited, implying the need to investigate alternative approaches. This research examined the partnership approaches between water utilities and CBOs in Dar-es-Salaam and Lilongwe with the aim of assisting water utilities and policy makers in providing effective water services to informal settlements.

The central focus of this research was therefore to investigate factors that would facilitate development of partnerships between water utilities and CBOs for improving water services to informal settlements. This was guided by the main research question which states that: **“Can water utilities develop partnerships with CBOs for improving water services to informal settlements?”**

The governing hypothesis of the research dictated the use of a case-study approach, incorporating a mix of quantitative and qualitative research methods. Dar-es-Salaam and Lilongwe were considered as case studies in order to verify the consistency of the findings, and to provide opportunities to compare and contrast them. Analysis of data provided complementary findings and answers to the supplementary research questions framed to guide the research. This thesis is therefore an original

contribution to the body of knowledge on urban water services to informal settlements in developing countries.

9.2 CONCLUSIONS

The evidence from the research shows that water utilities and CBOs are willing to develop partnerships for improving water services to informal settlements. However, development of such partnerships requires commitment to examine factors related to drivers, components and facilitators that are critical for enhancing partnerships. In addition, the study noted the importance of effective communication between water utilities and CBOs. Through effective communication, it is possible for partners to establish transparency and therefore build trust. When partners trust each other, they become more committed in developing joint plans as well as sharing of resources. It is therefore necessary for the partners to develop effective communication systems.

However, developing strong partnerships between water utilities and CBOs is not easy. The research also explored barriers which can hinder creation of effective partnerships among stakeholders.

The first barrier is imbalance of power between water utilities and CBOs which is related to the degree of one partner's dependence on the other partner. Water utilities that always have more power in terms of resources than CBOs, will have to explore ways in which power can be shared more equitably among the members. This will reduce their workload and enhance utilization of potentials of CBOs in planning and management of water services to informal settlements. Moreover, NGOs should act as intermediaries between water utilities and CBOs in order to redress the imbalance of power.

The second barrier is related to the difference in numerical size and operation scale between water utilities and CBOs. This was found to inhibit the compatibility and development of partnership activities; as a result water utilities had little incentives for partnering. In this respect water utilities should develop mechanism that allows involvement of CBOs in water service delivery. On the other hand, CBOs should

consider formation of associations and networks which could enhance their capacity to negotiate with water utilities.

The third barrier concerns the influence of donors and international NGOs in the partnership processes. The study indicated that the enthusiasm of water utilities to work in partnership is mainly motivated by the availability of funds from donors.

While the role of donors and NGOs is important, caution is required to avoid reaching a situation of establishing partnerships that are dependent on donor funding.

In addition, the thesis has established that partnerships require careful planning, implementation and progressive review. Section 8.4 provides a guideline that has been developed by this research as a systematic approach for building partnerships. The guideline provides a basis for developing policies and strategies. However, governments and municipalities need to take proactive measures in developing appropriate policies and strategies to support the partnerships. Moreover continuous training and capacity building among the partners is necessary for enhancing understanding and knowledge transfer of partnership tactics and processes.

9.3 CONTRIBUTION TO KNOWLEGDE

This study has significant contributions to the body of knowledge as follows:

- It has developed a framework through which factors that encourage/discourage partnerships between water utilities and CBOs could be examined in a systematic manner.
- It has confirmed that while partnerships have potential for providing water services to informal settlements, they are not easy to achieve due to caveats. Attitudinal change among water utilities and CBOs is vital in developing strong partnerships.
- It has extended application of the supply chain concepts by exploring the relationships between water utilities and informal water providers.

9.4 RECOMMENDATIONS FOR FUTURE RESEARCH

During the implementation of this study, certain issues were identified for which further research in the design and development of strategic partnerships is needed. The details below provide other possible research areas:

- This research focused on exploring the partnerships between the water utility and CBOs for the two cities, Dar-es-Salaam and Lilongwe. Replication of this study to involve more countries and partners in other developing countries would provide a better understanding of the critical factors and processes for developing partnerships.
- The research study found that key drivers are necessary for development of partnerships. However further studies are required to determine drivers that are necessary to achieve sustainability of partnerships.
- This research did not explore in detail the problem of poor community cohesion in relation to community management and partnership approach. Further research is required to investigate these issues.
- The research study examined the role of NGOs in developing partnerships. However, most of the NGOs involved in the study were international NGOs. There is an important need to investigate the potential for involvement of local NGOs and other local private sector organisations in developing partnerships with water utilities.
- The study explored the partnerships between water utilities and CBOs which are not-for-profit organisations. There is a need to investigate relationships between water utilities and informal private providers such as water vendors that operate for profit.
- This research did not investigate economic aspects of partnerships in detail, and it was therefore not possible to estimate the costs and benefits of partnerships. Further research could be undertaken to investigate the costs and benefits of partnership arrangements for improving water services to informal settlements.

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APPENDICES

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APPENDIX 1: LIST OF PEOPLE CONTACTED

No	Names	Title	Organisation
	Names in Dar-es-Salam		
1	Magreth Mazwire	Coordinator CIUP	City Council Dar
2	John Handerson	Director	City Water Dar
3	Jackson Midalla	Operation Manger	City Water Dar
4	Felix Ngalamgosi	Director planning	Ministry of water
5	Eng Exadous Mossi	Municipal Engineer	Temeke Municipal
6	Eng Suzanne Kideka	Municipal Engineer	Ilala Municipal
7	Eng Gonza Rutakyamwa	Municipal Engineer	Kinondoni Municipal
10	Wilhelmina Malima	Programme Manager	WaterAid
11	Rose Rutakyamwa	Programme Manager	Care International
12	Emma Kigosi	Programme Officer	Plan International
13	Erasto Semainda	Chairman water committee	Keko Mwanga B
14	Nestory John	Chairman CBO	Hanna Nassif
	Names in Lilongwe		
1	Robert Kampala	Director	WaterAid
2	Boyce Nyirenda	Programme Manager	
3	Linda Milanzi	Consultant	All partners
4	Owen Kankhulungo	Director watsan	Ministry of water
5	McLawanrence Mpasa	Director LWB	
6	Nelly Magelele	Evaluation officer	WaterAid
7	Sikhulile	Director	CCODE
8	Joyce Kamphambe	Chair of water committee	Chipasula
9	Anna Maludi	Chair of water committee	Chinsapo
10	Amos Chingwenembe	Urban Manager	WaterAid

APPENDIX 2: HOUSEHOLD SURVEY QUESTIONNAIRE IN DAR-ES-SALAAM

You are kindly requested to spare few minutes to help complete a survey on investigation of an appropriate water delivery mechanism to informal settlements in Dar-es-Salaam city. The data obtained will be used for academic and planning purposes. All information obtained will be treated in confidence.

Name of the enumerator
Name of community settlement.....
Street Name.....
Date.....

SECTION 1: GENERAL INFORMATION

This part of the questionnaire asks general questions about your household. Please tick the number that closely matches your responses. Where no choices have been provided, please put down that answer that applies to your household.

- 1. Position of respondent (posinhh)
 - a) Head of household
 - b) Spouse of head of household
 - c) Child of household
 - d) Tenant
 - e) Others
- 2. Gender (Sex)
 - a) Male
 - b) Female
- 3. Age group (age)
 - a) under 18
 - b) 18 – 34
 - c) 35 – 44
 - d) 45 – 64
 - e) over 65
- 4. Level of education (educat)
 - a) None
 - b) Primary school
 - c) Secondary:
 - d) Tertiary:
 - e) Others please specify
- 5. What is the occupational of the principle income earner in the household? (employ)
 - a) Formal
 - b) Informal employed
 - c) Retired
 - d) Other please specify
- 6. What is the total monthly income of all income earners in your household?(incompm)
 - a) Less than 15,000 Tshs:
 - b) Between 15,000 and 30,000 Tshs:
 - c) Between 30,000 and 45,000 Tshs:
 - d) Above 45,000 Tshs.:
 - e) Others please specify :
- 7. How long have you been living in this street? (timein)
 - a) Less than 1 year :
 - b) 1- 5 years
 - c) 6 – 10 years
 - d) 10 – 15 years

- e) More than 15 years

8. Why did you come to this area? (reason)

- a) I like this area
- b) Its near to the city centre
- c) I got a piece of land
- d) I rented
- e) I am married here
- f) I came to my relative
- g) Others explain.....

