

**Water, politics and the persistence of uneven
development in the Zambian Copperbelt**

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Abstract

Improving African water and sanitation has been a central objective of international development policy for many years. Alongside high profile awareness campaigns and global initiatives such as the Millennium Development Goals, there have been fundamental transformations to African water and sanitation governance since the early 1990s. World Bank and International Monetary Fund structural adjustment policies have led to the adoption of neoliberal water reforms across large parts of the developing world, especially in urban regions of Africa. However, it is only in the last few years that the extent of the social, economic and political impacts of these reforms have begun to become apparent. An investigation has been made of the impacts of recently-adopted neoliberal reforms on water and sanitation development in an urban region of Zambia called the Copperbelt Province. Postcolonial theory and interdisciplinary approaches have been used to develop an analysis of neoliberal water policy impacts on: (i) provision of water supply and sanitation; (ii) the politics of development; and (iii) the history of uneven development in the Copperbelt.

A critical analysis of neoliberal water and sanitation development reveals that, while the reforms have prompted greater conservation of water, there is continued water and sanitation poverty and widening inequality between the minority water-rich and majority water-poor populations. Also, scrutiny of the politics of water and sanitation development in the Copperbelt reveals that power is concentrated in the hands of a number of visible and less visible non-state actors, most notably the World Bank. These non-state actors are shown to have a considerable influence over decisions regarding the future of Copperbelt water governance. Analysis of neoliberal policies in relation to the history of development revealed the persistence of three key elements of uneven development: water and sanitation inequality; political marginalisation of the urban poor; and uneven power relations between Zambian and non-Zambian development actors. The resilience of these three dimensions of uneven development can be traced back to the policies and practices of British colonial water governance.

A number of contributions to knowledge in this field of study have been made. This is one of the first analyses of the impacts of neoliberal water and sanitation development in Africa. It is also one of the first attempts to apply postcolonial theory to the study of an important material issue such as water and sanitation. It has given rise to serious questions over the applicability of neoliberal water reforms in urban Africa. It is concluded that policy makers need to consider the embedded, spatially inscribed, material inequalities that characterise many former European colonies in Africa, such as Zambia.

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Acronyms

AAC	Anglo American Corporation
AfDB	African Development Bank
AHC-MMS	Assett Holding Company – Mining and Municipal Services
BSAC	British South Africa Company
CDF	Comprehensive Development Framework
CU	Commercial utility
DfID	Department for International Development
EPA	Environment Protection Agency
ESRC	Economic and Social Research Council
GRZ	Government of the Republic of Zambia
GTZ	Gesellschaft für Technische Zusammenarbeit
HIPC	Highly indebted poor country
IFI	International financial institutions
ISI	Import substitution industrialisation
IMF	International Monetary Fund
KWSC	Kafubu Water and Sewerage Company
MDG	Millennium Development Goal
MLGH	Ministry for Local Government and Housing
MMD	Movement for Multiparty Democracy
MNC	Multi-national corporations
MTSP	Mining Townships Services Project
MWSC	Mulonga Water and Sewerage Company
NERC	Natural Environment Research Council
NGO	Non-governmental organisation
NPM	New public management
NWASCO	National Water and Sanitation Council
NWSC	Nkana Water and Sewerage Company
OPEC	Organisation of Petroleum Exporting Countries
pH	Potential of hydrogen

PRSP	Poverty reduction strategy programmes
PwC	PricewaterhouseCoopers
RBD	Rights based development
RAAL	Rhodesian Anglo-American Limited
RST	Roan Selection Trust
SAP	Structural adjustment programme
TDS	Total dissolved solids
UfW	Unaccounted for water
UN	United Nations
UNDP	United Nations Development Programme
UN-HABITAT	United Nations – Human Settlements Programme
WASAZA	Water and Sanitation Zambia
WDM	Water demand management
WDR	World Development Report
WHO	World Health Organisation
WSP	Water and Sanitation Programme
WTP	Water treatment plant
WUP	Water Utility Partnership
ZCCM	Zambia Consolidated Copperbelt Mines
ZK	Zambian Kwacha

1. Introduction

1.1. The drawers of water

And the princes said unto them, Let them live; but let them be hewers of wood and drawers of water unto all the congregation; as the princes had promised them.

– *Joshua 9:21*, King James Version

In the late 1960s, three British researchers drew attention to the negative social and economic impacts of rapid population growth upon domestic water supply and hygiene in parts of Kenya, Uganda and Tanzania. Published in 1972, White et al. (1972) identified the poorest rural and urban populations – the drawers of water – as the ones who were most at risk from ineffective water policies. In their account they argued that just as the biblical ‘hewers of wood and drawers of water’ were slaves or lowly servants and widely subject to heavy costs and threats to their health, so are the modern day drawers of water. The research served to highlight the problems of inadequate water supply and sanitation in urban and rural Africa as a whole, and several studies have since returned to the same villages and towns to follow up the original research findings (Thompson et al., 2001; Katui-Katua, 2002; Mujwahuzi, 2002).

Whilst White et al. (1972) brought to light some of the realities of inadequate water and sanitation (watsan) policy in Africa in the early 1970s, more recent research does not report any great strides forward (WaterAid, 2003; United Nations, 2006). Masses of publicly available ‘grey literature’ – reports produced by international development agencies, non-government organisation (NGOs) and academic institutions – reflect the challenge currently facing African governments. The various statistics from these reports speak for themselves. The British NGO WaterAid (2006) estimate that at least 1.1 billion people lack access to clean water and 2.6 billion people lack access to adequate sanitation. The accompanying health statistics are harrowing: every year 1.8 million children die as a result of diseases caused by unclean water and poor sanitation

(WaterAid, 2006). Needless to say, the majority of these deaths are children born and raised in Africa. Reiterating the sentiments of White et al. (1972), the Water and Sanitation Programme (WSP) (2007: 1) state how it is the poorest populations that suffer most from unsafe watsan provision:

‘Africa is facing an ongoing, endemic water and sanitation crisis that debilitates and kills in large numbers, limits economic growth, educational access, and life opportunities. Most at risk are the poor, especially women and children in rural areas and growing informal settlements in cities’.

In spite of this contemporary crisis, watsan has actually been a central component of international development since the middle of the twentieth century. Indeed, some of the earliest development loans offered to African governments by the World Bank in the 1950s were for the construction of dams, irrigation projects, as well as water and wastewater technologies and infrastructures. The designation of the 1980s by the United Nations (UN) as the International Decade for Water and Sanitation drove forward international efforts to raise awareness of the problem in the western world. These efforts have recently culminated in the creation of the Millennium Development Goals (MDGs) at the Johannesburg Earth Summit in 2000. Crucially, the seventh MDG states that the number of people without clean water and adequate sanitation in 2000 must be halved by 2015¹.

From the early 1990s, water governance in the developing world has been heavily shaped by the ideology of neoliberalism². Reflecting the growing influence of the World Bank in international development, neoliberal inspired water reforms, also referred to in this thesis as neoliberal water governance, have been adopted across many countries in Africa

¹ A recently published report (Water and Sanitation Programme, 2006) suggests that while progress has been made in other regions of the developing world (i.e. Latin America and South East Asia), sub-Saharan Africa will not reach the MDG for water and sanitation.

² Neoliberalism is defined as an economic and political ideology favouring free trade, privatisation and minimal government intervention (Collins, 2003: 1092). This ideology has become the dominant ideology through Western Europe and North America and other parts of the developing and developed world. The World Bank has based their development policies on neoliberal ideology. A fuller description of neoliberalism is provided in Chapter Two (2.2).

and the developing world. The practical manifestation of these policies include the involvement of the private sector, the introduction of user charges, and strategies to encourage less profligate uses of water such as water meters and disconnection policies (Winpenny, 1994).

Despite the noted successes in the developed world and a selection of countries in the developing world (Brook and Cowen, 2002), the limited empirical research of neoliberal water governance in Africa does not portray an overly positive image. Findings from countries in the developing world such as Bolivia (Laurie and Marvin, 1998), Indonesia (Bakker, 2002) and South Africa (Smith, 2004) reveal the negative socio-economic impacts to the poorest urban populations. Watsan services for these groups have seen minimal improvements whilst those with an existing service continue to receive high quality watsan. Furthermore, in spite of the negative impact to poor urban populations, recent research reveals the emerging ‘business opportunities’ for international water companies after the adoption of neoliberal water governance in the developing world (Hall and Lobina, 2004; Bayliss, 2005).

Drawing on my interdisciplinary academic background in development geography and environmental engineering³, this thesis seeks to contribute towards the aforementioned literature by researching the impacts of recent neoliberal inspired water reforms on watsan development in Africa. The research is grounded in the empirical context of the Zambian Copperbelt – an urban region in sub-Saharan Africa where neoliberal inspired water policies have been implemented since the late 1990s. These policies were introduced to instigate comprehensive changes to the existing Copperbelt water governance regime and so this research provides a starting point in which to explore the manifestations of neoliberalism upon watsan development in the region.

Furthermore, this research takes particular inspiration from the emerging scholarship of postcolonial geography. Indeed, as demonstrated later in the chapter, it is important to

³ This study is jointly funded by the Economic and Social Research Council (ESRC) and the Natural Environment Research Council (NERC). Chapter Four examines the interdisciplinary dimension of this research in more detail.

note that the conceptual approach of postcolonial geography has fundamentally influenced the construction of my research questions. Structured around a number of key concepts, a postcolonial approach is shown to have an appropriate focus upon issues of materiality such as poverty, inequality and uneven development. This appears especially pertinent given the negative socio-economic impacts of watsan policies on the ‘drawers on water’ as intimated above. Therefore, as well as contributing towards the limited literature examining the impacts of neoliberal watsan development in an African context, this research seeks to contribute towards an emerging literature in postcolonial geography.