9. Does your house receive water directly from DAWASA/City water?

- a) Yes (go to section 2 and section 5)
- b) No (go to question 13)

10. Does your house receive water at standpipe kiosk managed by a neighbour?

- a) Yes (go to section 3 and section 5)
- b) No (go to question 14)

11. Does your house receive water at standpipe kiosk managed by community management institutional? (CBO/water committee?)

- a) Yes (go to section 4 and section 5)
- b) No (go to question 15)

SECTION 2: (NETWORK – CUSTOMER)

This section should be filled by those households (Customers) who receive water directly from DAWASA/City water services. Please tick the number that closely matches your choice.

1. How can you generally rate the water availability in your household (wat avail)

- a) Good
- b) Average
- c) Bad

2. On average how frequently do you receive piped water from DAWASA pipe?(watfreq)

- a) Once a day
- b) Once a week
- c) Continuous
- d) Others

4. Are you satisfied with the quantity of water provided in your household? (wat satisfy)

- a) Very satisfied
- b) Reasonably satisfied
- c) Not satisfied
- d) Don't know

5. How much do you pay to utility for water bills on average each month: _____(wat cost)

6. How often do you receive a water bill from DAWASA/City water? (timebill)

- a) Every month
- b) Once in 3 months
- c) Once in 6 month
- d) We don't receive any bills

7. How often do you pay the water bills (timepay)

- a) Every month
- b) Once in 3 month
- c) Once I received the bills
- d) Others (Please state)

SECTION 3: NETWORK – NEIGHBOURS – CUSTOMER:

This section should be filled by those households (Customers) who collect water directly from the water kiosks/standpipe managed by a neighbour household resellers).Please tick the number that closely matches your responses.

1. How long does it usually take to collect water from the kiosk each time? (timewat)
 - 0- 15 minutes
 - a) 16 – 30 minutes
 - b) 31 – 45 minutes
 - c) More than 45 minutes
2. How can you generally rate the water availability at this kiosk? (watavailability)
 - a) Good
 - b) Average
 - c) Bad
4. Are you satisfied with the quantity of water provided in your household? (watsatisfy)
 - a) Very satisfied
 - b) Reasonably satisfied
 - c) Not satisfied
 - d) Don't know
5. On average how frequently do you receive water from this kiosk?(watfrequency)
 - a) Once a day
 - b) Once a week
 - c) Once in 3 days
 - d) Continuous
 - e) Others (please state)
6. Are you satisfied with the quantity of water provided in your household? (satisfyquantity)
 - a) Very satisfied:
 - b) Reasonably satisfied
 - c) Not satisfied
 - d) Don't know
7. How many jerry cans do you collect per day?..... (watquanty)
8. How much do you pay for water? (watcost)
 - a) 10 Tshs/ jerry can:
 - b) 15 Tshs/ jerry can:
 - c) 20 Tshs/ jerry can:
 - d) Others specify
9. How will you describe the price of water for a jerry can? (assesswatcost)
 - a) Not expensive
 - b) Affordable .
 - c) Expensive
10. Are you satisfied with the water services provided at your kiosk? (assesswatservice)
 - a) Very satisfied
 - b) Reasonably satisfied
 - c) Not satisfied
11. If you are not satisfied with the service, would you state your primary concern? (waterservicereason)
 - a) The service is not reliable
 - b) The management is not effective
 - c) Price of water is not affordable
 - d) The water is not clean
 - e) Others please specify

SECTION 4: NETWORK – CBO/WATER COMMITTEE KIOSK – CUSTOMER

This section should be filled by those households (Customers) who collect water directly from the water kiosks/standpipe managed by a CBO or Water committee. Please tick the number that closely matches your responses.

1. Where is the source of water to this kiosk? (watersource)
 - a) Network from DAWASA/City water
 - b) Private borehole
 - c) Community borehole
2. Who is managing this kiosk? (watmangement)
 - a) DAWASA / city water
 - b) Household resellers
 - c) Community scheme (CBO/Water committee):
 - d) Others (Please state)
3. How long does it usually take to collect water from the kiosk each time?(timewat)
 - a) 15 minutes
 - b) 16 – 30 minutes
 - c) 31 – 45 minutes
 - d) More than 45 minutes
4. How can you generally rate the water availability at this kiosk? (wateravailability)
 - a) Good:
 - b) Average
 - c) Bad:
5. On average how frequently do you receive water from this kiosk? (waterfrequency)
 - a) Once a day:
 - b) Once a week:
 - c) Once in 3 days:
 - d) Continuous:
 - e) Others (please state)
7. Are you satisfied with the quantity of water provided in this kiosk? (watersatisfy)
 - a) Very satisfied
 - b) Reasonably satisfied
 - c) Not satisfied
8. How many jerry cans are you collecting per day?..... (waterquantity)
9. How much do you pay for water? (watcost)
 - a) 10 Tshs/ jerry can
 - b) 15 Tshs/ jerry can
 - c) 20 Tshs/ jerry can
 - d) Others specify
10. How will you describe the price of water for a jerry can? (asseswatcost)
 - a) Not expensive
 - b) Affordable
 - c) Expensive
11. Are you satisfied with the water services provided at your kiosk (assesswatervice)
 - a) Very satisfied
 - b) Reasonably satisfied
 - c) Not satisfied
 - d) Don't know
12. If you are not satisfied with the service, would you state your primary concern? (waterservicereason)
 - a) The service is not reliable
 - b) The management is not effective

- c) Price of water is not affordable
- d) The water is not clean
- e) Others please specify

SECTION 5 : EFFECTIVENESS OF WATER SERVICES

This part of the questionnaire asks specific questions on water services characteristics. Please tick the number that closely matches your degree of satisfaction with water responses. Where no choices have been provided, please put down that answer that applies to your household.

	Very Satisfied	Fairly Satisfied	Uncertain Undecided	Fairly dissatisfied	Very dissatisfied
1. Reliability of water of Water services at your household (Reliability)	[5]	[4]	[3]	[2]	[1]
2.The response to address Pipeline technical problems (efficiency)	[5]	[4]	[3]	[2]	[1]
3.Affordability of water services [5] (Affordability)		[4]	[3]	[2]	[1]
4. Bills management and Complaining procedures (watinformation)	[5]	[4]	[3]	[2]	[1]
5. Customer participation in In the service provision. (customerattn).	[5]	[4]	[3]	[2]	[1]

APPENDIX 3: HOUSEHOLD SURVEY QUESTIONNAIRE IN LILONGWE

You are kindly requested to spare few minutes to help complete a survey on investigation of an appropriate water delivery mechanism to serve the urban poor in Lilongwe city. The data obtained will be used for academic and planning purposes. All information obtained will be treated in confidence.

Name of the enumerator
Name of community settlement.....
Date.....

SECTION 1: GENERAL INFORMATION

This part of the questionnaire asks general questions about your household. Please tick the number that closely matches your responses. Where no choices have been provided, please put down that answer that applies to your household.

- 1.Position of respondent:
 - a) Head of household
 - b) Spouse of head of household
 - c) Child of household
 - d) Tenant :
 - e) Others-----
- 2. Gender
 - a) Male
 - b) Female
- 3. Age group
 - a) under 18
 - b) 18 – 34
 - c) 35 – 44
 - d) 45 – 64
 - e) over 65
- 4. Level of education:
 - a) None:
 - b) Primary school:
 - c) Secondary:
 - d) Tertiary:
 - e) Others please specify:
- 5. What is the occupational of the principle income earner in the household?
 - e) Formal employed
 - a) Informal employed
 - b) Retired
 - c) Other please specify-----
- 6. What is the total monthly income of all income earners in your household?
 - a) Less than MK1500
 - b) Between MK1500 and MK3000
 - c) Between MK3000 and MK4500
 - d) Above MK4500
 - e) Others please specify :

7. Relation with the owner of the house :
- a) Owner of the house:
 - b) A relative to the owner of the house:
 - c) A tenant:
 - d) Others specify:
8. How long have you been living in this area?
- a) Less than 1 year :
 - b) 5 years:
 - c) 6 – 10 years:
 - d) 10 – 15 years:
 - e) More than 15 years:
9. Why did you come and settle to this area?:

- a) I like this area:
- b) Its near to the city centre:
- c) I got a piece of land:
- d) I rented:
- e) I am married here
- f) Others.....