1.2. The geographical focus of the research

This section provides an introduction to the geographical focus of this research – the Zambian Copperbelt – including a brief overview of the geography and political history of the region and the country. As illustrated in Figure 1.1 below, the Zambian Copperbelt is located in central/northern Zambia, a landlocked country in southern Africa. One of Africa’s most eccentric legacies of colonialism, the shape of Zambia epitomizes the British policy of divide and rule. It is shaped liked ‘a figure of eight’ and its borders do not correspond to any tribal or linguistic areas, and in many places ignores natural features as well (Else, 2002: 26). Zambia is approximately 750,000 square kilometres and is equal to the combined areas of France, Austria, Belgium, Switzerland and Denmark.

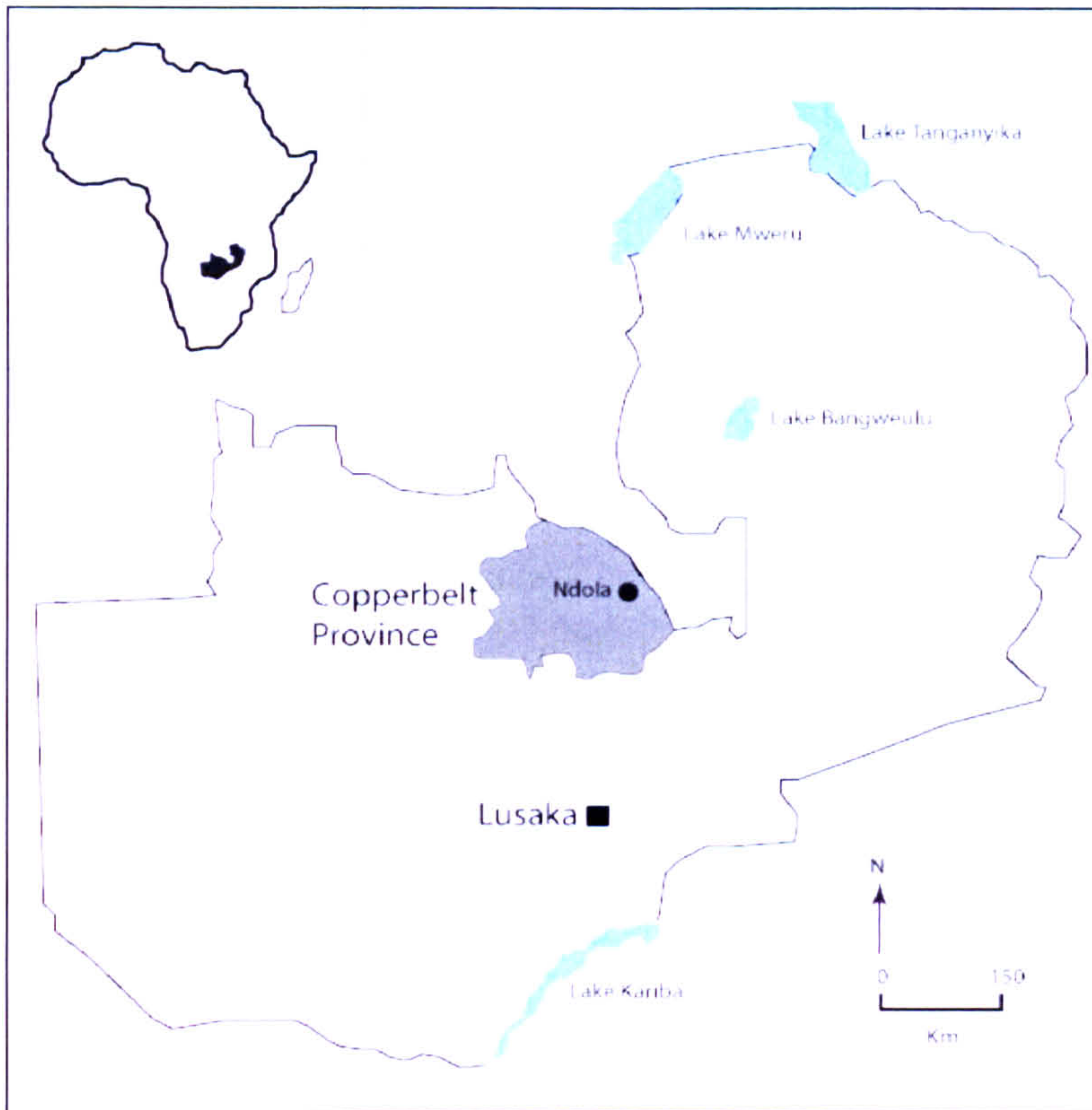


Figure 1.1: Map of Zambia

Source: Author's map

In the 2000 national census, Zambia's population was 10.3 million with the Copperbelt population recorded at 2.2 million (GRZ, 2000). As illustrated in Figure 1.2 below, there are seven main towns in the Copperbelt and the vast majority of the provincial population inhabit the formal and less formal settlements in these towns. In terms of its size, the Copperbelt is the second smallest of the nine provinces in the country. It is approximately 200 kilometres from east to west and 150 kilometres from north to south. The Kafue River, a tributary of the Zambezi River, enters the north-west of the province and flows in a south-easterly direction before exiting the province in a south-westerly direction. In terms of rainfall, the Copperbelt receives on average between 1000 and 1500mm of rainfall a year, although this falls in the wet season between the months of November and March.

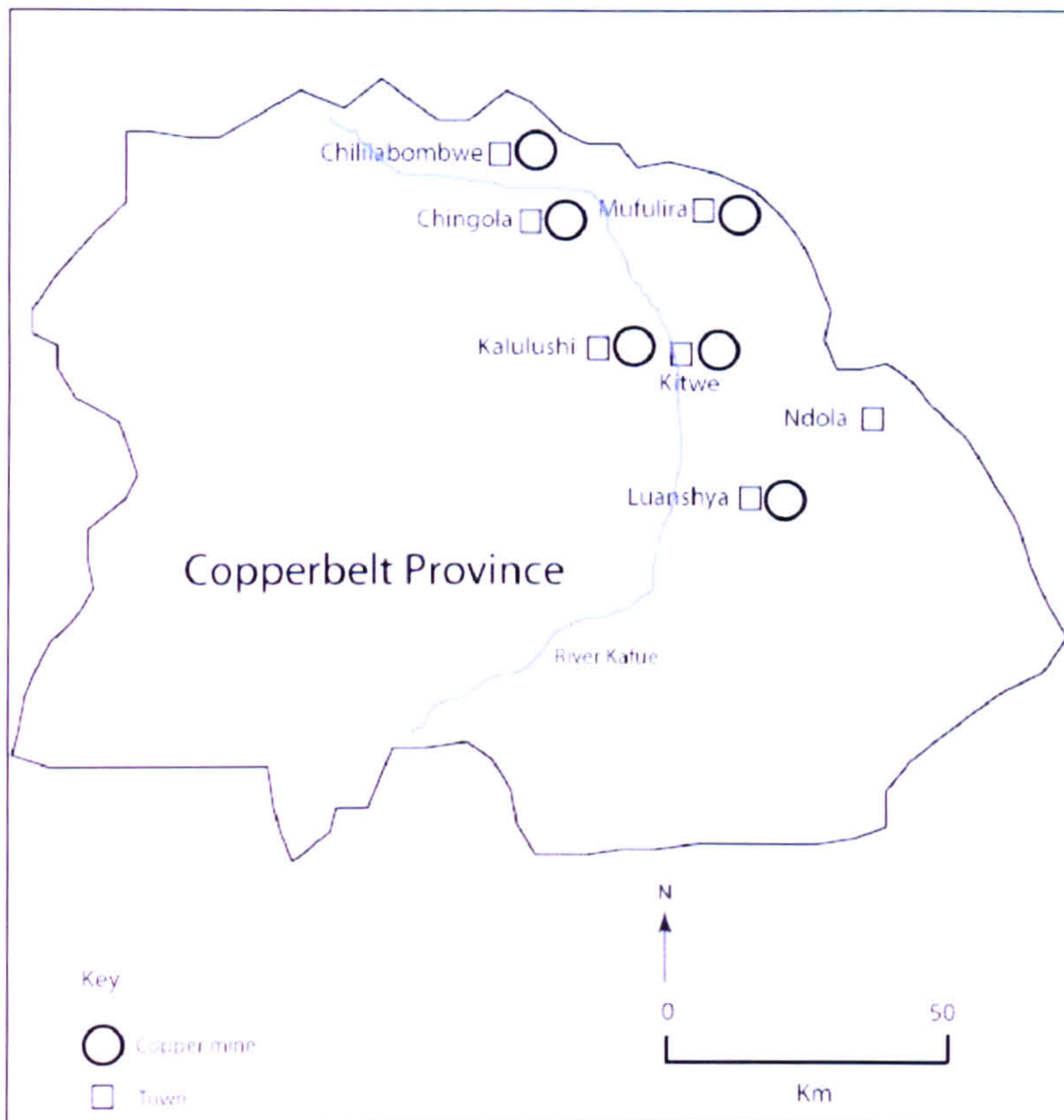


Figure 1.2: The Copperbelt province

Source: Author's map

As the name suggests, the historical and the geographical development of the Copperbelt has been dominated by the discovery and excavation of rich copper ore deposits. Discovered in the 1800s, but not mined extensively until the 1920s, the Copperbelt became one of the foremost industrial ‘hubs’ in southern Africa during the twentieth century (Ferguson, 1998). Under the control of Cecil Rhodes’s British South Africa Company (BSAC) from the 1890s, the Copperbelt was officially incorporated into the British colony of Northern Rhodesia in 1924. In the following year the vast extent of the copper deposits became known and BSAC, who had maintained legislative rights over the minerals in the region, set about mining on a considerable scale. The rising demand for copper during this period from countries in Western Europe and North America⁴ was a major contributing factor in the explosive growth of mining activities in the region.

⁴ The demand for copper in Western Europe and North America during this period was predominantly for electrical wiring.

This also corresponded with a migration of 'native Africans' from the surrounding rural areas as BSAC offered employment opportunities in the mines.

Between the 1920s and 1950s the British colonial authorities and BSAC dominated urban development of the Copperbelt. As with most settler colonies in Africa during this time, the urban areas were divided into distinct European and African quarters. Chapter Five examines in detail the extent to which this separation of races also reflected in unequal access to basic services such as water supply. Resentment and dissent began to grow as a colour bar imposed by the colonial authorities prevented Africans being trained as skilled artisans (Else, 2002). Combined with the fact that the mines were successful enterprises and yet very little of the profit was spent on development of the country, rising nationalist support started to build amongst the African populations as the 1960s approached.