10. What are the major sources of water for drinking and cooking in your household?

SECTION 2.1 HOUSEHOLD WATER SERVICES

1. How can you generally rate the water availability at your kiosk? (wateravail)
- a) Good :
 - c) Average
 - d) Bad :
2. On average how frequently do you receive piped water from this kiosk? (waterfreque)
- e) 24 hrs a day
 - f) 12hrs a day
 - g) Once a week
 - h) Others (please state)
3. How do rate the quality of water? (waterqual)
- a) Very clean most of the time
 - b) Average quality
 - c) Poor quality most of the time
4. Who is managing this kiosk? (kioskmanagement)
- a) A water committee
 - b) A councillor
 - c) LLWB
 - d) other?
5. How much do you pay for water at the kiosks?.....
6. How do you pay for water?..... (prepaid/monthly?)
7. How many buckets/pail/chidebe do you collect per day?.....
8. Is the cost of water affordable?.....

SECTION 3 : EFFECTIVENESS OF WATER SERVICES

This part of the questionnaire asks specific questions on water services characteristics. Please tick the number that closely matches your degree of satisfaction with water responses. Where no choices have been provided, please put down that answer that applies to your household.

	Very Satisfied	Fairly Satisfied	Uncertain Undecided	Fairly dissatisfied	Very dissatisfied
1. Reliability of water of Water services at your household (Reliability)	[5]	[4]	[3]	[2]	[1]
2.The response to address Pipeline technical problems (efficiency)	[5]	[4]	[3]	[2]	[1]
3.Affordability of water services (Affordability)	[5]	[4]	[3]	[2]	[1]
4. Bills management and Complaining procedures (watinformation)	[5]	[4]	[3]	[2]	[1]
5. Customer participation in In the service provision. (customerattn)	[5]	[4]	[3]	[2]	[1]

APPENDIX 4: SEMI- STRUCTURED INTERVIEWS WITH THE WATER UTILITIES

Name of the interviewee.....

Position.....

Date:.....

Introduction: Salutation and personal introduction.

Purpose of the discussion:

This is an academic exercise: the purpose is to learn about the partnerships between the water utility and small independent water providers for improving water services to informal settlements. Your advise and responds is vital for this study. Confidentiality is assured and the findings will be shared.

Primer

- 1. What is the mandate of the city water utility in providing water to the whole city?
- 2. What are the main challenges facing the water utility in providing water services to informal settlements?

Supply Chain relationships

- 3. What is the current water demand and supply for the city?
- 4. What are the current relationships between water utility and small independent water providers?
- 5. What are the roles of the water utility in the provision of water services to informal settlements.

Partnership factors.

- 6. What are the main drivers which could motivate the water utility to develop partnerships with small independent water providers?
- 7. What are the key components (activities) which are essential for implementing the partnership activities between the water utility and small independent water providers?
- 8. What the essential facilitators which could enhance smooth development and implementation of partnerships between the water utility and small independent water providers.

Perceptions' towards partnership development:

- 9. In your own opinion what can you describe as essential strengths of partnerships between water utility and small independent water providers.
- 10. What are the critical weaknesses of these types of partnerships?
- 11. What are the opportunities which could be capitalized for enhancing the partnerships
- 12. What threats can affect the development and implementation of partnerships

Acknowledgment:

Thank you for your time. Your comments are very much appreciated, and are valuable input into the study. Your advice will be sought again if necessary. The findings will be shared with you.

APPENDIX 5: SEMI- STRUCTURED INTERVIEWS WITH THE WATER NGOS

Name of the interviewee.....
Position.....

Date:.....

Introduction: Salutation and personal introduction.

Purpose of the discussion:
This is an academic exercise: the purpose is to learn about the partnerships between the water utility and small independent water providers for improving water services to informal settlements. Your advise and responds is vital for this study. Confidentiality is assured and the findings will be shared.

- Primer**
- 1. What are the objectives/mandate of your organization
 - 2. Which areas is your organization operating?
 - 3. What approach and methodology you have been using for providing water services to the urban poor in your city?
 - 4. From your views what are the major challenges facing water service providers in serving the urban poor in the city?