After a relatively peaceful nationalist campaign also known as the 'Chachacha Rebellion', Zambia gained independence from Britain on October 24th 1964. Kenneth Kaunda, the first president of Zambia and leader of the nationalist campaign, promised a bright future by pledging to re-invest the profits from the copper exports into Zambia's post-independence development. However, the very foundations for development were severely undermined by the inheritance of three key factors: a multi-million dollar national debt from the British colonial authorities, poor existing health, transport and communication services, and very few educated Zambians (Tordoff, 1980; Else, 2002). In spite of this initial set back, Kaunda set about transforming the country by nationalising the existing industry, encouraging secondary industry and introducing Zambian workers (mostly males) into jobs and positions of authority. Referred to as 'Zambianisation', this programme was characterised by few successes and a tendency for corruption, mismanagement and political patronage (Tordoff, 1980).

By the mid-1970s, the over reliance on copper exports soon exposed the vulnerability of the Zambian economy to external economic shocks. The country spiralled into an economic crisis after sharply declining copper prices, rising oil prices and a global economic recession. Despite several emergency International Monetary Fund (IMF)

loans, Zambia was brought to the brink of economic and social collapse by a heavy debt burden, unsustainable inflation and huge formal unemployment. The situation did not ease in the 1980s and various socio-economic indicators illustrate the decline of the Zambian economy during this period. In 1991 per capita incomes were only 30 percent of the 1975 level and formal sector employment had dropped to 10 percent in 1990 from 24 percent a decade earlier (Nsemukila, 2001). Furthermore, social expenditures were severely cut back as demonstrated by the reduction in education spending in 1990 to one-third of its 1970 level (Nsemukila, 2001). By 1991 an estimated 60 percent of the population had an income below the cost of a nutritionally adequate food basket (Chongo and Kaite, 1991). From being one of the most prosperous countries in sub-Saharan Africa in the decade following independence (1964 -1974), by the 1990s Zambia was one of the poorest countries in the world.

A neoliberal transition

As the economy continued to decline through the 1980s, the World Bank and IMF took a more prominent role in Zambia's development. This involved offering considerable financial loans on the condition that the Zambian government bring about fundamental reform to the economy, also known as structural adjustment. However, the relationship between the government and the two financial institutions was not always a straightforward one. On one occasion in 1987, the World Bank and IMF were formally expelled from the country by President Kaunda on suspicions they were playing too great a role in the country's economic and political affairs. As a consequence, the implementation of structural adjustment during the 1980s was characterised by interruption and delay (World Bank, 1996). However, this quickly altered after the first democratic election held in the country in 1991. Under pressure from the Movement for Multiparty Democracy (MMD), a movement championing the cause of democracy and multi-party elections, President Kaunda legalised opposition parties and soon announced the first democratic election (Else, 2002)⁵. The MMD won this election which served as a

⁵ At independence in 1964, President Kaunda created a one party state in order to unify the seventy-five different tribes in the country. This strategy had many positive outcomes including over two decades of

catalyst to a fundamental transformation in the country's political and economic landscape. The new president, Frederick Chiluba, embraced the neoliberal development agenda of the World Bank and IMF and his government soon began to neoliberalise the economy in an uncompromising fashion.

Within a year of the election, relations vastly improved between the Zambian government and the World Bank and IMF as the former set about removing exchange rate controls, liberalising the trade regime and banking sectors, and privatising many state-owned enterprises (World Bank, 2005). Between 1994 and 2001 over 250 state enterprises were privatised (Situmbeko and Zulu, 2004) including the transport, finance and, significantly, the copper mines in 2000. Zambia's privatisation program was singled out the by World Bank as being one of the most successful in sub-Saharan Africa with the experience offering many examples of best practice (World Bank, 1996). Furthermore, the IMF praised Zambia for 'making great strides...notably in freeing markets and by eliminating government intervention and control' (IMF, 1995).

Despite some initial gains – including a fall in inflation, a sharp increase in non-traditional exports and some diversification in agriculture – momentum slowed in the mid-1990s and hopes of a sustained economic recovery remained largely unrealised (World Bank, 2005). The privatisation programme has since been targeted for criticism as many private companies have since collapsed, jobs have been lost and welfare programs originally performed through stated owned companies have not been continued by private companies (Situmbeko and Zulu, 2004: 8). A further decline in global copper prices and an increasing debt burden led Zambia to receive considerable multilateral debt cancellation through the Highly Indebted Poor Countries (HIPC) programme in 2005⁶. However, socio-economic indicators continue to reflect poor living standards. In 2000, the World Bank estimated that 73 percent of the population were estimated to be living in poverty (World Bank, 2005). The spread of HIV/AIDS is also a growing concern as

relative peace whilst other neighboring countries struggled with tribal disputes. The motto of Kaunda's ruling party – 'One Zambia, One Nation' – neatly reflects the politics of this time. A one party state remained until October 1991 when Kaunda gave in to the mounting public support for multi-party politics (Mbao, 1996).

⁶ In July 2005, Zambia's debt was reduced from \$7.1 billion to approximately \$500 million (Cronin, 2006).

demonstrated in the drop in average life expectancy from 48 in 1990 to 38 in 2000 (United Nations Development Programme, 2000).

The Copperbelt has been hit especially hard as a consequence of Zambia's overall economic decline (see Ferguson, 1998). The privatisation of the industrial sector has led to considerable job losses as demonstrated by the reduction in paid employment in the mining and manufacturing sector from 140,000 in 1991 to 83,000 in 2000 (Bigsten and Mkenda, 2001 *cited in*: Situmbeko and Zulu, 2004: 33). Considering the majority of Zambia's mining and manufacturing industry is based in the Copperbelt, the urban populations in the copper towns have felt these job losses the most. The cut in formal employment opportunities has also contributed towards a decline in living standards. The government's census for 2000 estimates that the Copperbelt had the highest incidence of poverty in the country with 33 percent of the provincial population living in extreme poverty (GRZ, 2000).

Finally, media reports suggest there are reasons for optimism in terms of Zambia's recent economic development. One report suggests that since copper has become more of a profitable commodity since the early 2000s, the economy has averaged growth of approximately 4.5 percent over the previous 5 years (Cronin, 2006). International mining investors have continued to show interest in the copper mining sector since 2002 with a growing interest from a variety of Indian and Chinese mining consortia. Whether these new buyers bring renewed economic prosperity to the region and the country as a whole remains to be seen; what is certain is the underlying social and economic poverty which still characterises the daily realities of urban life in the Copperbelt.

1.3. Concepts, research questions and key empirical themes

The purpose of this section is to restate the main aim, briefly elaborate the conceptual approach and set out the research questions and key empirical themes of the thesis. As the first section of the chapter stated, the aim of the thesis is to investigate the impacts of

neoliberal inspired water reforms on watsan development in an urban African context. Recent research from various countries in the developing world has brought to light some of the problems of adopting neoliberal inspired water reforms, especially in relation to watsan services for the urban poor. This thesis seeks to contribute towards this literature and, as stated above, has identified the Zambian Copperbelt as the empirical setting for this research. In order to tackle this research aim, the thesis takes particular inspiration from the emerging scholarship of postcolonial geography and interdisciplinary research approaches. The following briefly elaborates the conceptual approach before setting out the research questions for the thesis.

1.3.1. Conceptual approach

The conceptual approach for this research is one that draws heavily from the theory of postcolonialism. Discussed at length in Chapter Two, postcolonialism is defined as the ‘geographically dispersed contestation of colonial power and knowledge’ (Blunt and Wills, 2000: 170) and has gained in popularity amongst development geographers looking to explore the relationships between power, knowledge, development and development practice in non-western, materially-poor spaces (Mercer et al., 2003: 432). Drawing on recent postcolonial research in the sub-discipline of development geography – also known as postcolonial geography – and authors who have inspired postcolonial research, this thesis identifies four key concepts central to the theoretical framework of this thesis. In turn, these concepts are shown to have influenced the construction of the specific research questions as set out in the next section. Furthermore, in spite of critics accusing postcolonialism theory of being over concerned with discourse than material issues (Darby, 1998; Rajan, 1997), in the thesis I demonstrate that postcolonial geography can offer a materially relevant conceptual approach – one that moves beyond a simple critical reflection of development but offers important material insights into current policy and practice.

The first of the four concepts is *colonialism*. Examining the research through the conceptual lens of colonialism allows one to explore the significance of the material and discursive legacies of colonialism in relation to contemporary development. Colonialism played a considerable part in the early development of many African countries; therefore, casting light on the legacies of this period of history helps to provide a more nuanced understanding of development. Recent postcolonial research (Lange, 2004; Myers, 2006) has demonstrated the benefits of focusing on colonialism to examine the politics of contemporary development in urban Africa.

The second concept is *governance* and involves examining the interaction of development and the actions of the state and non-state actors⁷ in the organisation and management of political, social and economic affairs. This involves analysing the rationalities of state governance as well as the local, national and international politics of development. James Ferguson's *Anti-Politics Machine* (1990) provides particular inspiration in developing my understanding of this concept. He analysed the outcomes of a World Bank development project in Lesotho in the 1980s and revealed how the project led to the strengthening of state control in certain rural parts of the country. On this occasion, focusing on governance allowed a unique insight into the unintended consequences of the development project.

The third concept is *power* and involves examining the power relations between different state and non-state actors participating in watsan development in the Copperbelt. Considering the unequal exchanges of power that have characterised the history of African development, focusing upon power helps to cast light on the politics of contemporary development. In *On the Postcolony* (2001), the postcolonial theorist Achille Mbembe examines the power relations in a number of oil rich states in West Africa. Mbembe's analysis casts light on the dynamics of power and authority between the key local, national and international agents in development and my conceptual

⁷ Two principal types of non-state actors can be identified. Firstly, there are private sector corporate actors also referred to as multi-national corporations (MNCs) (Higgot et al, 2000: 1). Secondly, a non-state actor refers to international financial institutions (IFIs) involved in development, most notably the World Bank and the International Monetary Fund.

approach follows in this vein to explore the politics of watsan development in the Zambian Copperbelt.