- Supply Chain relationships**
- 5. From your views what is the role of various water service providers including the utility and small independent water providers in providing water services to your settlement? (The role of utility, NGOs/CBOs, Water vendors and the customers)

- Partnership factors.**
- 6. What are the main drivers which could motivate the water utility to develop partnerships with small independent water providers?
 - 7. What are the key components (activities) which are essential for implementing the partnership activities between the water utility and small independent water providers?
 - 8. What the essential facilitators which could enhance smooth development and implementation of partnerships between the water utility and small independent water providers.

- Perceptions' towards partnership development:**
- 9. In your own opinion what can you describe as essential strengths of partnerships between water utility and small independent water providers.
 - 10. What are the critical weaknesses of these types of partnerships?
 - 11. What are the opportunities which could be capitalized for enhancing the partnerships
 - 12. What threats can affect the development and implementation of partnerships

Acknowledgment:
Thank you for your time. Your comments are very much appreciated, and are valuable input into the study. Your advice will be sought again if necessary. The findings will be shared with you

APPENDIX 6: SEMI- STRUCTURED INTERVIEWS WITH THE MINISTRY OF WATER & MUNICIPALITIES

Name of the interviewee.....
Position.....

Date:.....

Introduction: Salutation and personal introduction.

Purpose of the discussion:

This is an academic exercise: the purpose is to learn about the partnerships between the water utility and small independent water providers for improving water services to informal settlements. Your advise and responds is vital for this study. Confidentiality is assured and the findings will be shared.

Primer

- 1. What is the role of the Ministry in the provision of urban water services?
- 2. What is the Government policy for providing water services to informal settlements?
- 3. In the context of your city, how could you define the urban poor and the informal settlements
- 4. From your views what are the major challenges facing water service providers in serving the urban poor in the city?

Supply Chain relationships

- 5. From your views what is the role of various water service providers including the utility and small independent water providers in providing water services to your settlement? (The role of utility, NGOs/CBOs, Water vendors and the customers)

Perceptions' towards partnership development:

- 6. In your own opinion what can you describe as essential strengths of partnerships between water utility and small independent water providers.
- 7. What are the critical weaknesses of these types of partnerships?
- 8. What are the opportunities which could be capitalized for enhancing the partnerships
- 9. What threats can affect the development and implementation of partnerships

Acknowledgment:

Thank you for your time. Your comments are very much appreciated, and are valuable input into the study. Your advice will be sought again if necessary. The findings will be shared with you.

APPENDIX 7: FOCUS GROUP DISCUSSION WITH CBOs

This discussion is about the research that is being carried out to investigate an appropriate water delivery mechanism to informal settlements. The data obtained will be used for academic and planning purpose. All information obtained will be treated in confidence.

Name of the Facilitator
Name of the community settlement.....
Date.....

Primer

- 1. What type of water services are available in this settlement? For drinking and cooking?
- 2. Who is providing these services in this settlements?
- 3. How could you describe the status of these water services in the settlement?
- 4. From your views what are the major challenges facing water service providers in your settlement?

Supply Chain relationships

- 5. From your views what is the role of various water service providers including the utility and small independent water providers in providing water services to your settlement? (The role of utility, NGOs/CBOs, Water vendors and the customers)

Partnership factors.

- 6. What are the main drivers which could motivate the water utility to develop partnerships with small independent water providers?
- 7. What are the key components (activities) which are essential for implementing the partnership activities between the water utility and small independent water providers?
- 8. What the essential facilitators which could enhance smooth development and implementation of partnerships between the water utility and small independent water providers.

Perceptions' towards partnership development:

- 9. In your own opinion what can you describe as essential strengths of partnerships between water utility and small independent water providers.
- 10. What are the critical weaknesses of these types of partnerships?
- 11. What are the opportunities which could be capitalized for enhancing the partnerships
- 12. What threats can affect the development and implementation of partnerships

Acknowledgment:

Thank you for your time. Your comments are very much appreciated, and are valuable input into the study. Your advice will be sought again if necessary. The findings will be shared with you.

APPENDIX 8: STATISTICAL METHOD AND SPSS RESULTS

The Statistical test which was used in this thesis is independent t-test. The aim was to analyse whether the means of two groups are statistically different from each other.

The test begins by making a concise statement about the population called the Null hypothesis (H₀) because it express the concept of “no difference”. If it is concluded that it is likely that a Null hypothesis is false, then an alternative hypothesis (H₁) is assumed to be true.