The fourth concept is *the subaltern*⁸ and involves focusing on the poorest and most politically marginalised populations in society. As demonstrated in a study of subaltern water strategies in Ghana (Yeboah, 2005), focusing on the subaltern reveals how marginalised populations respond to and challenge the dominant development discourses. This is especially important when considering the potential negative socio-economic impacts of water policies upon the ‘drawers of water’. These four conceptual themes are examined in greater detail in Chapter Two.

A further conceptual point to note is the *interdisciplinary* nature of this research. As stated previously, this research draws on my academic background in development geography and environmental engineering to create a unique interdisciplinary dimension to the research. Although the research questions are predominantly influenced by the postcolonial geography research agenda, this research has also incorporated a line of questioning akin to environmental engineering. The research investigates how the water quality of subaltern water sources has been impacted by the neoliberal water reforms and the first research question below responds explicitly to the interdisciplinary dimension of the research.

1.3.2. Research questions

- How have the neoliberal inspired watsan reforms impacted upon watsan provision in the Copperbelt? With a particular emphasis on the urban poor, have the water reforms improved access to clean water and adequate sanitation for urban populations in the Copperbelt? And, relating to the environmental engineering

⁸ The subaltern refers to urban poor populations – the common men, women and children – most of whom live in areas of the Copperbelt with inadequate access to clean water and sanitation. Chapter Two (2.3.4) discusses the theoretical origins of the term subaltern and its importance to a postcolonial conceptual approach.

research methods as part of the interdisciplinary approach, how have the neoliberal water reforms impacted upon the quality of water sources utilised by the urban poor?

- How has the neoliberal inspired water reforms impacted upon Copperbelt water governance? How are decisions made in relation to water governance and do the governance regimes allow for appropriate participation by water consumers?
- How has neoliberal development impacted upon the power relations in the Copperbelt water sector? Which state and non-state actors have influenced Copperbelt watsan development since the adoption of neoliberal development ideology and what are the implications in terms of the broader politics of development?
- How do the neoliberal water reforms interact with the material and discursive legacies of British colonialism in the Copperbelt water sector?

1.3.3. Empirical themes

This section briefly introduces the three overarching empirical themes of the thesis. The first theme, *neoliberal water governance*, explores the impacts of recent water reforms on the ability of the state to provide clean water and adequate sanitation to urban populations in the Copperbelt. In particular, the research focuses on the neoliberal inspired policy of water commercialisation which was implemented in the region in 2000. In order to gain a balanced perspective of water commercialisation, the research examines this policy in relation to the ‘water consumer’ and the newly created ‘water providers’. This involves applying a range of research methods including a social survey, focus groups and prolonged periods of ethnographic research at the water providers.

The second theme, *the politics of development*, examines how neoliberal development has impacted upon the broader politics of Copperbelt watsan development. The research explores the power relations between the key state and non-state actors participating in Copperbelt watsan development since 2000 with particular scrutiny of the activities of the

World Bank. The World Bank has played an active role in Copperbelt water governance; the adoption of the water commercialisation policy is linked to the World Bank's structural adjustment policies of the early 1990s. Therefore, it is apposite to focus on their involvement and contribution in the politics of watsan development. This dimension of the research involves interviews with the key actors in the sector as well as gaining political insight through the ethnographic research at the water providers.

The third theme, *uneven development*, reflects upon the outcomes of neoliberal development in relation to the history of watsan development in the Copperbelt. The research explores the colonial origins of uneven development in the Copperbelt – in terms of the spatially inscribed watsan inequalities and the inequalities of power in the water governance regimes – and how neoliberal water governance interacts with these inequalities. This involves examining the history of the Copperbelt watsan development through an extensive literature review, documentary research methods and a number of interviews.

1.4. Structure of the thesis

Chapter Two follows this chapter and elaborates the conceptual framework of the thesis. It examines postcolonial theory and how it emerged against growing disenchantment and academic frustration towards neoliberal development policy and practice from the early 1990s. The chapter identifies four key concepts of postcolonialism – colonialism, governance, power and the subaltern – before considering recent postcolonial research in the sub-discipline of development geography (Bell, 2002; Mercer et al, 2003; Myers, 2006). Referred to as postcolonial geographies, these studies illustrate an emerging interest in the application of this conceptual approach in the study of material issues such as uneven development, poverty and inequality. The chapter concludes by discussing how postcolonial theory is useful for my research in the study of watsan development in the Zambian Copperbelt.

Chapter Three examines the existing literature of watsan development in Africa in relation to the major shifts in development policy. Chronologically structured, it explores watsan development in three historical phases: the colonial era (mid-1800s – 1960s), the post-independence era (1960s – 1980s) and the neoliberal era (1980s – present day). The chapter explores the construction of watsan inequalities in a number of countries in Africa and how these have developed in relation to the exercise of power in the evolving water governance regimes. The chapter also examines the impact of recent neoliberal inspired water policies and how these have interacted with the identified watsan inequalities.

Chapter Four elaborates the research methodologies applied in this thesis. The chapter begins by discussing how the theoretical framework of the research has defined the choice of research before leading into a discussion of the choice of methods including a consideration of the constraints and limitations. The chapter also discusses the issue of researcher positionality and power relations in the field. Finally, the chapter considers the interdisciplinary dimension to the research and the implications to the methodology.

Chapter Five is the first empirical chapter and draws on primary and secondary research material to plot watsan development in the Zambian Copperbelt throughout the twentieth century. The chapter explores the origins of uneven watsan development in the region and develops previous research (Kazimbaya-Senkwe, 2005) by exploring the geographies of uneven watsan access. This analysis includes two maps illustrating the consolidation of uneven watsan access in a copper town between 1960 and 1980. Importantly, this chapter provides a historical context to the following empirical chapters which consider the implications of recent neoliberal water reforms.

Chapter Six is the second empirical chapter and is based entirely on primary research material. The chapter examines the politics of watsan development since the adoption of the neoliberal inspired water policies in 2000. The empirical focus of the chapter is the implementation of the water commercialisation policy, a specific watsan negotiation regarding the future of Copperbelt water governance and a World Bank funded

development project of the repair and rehabilitation of watsan infrastructures in the mining townships. The chapter explores the ways in which neoliberal development has transformed the nature of the water sector with particular emphasis on the participation and influence of international non-state actors.

Chapter Seven is the third empirical chapter and explores the implications of the neoliberal inspired policy of water commercialisation. Drawing on primary data gathered through a social survey, focus groups and institutional ethnographies at the newly created commercial water providers, this chapter examines water commercialisation as it has impacted upon the quality of watsan services and the newly created commercial water companies. The chapter concludes by relating the main findings from the research with recent World Bank rhetoric regarding African watsan policy.

Chapter Eight discusses the key empirical findings from Chapters Five, Six and Seven in relation to the key arguments raised in Chapters Two and Three. Three key arguments are made which correspond to the three key themes of the thesis: neoliberal water governance, the politics of development and uneven development. This is followed by *Chapter Nine* which draws together the main arguments and assertions made in the thesis. The chapter puts forward a number of policy recommendations for African water governance and identifies areas for further research. This includes examining the potential for further postcolonial research into the study of uneven development in Africa and interdisciplinary research.

2. Postcolonialism and uneven development in Africa

2.1. Introduction

Against a backdrop of increasing frustration and disenchantment with development policy and practice from the 1980s, the theory of postcolonialism has emerged offering a creative and original perspective in which to examine uneven development in Africa. Recent research (Mercer et al, 2003; Bell, 2002; Robinson, 2002) has demonstrated how postcolonialism provides a critical way in which to unpack the relationship between power, knowledge and development and the manner in which we think and write about development in Africa (Mercer et al, 2003). Inspired by postcolonial critiques of development, this chapter sets out the conceptual framework for the thesis by elaborating four conceptual themes: colonialism, governance, power and the subaltern. The chapter demonstrates how a postcolonial approach provides a critical lens through which to examine the central empirical focus of this thesis: water and sanitation (watsan) development in the Zambian Copperbelt. Furthermore, considering those who have argued that postcolonialism is not focused around issues of materiality (Rajan, 1997; Darby, 1998), the chapter argues that an analysis of development around the four stated concepts can usefully address material issues such as poverty, inequality and uneven development.

In terms of structure, the chapter is divided into four main sections. The first section briefly outlines the theories and practices of the dominant development discourse of neoliberalism in relation to the rise of alternative visions of development within academia from the 1980s. This section examines the accelerated socio-economic inequalities in Africa and how this played a part in sparking interest in the theories and critiques of development offered by postcolonialism. The second section elaborates four conceptual themes central to postcolonialism as they have developed in the literature before the third section examines the emerging application of postcolonial perspectives within geography, referred to as postcolonial geographies. In this section, the critical perspective offered by

postcolonialism is set out in relation to the empirical focus of the research before some brief conclusions are provided.

2.2. Neoliberalism, the African tragedy and the ‘widening gap thesis’

‘A starting point for a critical approach to development studies today is to recognize both the ascendancy of the new neoliberal orthodoxy and its character as ideology’. (Cammack, 2002: 178)

A fitting introduction to any research topic addressing current development issues, whether in Africa or not, is one that acknowledges the role played by the theories and practices of *neoliberalism*. Since the 1970s, neoliberalism has become the dominant economic and political philosophy across the globe, albeit with different interpretations and outcomes in the places where it is practised. These theories have become important to the lending policy of the leading international financial institutions, such as the World Bank and IMF, which in turn, have influenced development practices of governments across much of the developing world. For this reason, the following discussion will briefly examine the theories and practices of neoliberalism in relation to African development before addressing some of the critiques which contributed towards the emergence of alternative approaches to development.

In *A Brief History of Neoliberalism*, David Harvey (2005: 2) defines neoliberalism as:

‘...a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterised by strong private property rights, free markets, and free trade’.

Accordingly, neoliberalism requires the state to create and preserve an institutional framework in order to allow the proper functioning of markets before stepping aside to

allow the markets to flourish unhindered. In terms of the tangible policy instruments of neoliberalism, three have dominated since the mid 1980s: deregulation, liberalisation and privatisation⁹. Deregulation and liberalisation are closely related and involve removing trading restrictions to encourage efficient operations of markets and the investment of foreign capital. Privatisation involves the selling off of traditionally publicly run services (water supply, health care, telecommunications, etc.) to privately owned firms. These three have since become the stalwarts of the neoliberal doctrine. The UK and USA were the first to adopt these policies after the Thatcher and Reagan governments came into power in the early 1980s before the ideology spread to countries such as Sweden, a number of former Soviet satellite states, New Zealand and South Africa (Rapley, 2002). Indeed, the original policy prescriptions of neoliberal supporters have not waned over the last two and a half decades as illustrated in the rhetoric of Tony Blair, who wrote that successful countries required ‘open markets’ and ‘a strong encouragement of enterprise with labour-market flexibility’ (Blair, 2006).

Importantly for Africa and other parts of the developing world, the IMF and World Bank became central figures in the global rise of neoliberalism. Originally created at Bretton Woods (USA) in 1944 by western diplomats and leading economic thinkers to help create a favourable environment for international trading and to assist in the reconstruction of post-war Europe (Rapley, 2002), from the 1970s onwards the IMF and World Bank turned their attentions towards the spread of neoliberal policy and practice in the so-called Third World. In order to prevent a repeat of the irresponsible spending of development loans by recipient countries (mainly government officials) in the 1970s and to initiate capitalist style economic growth, the IMF and World Bank lent aid on the condition that the recipient economies would undergo a number of structural economic changes; namely, deregulation, economic liberalisation and privatisation (Rapley, 2002). These policies became known as structural adjustment and acted as a catalyst to the

⁹ As discussed in Chapter Three, in some sectors such as water supply and sanitation, the policy of commercialisation was favoured before privatisation. Commercialisation involves creating the necessary economic and political conditions in order to entice the investment of the private sector. This typically involves introducing user charges and removing political ties from the sector. However, privatisation as opposed to commercialisation was the preferred policy option for the World Bank and this explains why commercialisation is not referred to as a dominant policy instrument of neoliberalism above.

adoption of neoliberal practices across the developing world. Originally coined by a World Bank official in the early 1990s, the term 'Washington Consensus' has since been used by scholars (Gills and Philip, 1996; Wade, 1996) as shorthand for this shared paradigm of neoliberal development promoted by the USA and the twin architects of structural adjustment, namely the IMF and World Bank (Manzo, 1999: 98).

By the mid-1980s, structural adjustment was not bearing the economic fruits the Washington Consensus had predicted. Instead, the World Bank and IMF were heavily criticised over the limited economic success of the policies and the devastating social impacts of the reforms. A UNICEF report entitled *Adjustment with a Human Face* pointed to the deteriorating health and education conditions, the worsening employment opportunities and the falling incomes in countries undergoing structural adjustment (Cornia et al, 1987). Moreover, in addition to a number of leading World Bank employees who have since criticised the lending regime of the Washington Consensus at this time (including former chief economist Joseph Stiglitz and deputy president Joseph Ritzen), the World Bank themselves acknowledged some of the negative social and economic impacts of structural adjustment. In a report entitled *World Bank Structural and Sectoral Adjustment Operations*, the World Bank confessed: 'In the 18 Sub-Saharan African countries reviewed, no less than 14 had experienced a fall in investment rates during adjustment' (World Bank, 1992). The report goes on to state that decreased social expenditures as part of structural adjustment lending had led to 'unsatisfactory results' in terms of poverty; income inequality had increased in some countries and landless farm workers had borne the greatest burden of higher food prices.

The global affects of neoliberalism were increasingly shown to create distinctly uneven geographical development. Referred to as the 'widening gap thesis' (Manzo, 2003: 441), studies highlighted the growing gap between developed and developing countries, as demonstrated in Figure 2.1 below, as well as rising inequalities between the rich and poor within countries:

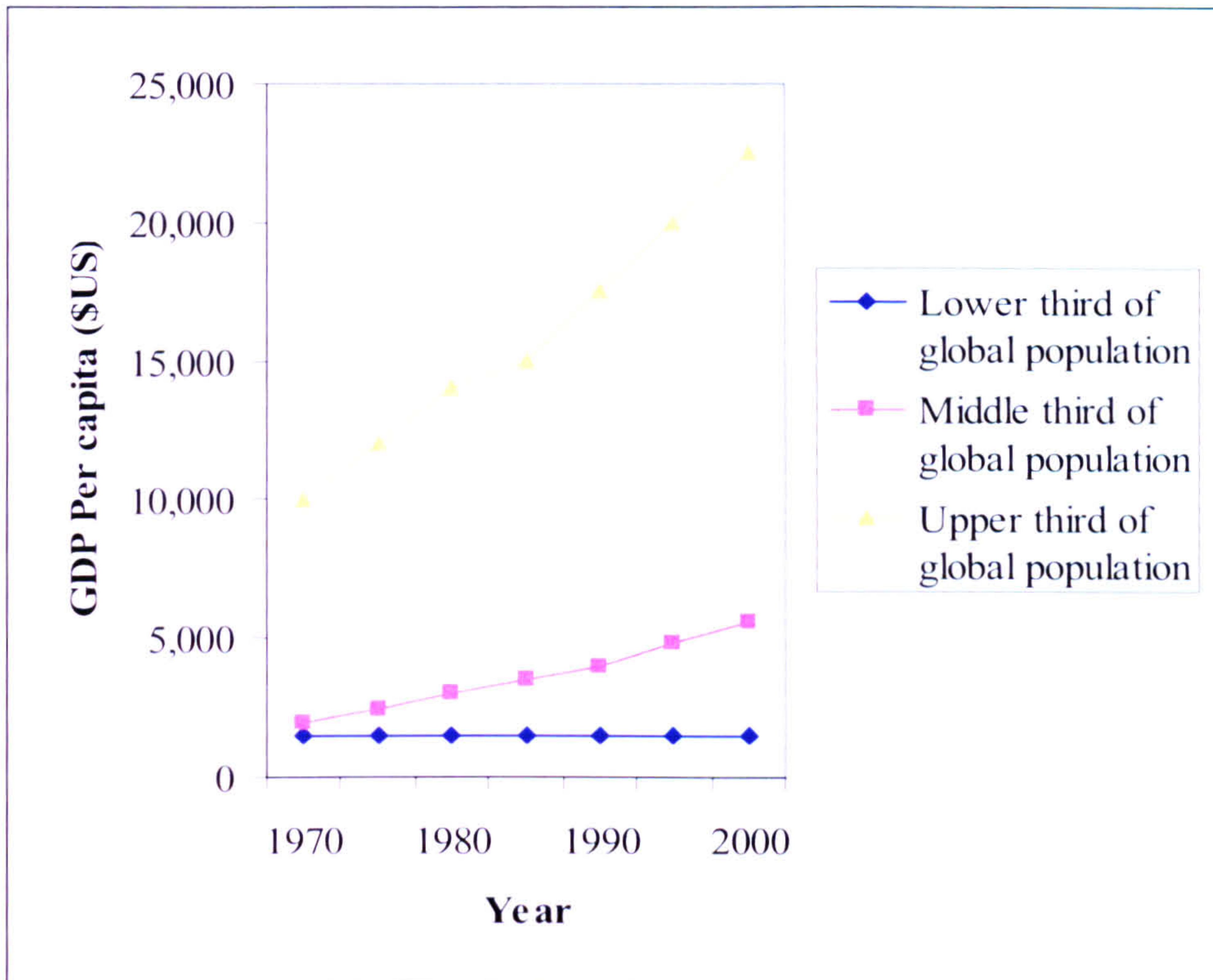


Figure 2.1: The incomes of rich and poor countries continue to diverge

Source: Adapted from World Bank (1999) cited in: Kothari and Minogue (2002: 6)

In 1998 the United Nations Development Programme (UNDP) published income related data for the period 1990-1997 showing that nearly 1.3 billion people lived on a dollar a day whilst the share in global income of the richest fifth had risen to 74 times that of the poorest fifth (UNDP, 1998). In the same report, the UNDP recorded that whereas 840 million people from the developing world are undernourished, the overall consumption of the richest fifth of the world's people is 16 times that of the poorest fifth. The vast gulf in living conditions and general prosperity between the world's richest and poorest could not be more apparent. Disconcertingly, this trend has never looked like ending as reflected in the sense of urgency within the language of the 2005 UNDP Human Development Report. The report states there is 'little reason to celebrate' the review of the progress made in development since the Millennium Declaration in 2000 with ever increasing global inequalities and limited progress towards the Millennium Development Goals (MDGs)(UNDP, 2005: 1).

Throughout the 1980s, the rising levels of poverty in sub-Saharan Africa became increasingly recognised, leading the World Bank to admit in 1989 that the ‘nightmare scenario’ (World Bank, 1989 *cited in*: Leys, 1995: 188) sketched out by the UN’s Economic Commission for Africa in 1983 ‘was a very real possibility’. Structural adjustment may have reduced the misuse of resources by governments but the continuing deterioration of infrastructure and austere pricing restrictions for essential food goods led to further poverty in most sub-Saharan African countries. Poor agricultural performances in Africa coupled with an increasing industrial and agricultural efficiency in other parts of the developing world led to Africans no longer being able to live off what they were making (Leys, 1996: 193). Africa as a whole was increasingly being left behind whilst the poorest and the most vulnerable in society suffered as a result. As Andre Gorz hauntingly declared, more and more Africans were becoming ‘supernumeraries’ of the human race (Gorz, *cited in*: Leys, 1995: 193).