Hence in order to test the significance level t-test is used to determine the level of association between variables.

The first step is to compute Levene’s test to determine if the variance in the two groups are equal. Variance are equal if $p > 0.05$, and variance are not equal if $p < 0.05$.

Having established the assumption of homogeneity of variance, computation of t-test is calculated by dividing the mean difference of the standard error of the sampling distribution of difference. Hence,

$$t = \frac{\overline{x_1} - \overline{x_2}}{SEMD}$$

Where \overline{X} are means and SEMD is standard error of the difference between two independent means.

Finally, the value of t-test computed is compared to the critical points of theoretical t-test to determine whether there is no mean difference on the response variables between the populations represented by groups. If the t test is less or equal to 0.005, then the null hypothesis is accepted and if the t test is greater than 0.05 then the null hypothesis is rejected and the alternative hypothesis is accepted.

Appendix 9.1 to 9.5 describes analysis of t-test as computed by SPSS for Dar-es-Salaam case study and Appendix 9.6 for Lilongwe case study.

Appendix 8.1 SPSS Data for Keko (CM) against Hananasif (DU) customers
Independent Samples t- test

		Levene's Test for Equality of Variances		t	df	Sig. (2-tailed)	t-test for Equality of Means			
		F	Sig.				Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Water reliability at the center/kiosk	Equal variances assumed	.295	.589	2.967	58	.05	.900	.303	.293	1.507
	Equal variances not assumed			2.967	57.876	.004	.900	.303	.293	1.507
Efficiency of solving technical problems at the kiosk	Equal variances assumed	.394	.533	3.781	58	.000	1.033	.273	.486	1.580
	Equal variances not assumed			3.781	57.845	.000	1.033	.273	.486	1.580
Water payment procedures	Equal variances assumed	3.832	.055	6.476	58	.000	1.733	.268	1.198	2.269
	Equal variances not assumed			6.476	54.245	.000	1.733	.268	1.197	2.270
Customer participation	Equal variances assumed	6.981	.011	4.770	58	.000	1.033	.217	.600	1.467
	Equal variances not assumed			4.770	41.360	.000	1.033	.217	.596	1.471
Affordability of water services	Equal variances assumed	6.551	.013	4.096	58	.000	1.167	.285	.597	1.737
	Equal variances not assumed			4.096	52.061	.000	1.167	.285	.595	1.738

Appendix 8.2 SPSS Data for Keko (CM) against Hananasif (CM) customers

Independent Samples T- Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
Customer participation	Equal variances assumed	.267	.607	.694	58	.491	.200	.288	Lower	Upper	
	Equal variances not assumed			.694	57.654	.491	.200	.288	-.377	.777	
Water payment procedures	Equal variances assumed	.016	.868	1.422	57	.160	.422	.297	-.172	1.016	
	Equal variances not assumed			1.424	56.990	.160	.422	.296	-.172	1.015	
Efficiency of solving technical problems at the kiosk	Equal variances assumed	1.223	.273	-1.523	58	.133	-.400	.263	-.926	.126	
	Equal variances not assumed			-1.523	57.959	.133	-.400	.263	-.926	.126	
Water reliability at the center/kiosk	Equal variances assumed	2.887	.095	-1.278	58	.206	-.367	.287	-.941	.208	
	Equal variances not assumed			-1.278	57.751	.206	-.367	.287	-.941	.208	
Affordability of water services	Equal variances assumed	.858	.358	.532	58	.597	.133	.251	-.369	.635	
	Equal variances not assumed			.532	56.787	.597	.133	.251	-.369	.636	

Appendix 8.3 SPSS Data for Keko (CM) against Hananasif (HR) customers

Independent Samples T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
Water reliability at the center/kiosk	Equal variances assumed	.553	.460	-.540	59	.591	-.156	.289		-.733	.422
	Equal variances not assumed			-.540	58.722	.591	-.156	.289		-.734	.422
Efficiency of solving technical problems at the kiosk	Equal variances assumed	10.664	.002	-2.737	59	.008	-.639	.233		-1.106	-.172
	Equal variances not assumed			-2.724	53.974	.009	-.639	.234		-1.109	-.169
Water payment procedures	Equal variances assumed	1.483	.228	3.506	59	.001	1.057	.301		.454	1.660
	Equal variances not assumed			3.507	58.990	.001	1.057	.301		.454	1.660
Customer participation	Equal variances assumed	.814	.371	-.460	59	.001	-.111	.241		-.593	.371
	Equal variances not assumed			-.458	53.291	.649	-.111	.242		-.596	.374
Affordability of water services	Equal variances assumed	11.701	.001	4.117	59	.000	1.244	.302		.639	1.849
	Equal variances not assumed			4.146	51.327	.000	1.244	.300		.642	1.846