The emergence of critiques and alternative approaches

By the early 1990s, spiralling levels of poverty in the developing world coupled with an ever widening gap between rich and poor led many to question the credibility of “development” as a whole. Wolfgang Sachs epitomized this sense of despair when in 1992 he famously wrote ‘development itself stands like a ruin in the intellectual landscape’ (1992: 1). Likewise, Colin Leys had long dropped reference to the term ‘crisis’ but instead referred to the ‘tragedy’ of development, in particular reference to development in Africa (1995: 190). More specifically, a growing literature emerged targeting the standing of the Washington Consensus’ neoliberal doctrine considering the less than positive record of structural adjustment. The Washington Consensus was criticised for a singular and resolute focus on the economics of development without sufficient consideration of the specific history, politics and culture of the recipient countries (Ferguson, 1990; Escobar, 1995; Leys, 1995). Furthermore, Brohman (1995)

claimed that neoliberalism was nothing more than repackaged modernisation theory¹⁰ accusing it of Eurocentrism and universalism which had characterised World Bank and IMF lending in the 1950s and 1960s. As Brohman (1995: 121) argues:

‘...many of the serious contradictions of modernisation theory seem to be reappearing in the neoliberal development framework. These shortcomings make neoliberalism susceptible to many of the same criticisms that have plagued modernisation theory and, eventually, contributed to its demise’.

The World Bank professed to a position of impartiality by pointing out to great lengths that its own activities are purely technical and work outside the realm of politics (Nelson, 1995). However, the policies of the IMF and World Bank have been shown to have very political outcomes in the recipient countries. A clear example of this is demonstrated by the World Bank’s implementation of privatisation of the Ugandan Commercial Bank (UCB) as part of Uganda’s structural adjustment programme in the mid-1990s (Channel 4, 1998) in which the World Bank is seen overcoming opposition to the reforms by introducing a British financial consultant, Morgan Grenfell, to facilitate privatisation. The consultants successfully convinced the UCB of the World Bank’s privatisation proposals and afterwards a British diplomat was filmed asking a colleague: ‘Do they [the Ugandan management] feel we [World Bank] have been using Morgan Grenfell to make these recommendations [privatisation]?’ (Falconer, 1998). The diplomat was expressing concerns over the way in which the World Bank had facilitated privatisation via an independent consultant against the wishes of the Ugandans. The example illustrates that despite the impartiality mandate, the policies of the World Bank and IMF have a far reaching set of political consequences. As Manzo concurs in relation to structural adjustment,

¹⁰ Modernisation theory sprang from what is understood as the behavioural revolution, a shift in the US social scientific thought that began in the 1940s and continued through the 1960s (Rapley, 2002: 15). The theory sought to identify the conditions that had given rise to ‘development’ in the ‘first world’ and specify where and why these were lacking in the ‘third world’. Although modernisation theorists came to varying conclusions, they did agree that underdevelopment is an initial state and countries could develop by following the example set by countries in the West. It was argued that the West could help speed up the process of development by sharing its capital and know-how to bring these countries into the modern age of capitalism and liberal democracy (Rapley, 2002: 15)

‘...many of the states are caught between a rock and a hard place. Either they inflict pain and invite political resistance or they renege on their external commitments and risk being disciplined by their international ‘teachers’. In this context, explanations for vicious cycles of poverty and underdevelopment that cite only the ‘chronic ineffectiveness of the state’ are surely misguided. They fail to give due attention to the complex web of relationships within which so-called developing states are embedded’. (Manzo, 1999: 111)

The Washington Consensus has been further criticised for the way its policies have promoted an American neoliberal vision across the globe by serving ‘as an important instrument by which to project a powerful external reach’ (Wade, 1996: 5). The implementation of export orientated growth through structural adjustment programmes and the corresponding free trade regulations as policed by the World Trade Organisation has enabled an environment conducive for the global spread of an American neoliberal vision for trade and development. The rise of the US drinks company, Coca Cola, since the 1970s is an example of the vast geographic reach that can be achieved if multinational companies ‘successfully’ exploit the resulting open markets created by the practices of neoliberalism. Consequently, the Washington Consensus is no longer something confined to the American and the Western European context but is now universal. For many, this issue creates consternation because not only does it position American neoliberalism as the dominant development philosophy but, consistent with the widening gap thesis, it is the economies and peoples of the developing world that benefit least from the rise in volume in international trade (World Bank, 1997: 12).

A final cause for concern has been the way that the neoliberal paradigm has embedded itself into the accepted norms of development policy and practice. As David Harvey has more recently argued, ‘neoliberalism has become incorporated into the common-sense way many of us interpret, live in, and understand the world’ (2005: 3). For those concerned with a healthy and vibrant environment in which development theory could be contested and acted upon, the dominating position of neoliberalism became a cause for

concern. The way in which the World Bank and IMF repelled the Japanese challenge in the 1990s with regard to the merits of a state-led development model is testament to the single minded self-belief and lack of openness towards other developmental options held by officials in Washington DC. Indeed, as Cammack (2002: 180) argues, much of the neoliberal development discourse is a subterfuge and necessary to demonstrate the intellectual dishonesty and concealed relations of economic and political power. These powerful interests act to promote market friendly strategies and rule out any non-market alternatives. This is clearly reflected in the assured and supremely confident position adopted by World Bank employee, John Williamson:

‘The superior economic performance of countries that establish and maintain outward-oriented market economies subject to macro-economic discipline is essentially a positive question. The proof may not be quite as conclusive as the proof that the Earth is not flat, but it is sufficiently well established as to give sensible people better things to do with their time than to challenge its veracity’.
(Williamson, 1993: 1330)

The uncontested position of the Washington Consensus coupled with the adverse impacts of structural adjustment and the continuing widening gap between rich and poor during the 1990s led many academics, political activists and other interested groups to challenge these accepted neoliberal norms. The unfolding African tragedy and the ‘impasse’ of development theory (Schuurman, 1993) spurred on a proliferation of critiques and numerous articles offering alternative visions and approaches (see Korten, 1990; Escobar, 1995; Carmen, 1996). These alternative visions, mostly driven by the rising popularity of postmodernist and poststructuralist epistemologies at the time, attempted to confront some of the theoretical and practical failures of development since the end of the Second World War, as well as addressing some of the tensions within the current neoliberal doctrine. One approach that emerged in the social sciences and humanities was the theory of postcolonialism. The remainder of the chapter examines the theoretical perspective of postcolonialism in order to set out the conceptual framework for this research.

2.3. Re-thinking uneven development in Africa: engaging with postcolonialism

Although a highly contested and controversial term¹¹, postcolonialism (or postcolonial theory) has become increasingly recognised as offering refreshing and critical theoretical perspectives to the study of development, particularly the study of uneven development. Defined as the ‘geographically dispersed contestation of colonial power and knowledge’ (Blunt and Wills, 2000: 170), postcolonialism is not simply referring to the period after the end of colonial rule, but is interrogating the *continuation* of the colonial condition. As Radcliffe articulates, postcolonialism speaks to the fact that the material and discursive legacies of the colonialism live on in the ambivalent and tense North-South relations of development (2005: 291). In order to create a theoretical framework for this thesis, the following explores postcolonialism through four conceptual themes: colonialism, governance, power and the subaltern. Before doing so, the following briefly identifies a problematic aspect of postcolonialism which has since led to its marginalisation within certain fields.

A major criticism of postcolonialism is the alleged over concern with the historical, textual and cultural. The origins of postcolonialism from within literary studies is frowned by those who see it concerned more with discourse than with material issues. Sylvester (1999) argues that the theoretical richness that accompanied postcolonial theory also gave rise to the charge that it lost its bearings as a scholarship. Likewise, Phillip Darby (1998: 13) argues ‘postcolonial studies has become difficult to sort out because it lacks clarity about its objectives and because it has rapidly become self referential’. He states that postcolonialism is ‘a discourse adrift in a depersonalised and decontextualised

¹¹ A number of authors (McClintock, 1992: Darby, 1998) have criticised aspects of postcolonialism and although this chapter deals in part with some of the criticism, it is not the main objective of the chapter. However, it is worth considering McClintock’s questioning of the term ‘postcolonial’. McClintock argues ‘Argentina, formally independent of imperial Spain for over a century and a half, is not “postcolonial” in the same way as Hong Kong. Nor is Brazil “postcolonial” in the same way as Zimbabwe’ (McClintock, 1992: 87). Problems also occur for postcolonial theorists who believe there is not a postcolonial state because the legacies of colonialism continue to live on. Therefore, in order to avoid confusion, ‘post-independent’ is the term used throughout the thesis to describe those countries in Africa that were formerly colonized by European nations and who have since gained independence.

world' (1997: 16). In a similar vein, Sharp and Briggs (2006: 6) contend that many academics perceive postcolonialism to offer overly complex theories which are largely ignorant of the real problems characterising everyday life in the global South. More specifically, Rajan (1997: 615) suggests: 'Postcolonial studies is not addressing issues of poverty, resource distribution, state violence, human rights violations, urban sanitation and development'.

The lack of engagement with material issues is played out in more recent tensions between development studies¹² and postcolonial theory. Whilst development studies has generally been concerned with addressing poverty and inequalities, postcolonial theory tends to talk past it leading to limited productive dialogue between the two academic fields. As Sylvester (1999: 703) states: 'development studies is not listening to the subaltern¹³ and postcolonial studies is not bothered if the subaltern is eating'. Indeed, Sharp and Briggs (2006) epitomize the tension between the two positions. Even though they are both geographers, Briggs is imbued with development theory and practice and leans towards the concerns of development studies. Sharp, on the other hand, has an in-built suspicion of the 'development project' as a result of her sympathies towards postcolonial theory (2006: 6). As a consequence, their academic relationship is characterised by strain and disagreement. Although this is a simplistic and highly generalised illustration of the tensions between development studies and postcolonial theory, it typifies some of the problems that have led to an on-going divergence in dialogue and collaboration between the two positions.

The discussions around postcolonial theory prompted a number of supporters to express the need for the theory to align with materiality. Sylvester (1999: 718) responds strongly to the criticism arguing that postcolonial studies should be turning its considerable tools of analysis to the issue of poverty:

¹² Most commonly, development studies is the academic field concerned with processes of change in the so-called 'Third World' or 'developing countries' (Kothari, 2005: 4). This has traditionally drawn interest from a range of disciplines in the social sciences including economics, politics, sociology, anthropology and geography. Kothari (2005: 3) argues that understandings of the nature and concept of development studies are as varied, multiple and contentious as definitions of what constitutes development itself.

¹³ The term the 'subaltern' is defined later in the chapter in section 2.3.4.

‘Postcolonial studies, having neglected direct attention to such issues [poverty] and their possible solutions – even in an imaginative or theoretical way – is nonetheless better placed than any Western agency to reinvent or recover postcolonial agendas of material well being that matter on the ground’.

Likewise, Mercer, Mohan and Power (2003: 428) argue that postcolonialism must turn towards a focus on real life, grounded issues in Africa concerning poverty and injustice. Therefore, with these criticisms in mind, the following elaborates four key concepts to demonstrate how a postcolonial approach can provide refreshing and critical insights into the study of uneven development in Africa. By exploring the role played by these four concepts in the writing of a number of authors who have influenced postcolonial theory, one can see how this conceptual approach provides a platform in which to address issues of materiality.

2.3.1. Colonialism

‘...have we really entered another period, or do we find the same theatre, the same mimetic acting, with different actors and spectators, but with the same convulsions and the same insults? Can we talk of moving beyond colonialism?’ (Mbembe, 2001: 237)

‘...the native town is a hungry town, starved of bread, of meat, of shoes, of coal, of light. The native town is a crouching village, a town on its knees, a town wallowing in the mire. It is a town of niggers and dirty arabs’. (Fanon, 1963: 30)

Defined as ‘the political control of peoples and territories by foreign states, whether accompanied by significant permanent settlement or not’ (Bernstein, 2000: 242), colonialism is arguably the most centrally defining theme of postcolonial theory. The name itself, postcolonialism, signifies recognition of colonialism and is often taken as a

point of reference when considering contemporary development issues¹⁴. Specifically, colonialism in this case refers to European colonialism which began in the eighteenth century and led to the colonization of many parts of Africa and Asia by the early twentieth century. Postcolonialism recognizes the significance of this historical period and uses it as a theoretical lens to explore colonialism and its legacies in relation to later development. Three examples are examined below to demonstrate the application of this theoretical approach to the study of development in Africa.

The first example is taken from Achille Mbembe's analysis of African development in *On the Postcolony* (2001). As indicated in the opening quote above, Mbembe examines the similarity of the African 'postcolony' in relation to the colonial state. He draws parallels between contemporary and colonial regimes of power arguing that the violence and unequal relations characterising modern day Africa is in part a reflection of the adopted practices of power typical of colonial regimes which he refers to as the 'colonial rationality' (2001: 23). For Mbembe, the actions, structures and behaviour of the colonial regimes were not automatically forgotten or erased at independence, but were incorporated in various ways into the cultures of power of the new African state. For this reason, Mbembe questions whether Africa has in fact moved beyond colonialism; instead, he argues that Africa is experiencing the same exercise and abuse of power but in a different era. Therefore, postcolonial perspectives, as demonstrated by Mbembe's analysis, consider colonialism as something *continuous* rather than a historical event that ended at independence with no remaining legacies.

The second example is taken from Colin Leys' *The Rise and Fall of Development Theory* (1995) which, despite not directly addressing the notion of postcolonialism, provides a good analysis of the relationship between colonialism and economic development. In considering the reasons for the poor development record in Africa, Leys (1995) argues that the blame cannot be solely pointed at the ineffectual and inappropriate policies of

¹⁴ This in itself is problematic and needs further clarification. Harris argues that postcolonialism reinforces the self-importance of Europeans in world history. In this way, histories which do not see the coming of the Europeans as an historical axis on which the 'pre' and 'post' colonial periods can be constructed are further marginalised (Harris, 1997 cited in: Sidaway, 2000).

structural adjustment or misguided development policies following independence; a portion of the blame lies in understanding the integration of African economies into the global systems of production and exchange during colonialism. He argues that whilst the European colonizers created economic enclaves of mineral production, there was less willingness to invest more broadly in economic development leaving the basic relations of production – land ownership and the division of labour – largely untransformed (1995: 192). In turn, the interaction of Africa's weak agrarian production systems and predominantly precapitalist social structures with external political and economic forces brought Africa's development dreams to naught after independence (1995: 193). Therefore, understanding colonialism's interaction with the historical political economy of Africa is critical in casting light on later development on the continent.

The third example is taken from Edward Said's *Orientalism* (1979). Perceived by many as the foundational text of postcolonial studies (Young, 2004), Said analysed the production of unequal power relations between the West and the Middle East as a consequence of European colonialism. By deconstructing a number of colonial texts and manuscripts using a Foucauldian method of discourse analysis, Said demonstrated how the West was able to produce the Orient 'politically, sociologically, militarily, ideologically, scientifically and imaginatively during the Post-Enlightenment period' (Said, 1979:3). Colonialism, as argued by Said, was not simply an operation to gain territory, power and resources, but was a way of gaining overall superiority as European culture and identity gained in strength by defining itself in opposition to the Orient. Said's unique and seminal theoretical perspective moved beyond an undemanding analysis of the economics and regional politics but to emphasise cultural and global political factors inextricably linked to colonialism.

In summary, the above examples drawn from the postcolonial development literature briefly explore the role of colonialism in relation to postcolonial theoretical perspectives. Colonialism is regarded as a central theme because of its considerable impact on Africa's economic and political development. Significantly, colonialism is not just considered as a period in history that ended at independence but understood as something continuous; the

legacies of colonialism have continued to affect development in Africa and thus require analysis in relation to contemporary development. As a final point, postcolonialism's focus on colonialism is conducive to the study of uneven development. As demonstrated by a number of authors (Fanon, 1963; Jolly, 1968; Sandbrook, 1989; Mbembe, 2001), colonialism created unequal and uneven development conditions in the majority of colonies – economically, politically and socially – which subsequently affected the course of development. Examining the impacts and legacies of colonialism is a sound starting point when considering the nature of uneven development in contemporary Africa.

2.3.2. Governance

'...development involves instituting practices of governance that attempt to mediate the welfare of a national population, so that social order and political stability is ensured for continued accumulation of wealth and political power at the spatial level of the nation state'. (Rangan, in press)

Defined by the World Bank (1992: 3) as 'the exercise of authority, control, management, [and the] power of government', governance is arguably the least orthodox of the four chosen themes in relation to postcolonial theory. Nonetheless, it is argued that governance plays a key role in postcolonial perspectives because it emphasises and focuses upon the interaction of development and the actions of the state and non-state actors in the organisation and management of political, social and economic affairs. As Rangan (in press) indicates in the quotation above, development and governance are intimately linked and so it is important to consider the interface between the two in order to think critically about the outcomes of development policy and practice. Considering the ubiquitous nature of the term governance in the rhetoric of development policy (especially World Bank rhetoric), a focus upon the practices of 'governance policy' seems a pertinent approach in the study of contemporary development. Two examples are provided below to demonstrate how unpacking development around issues of governance

opens up critical and decisive lines of inquiry which are central to postcolonial perspectives.

The first example is drawn from Achille Mbembe's analysis of governance in colonial and post-independent African states. In *On the Postcolony* (2001), Mbembe looks specifically at 'the types of rationality used to rule men and ensure the provision of goods and things in sub-Saharan Africa since the end of direct colonization' by examining the 'activity of regulating human behaviour in a state framework and with state instruments' (2001: 24). Referring to the rationality of governance as 'commandement' (2001: 25), Mbembe emphasizes the importance of understanding state reasoning *as well as* the actual forms of power in order to understand why a state behaves in a particular way. As Mbembe (2001: 24) argues, examining the activity of governing,

'...means not simply to look at what constitutes the strength and reason of the state, but also to ask questions about the actual forms of power, its manifestations, and the various techniques that it uses to enhance its value, distribute the product of labour, and either ensure abundance or manage poverty and scarcity'.

The second example is drawn from James Ferguson's *Anti Politics Machine* (1990) and links closely with Mbembe's analysis of governance in development. In this account, Ferguson examined a failed World Bank sponsored project in Lesotho in the early 1980s. In addition to the limited success of the project, a side-effect – referred to as an 'instrument-effect' (Foucault, 1979) – was far greater state control in a region that was not previously under such close scrutiny from the state. The World Bank is shown to neglect the political implications of their development project while seeking an outcome that attempts to improve the economic opportunities of impoverished farmers. For Ferguson, looking specifically at the interaction of the development project with the governance of the state allowed him to see the 'complex relations between the intentionality of planning and the strategic intelligibility of outcomes' (Ferguson, 1990: 20). The World Bank development project was therefore not just understood as a 'failure' but as something with far reaching political consequences.

The examples above illustrate two important points with regard to the role of governance and postcolonial perspectives. Firstly, by emphasising the theme of governance, postcolonial theory is demonstrating its concerns with the practical business of development; postcolonial perspectives are focused not on ungrounded theoretical issues but with the day-to-day politics of how the state manages its political, economic and social affairs. This is important when considering the issue of uneven development and the way in which poverty and inequality are managed in Africa. The examples drawn from the work of Ferguson and Mbembe, key authors who have influenced postcolonial theory, demonstrate this in their analysis of the activity of state governance in Africa and its interaction with development. Secondly, in examining the politics of development, we must look beyond a simple analysis of the intentionality of state planning, but look at the actual forms of power and their manifestations on the ground. Ferguson's example clearly demonstrates the World Bank's lack of understanding of the rationalities and complexity of state governance which, in turn, had far reaching political consequences for state management of the region. Ultimately, the theme of governance in postcolonial perspectives is a useful and critical line of inquiry into the politics of development in Africa.