Appendix 8.4 SPSS Data for Keko (CM) Against Keko (HR) customers

Independent Samples t-test

		t-test for Equality of Means										
		Levene's Test for Equality of Variances		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference			
		F	Sig.						Lower	Upper		
Customer participation	Equal variances assumed	6.386	.014	2.379	58	.021	.567	.238		.090	1.043	
	Equal variances not assumed			2.379	51.613	.021	.567	.238		.089	1.045	
Water payment procedures	Equal variances assumed	2.727	.104	4.259	58	.000	1.100	.258		.583	1.617	
	Equal variances not assumed			4.259	51.454	.000	1.100	.258		.582	1.618	
Efficiency of solving technical problems at the kiosk	Equal variances assumed	.265	.608	2.626	58	.011	.767	.292		.182	1.351	
	Equal variances not assumed			2.626	56.381	.011	.767	.292		.182	1.351	
Water reliability at the center/kiosk	Equal variances assumed	2.839	.097	-.475	58	.636	-.133	.281		-.695	.428	
	Equal variances not assumed			-.475	57.244	.636	-.133	.281		-.695	.428	
Cost affordability of water services	Equal variances assumed	.940	.336	3.231	58	.002	.700	.217		.266	1.134	
	Equal variances not assumed			3.231	56.814	.002	.700	.217		.266	1.134	

Appendix 8.5 SPSS Data for Keko (CM) against Keko (DU)

Independent Samples t- test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
									Lower	Upper	
Customer participation	Equal variances assumed	11.610	.001	3.231	58	.002	.700	.217	.266	1.134	
	Equal variances not assumed			3.231	41.360	.002	.700	.217	.263	1.137	
Water payment procedures	Equal variances assumed	.258	.613	4.333	58	.000	1.200	.277	.646	1.754	
	Equal variances not assumed			4.333	56.183	.000	1.200	.277	.645	1.755	
Affordability of water service	Equal variances assumed	.600	.442	4.141	58	.000	1.000	.241	.517	1.483	
	Equal variances not assumed			4.141	57.642	.000	1.000	.241	.517	1.483	
Water reliability at the center/kiosk	Equal variances assumed	.072	.789	1.017	58	.313	.300	.295	-.290	.890	
	Equal variances not assumed			1.017	57.995	.313	.300	.295	-.290	.890	
Efficiency of solving technical problems at the kiosk	Equal variances assumed	1.262	.266	2.778	57	.007	.717	.258	.200	1.234	
	Equal variances not assumed			2.782	56.872	.007	.717	.258	.201	1.234	

Appendix 8.6 SPSS Data for Chipasula and Chinsapo in Malawi

Independent Samples t- test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Assess affordability	Equal variances assumed	8.362	.005	.373	98	.000	.100	.268	-.432	.632
	Equal variances not assumed			.373	88.595	.710	.100	.268	-.432	.632
Water reliability at your household	Equal variances assumed	85.769	.000	3.970	97	.000	1.032	.260	.516	1.548
	Equal variances not assumed			4.002	61.390	.000	1.032	.258	.516	1.547
Efficiency of solving technical problems at your household	Equal variances assumed	8.497	.004	-.235	98	.815	-.080	.340	-.756	.596
	Equal variances not assumed			-.235	94.685	.815	-.080	.340	-.756	.596
Water payment procedures	Equal variances assumed	1.293	.258	1.297	98	.000	.440	.339	-.233	1.113
	Equal variances not assumed			1.297	97.179	.198	.440	.339	-.233	1.113
Customer participation in the service provision	Equal variances assumed	12.798	.001	-9.650	98	.000	-1.380	.143	-1.664	-1.096
	Equal variances not assumed			-9.650	94.055	.000	-1.380	.143	-1.664	-1.096