2.3.3. Power

'The heart of development is institutions and policies...the most fundamental issues of development are, at their core, issues of power'. (Korten, 1990: 144, 214)

The issue of power plays a central role in development. Unlike much of the development discourse which conceals the relations of economic and political power involved (Cammack, 2002), postcolonial theory explicitly recognizes this fact and, consequently, the theme of power is fundamental to postcolonial perspectives of development. Drawing particular inspiration from Edward Said's *Orientalism* (1979), postcolonialism's

emphasis on power helps unpack some of the unequal power relations existing in development and thus provides a critical perspective with regard to the politics of development in Africa. As Abrahamsen argues:

‘...looking at issues of power casts new light on colonial and postcolonial experiences and they provide for a more comprehensive understanding of how past and present relations of inequality are constructed and maintained than commonly found in African studies’. (2003: 190)

Arturo Escobar’s¹⁵ examination of the issue of power in development discourses has had a considerable influence on the theoretical traditions of postcolonialism and poststructuralism. In *Encountering Development: the Making and Unmaking of the Third World* (1995), Escobar’s analysis of power opened up new ways of viewing the traditional role of non-state actors in development and the implications of their exercise of power over governments and people in the developing world. Drawing inspiration from Said’s *Orientalism* (1979), Escobar argues that post-war development discourse has acted as a mechanism of control over the so-called Third World which, in turn, perpetuates western global domination. By positioning themselves as ‘development experts’ who prescribe technical and financial assistance to developing countries, Escobar argues that non-state actors such as the World Bank and other development agencies maintain a dominant and powerful role in these countries. He concludes that even after four decades of development discourse, the same representations of development exist which allow the West to continue its control over the Third World. Importantly, it is Escobar’s examination of power that has inspired the proponents of postcolonial theory to explore how discourses, representations and practices impact upon (uneven) power relations between agencies in development.

Similarly, Achille Mbembe (2001) examines the politics of development in modern day African states through an analysis of internal and external power relations. Drawing on

¹⁵ Although Escobar’s empirical research is confined mostly to Latin America, his critiques have been adopted by postcolonial theorists and applied to other regions of the developing world.

examples from the oil rich states of West Africa, he explores the theme of power by examining the way in which authority has been exercised by those with control over the natural resources. He argues that a combination of the colonial hierarchies of power and the integration of African elite into world trade have greatly affected the post-independence development prospect of the former colonies in Africa as the natural resources became the material base of power in these oil rich states (Mbembe, 2001: 42). Mbembe's analysis of power relations in African development helps cast light on the dynamics of power and authority between the key agents in development and demonstrates once again the fundamental role of the theme of power in postcolonial perspectives of development. In summary, by recognizing the centrality of power relations in development, postcolonial perspectives question the balance of power between different development agents which, opens up critical lines of inquiry when considering the politics of African development. Unpacking the power relations existing between different development agents casts light on the uneven balance of power which remains especially important when analysing uneven development in Africa.

2.3.4. *The subaltern*

'...to ignore the subaltern today is...to continue the imperialist project'. (Spivak, 1985: 123)

In her seminal essay, *Can the Subaltern Speak?* Spivak (1985) drew attention to the term 'the subaltern' in reference to colonized Indians under British colonial rule. Spivak's use of the subaltern is drawn from the work of the Italian Marxist, Antonio Gramsci, whose used the term interchangeably with 'subordinate' giving a sense of 'inferior rank' (Young, 2004: 202). For Spivak, subaltern refers more generally to the marginalised groups – men, women and children – who have not been able to speak in relation to his or her development and consequently are invisible or have no voice in their respective histories. She drew on the example of the representations of Indians during British colonialism in the nineteenth century to make her point. Referring to the historical

narrative of India, she argues that the British colonial regime constructed 'a continuous and "homogenous" "India" in terms of heads of state and British administrators... "India" can then be "represented", in the other sense, by its imperial masters' (Spivak, 1985: 127). Spivak's aim is to work against such imperialist representations and to produce a narrative of how the Third World was itself created as a representation not only for the West, but also for the culture whose representation was constructed (Young, 2004: 201).

The theme of the subaltern has become a pivotal theoretical point of departure for postcolonial perspectives. By moving away from the Eurocentric, homogenous and unreflexive accounts of past and present development theory and practice, postcolonialism's emphasis on the subaltern helps shift the focus towards an approach that recognizes the experience of development through a range of different marginalised groups. In turn, by gaining a greater understanding of the grounded experience of development, postcolonial perspectives can cast light on how poverty and inequality are produced and the explanations for such a reality. This seems especially pertinent considering the African development tragedy and the perpetual uneven development in the global South as discussed earlier. Moreover, as argued by Spivak, political questions need to be addressed in order to examine why the subaltern has been denied access to political forms of representation (Spivak, 1985). This is an important theoretical consideration given postcolonialism's emphasis on the politics of development.

Postcolonialism's focus on the subaltern has also found support amongst feminist approaches. Since the 1970s, there has been an emergence of approaches examining the themes of 'women and development' in response to those arguing that women have been neglected in the narratives of development (Kothari, 2002). In particular, it is argued that women have been largely invisible to development planners and policy makers, one example being women's economic activities which are often unpaid and undervalued compared to men's labour, which has led to a male bias in development decision making (Kothari, 2002). Feminist academics such as Lata Mani (1989), Trinh Minh (1987), Chandra Mohanty (1991) and Gayatri Spivak (1985) have also advocated the potential of postcolonial perspectives in deconstructing the discourses of development in order to

give greater emphasis to the role of women in development. Therefore, postcolonialism's attention to issues of hybridity through examination of multiple forms of difference and giving voice to marginalised groups, such as women, sits comfortably with feminist approaches to the study of development.

The focus upon the subaltern has also led to an emphasis on the types of research methodologies required for such a perspective. There is increasing interest around ethnographic methodologies from a range of theoretical approaches (postcolonialism, feminism, poststructuralism) as a mechanism to embrace studies of the subaltern (see Chapter Four). Although there is a long history of ethnography in the study of development (Ferguson, 1999), increasingly ethnographic methods are being recognized as an important way of embracing the heterogeneity of development in order to understand a more 'real' experience of development. Indeed, as argued by Arturo Escobar (1995), ethnographic research methods might help to overcome the 'crisis of representation' that has characterised the 'conventional economic analyses' of development discourse dominated by the western development institutions such as the World Bank. As Escobar (1995: 223) states,

'...the deconstruction of development, coupled with the local ethnographies...can be important elements for a new type of visibility and audibility of forms of cultural difference and hybridization that researchers have generally glossed over until now. The subaltern does in fact speak, even if the audibility of their voices in the circles where 'the West' is reflected upon the theorized is tenuous at best'.

Likewise, Achille Mbembe calls for more in-depth, ethnographic research methods which look to distinguish between 'causes and effects, questioning the subjective meaning of actions and determining the origins of practices and their interconnections' (2001:9). He is appalled at the abandonment of such methods and the resulting reliance on 'instant judgments' that he argues characterize the World Bank and IMF (2001: 9). Furthermore, Mbembe relates this with the lack of knowledge of local languages which suggests, in his view, a move away from ethnographies which often rely on knowing the indigenous

language (2001: 9). Interestingly, the World Bank appears to have taken notice of some of the criticisms of their production of development knowledge. In the late 1990s, the World Bank interviewed over 60,000 poor men and women across sixty developing countries and published the accounts in a report entitled *Voices of the Poor* (Narayan, 2000). Referred to as a participatory research initiative, *Voices of the Poor* and subsequent poverty focused reports (including the 2001 World Development Report entitled *Attacking Poverty*) suggests recognition of past criticisms of World Bank policy making. By focusing the research on the grounded experience of subaltern groups, the World Bank appears to accommodate alternative perspectives of development other than rely entirely on conventional economic analyses which have characterized past policies. Whether these reports have had any influence on the policy outcomes of the World Bank is questionable, however, it does seem to signal acknowledgment by the Bank to engage with the subaltern through ethnographic methodologies.

In short, the theme of the subaltern plays a key role in postcolonial perspectives of development. By engaging with a more complex and heterogeneous understanding of marginalised groups, postcolonial perspectives are able to focus on those suffering oppression in various ways such as women, children, ethnic and other minorities, alongside those in the colonized and former colonized countries of the developing world (Young, 2004). Moreover, a specific focus on the development experience of the subaltern casts light on issues of a pressing nature such as poverty and inequality which characterise (uneven) development in Africa. Researching the experience of the subaltern also leads to methodological considerations which have emphasised the appropriateness of in-depth ethnographic research methods. It is argued that the application of ethnographic methods could help avoid misinformed judgements and lead to more accurate representations of African development.

2.4. Postcolonial geographies

Having laid out four themes common to postcolonial theory, the following section examines the rise of postcolonialism within the sub-discipline of development geography¹⁶. Referred to as postcolonial geographies, this section argues that postcolonial geographies are opening up refreshing and critical ways in which to examine the relationships between power, knowledge, development and development practice which offers some important ideas for geographers working in non-western, materially-poor spaces (Mercer et al., 2003: 432). Evidence is drawn from a number of recent studies by geographers who have applied a postcolonial approach to their research. These studies demonstrate that important issues of materiality can be sufficiently addressed which illustrates how postcolonial geographies can develop the tradition of studying (uneven) development. The studies are organised thematically to show that there is a relatively clear and coherent framework in which postcolonial geographies can work within. This is followed by a section examining how a postcolonial approach is important in relation to the author's stated research in the context of the Zambian Copperbelt water sector.

2.4.1. *Postcolonial geographies in action*

Since the late 1990s, the theme of postcolonialism has returned year after year at the major 'international' conferences for geographers, notably the American Association of Geographers (AAG) and Royal Geographical Society (RGS-IBG)¹⁷ conferences with subsequent special edition journal publications¹⁸. These sessions have raised questions over the application of postcolonial perspectives to research by development geographers as well as underscoring the importance of thinking through the project of decolonizing

¹⁶ Development geography is a sub-discipline within geography most concerned with issues of development.

¹⁷ As Power et al. (2006) note, the rootedness of postcolonial theory in predominantly UK-based geographers was a concern raised by the Singapore Journal of Tropical Geography (SJTG) when approached to publish a special issue on postcolonial theory. This reflects the wider concerns of postcolonial theory being mainly of interest to UK-based academics and thus utilised in British (post) colonial contexts rather than in all types of (post) colonial encounters.

¹⁸ This includes a special edition for the Geographical Journal (2006) following the RGS-IBG in 2003 and the SJTG (2006) following the AAG in 2003.

geographies of development (Power et al., 2006). Moreover, there are those (mostly geographers) arguing that the discipline of geography is especially well suited to address these issues:

‘...geography should clearly lie at the heart of postcolonial critiques because their intersections provide many challenging opportunities to explore the spatiality of colonial discourse, the spatial politics of representation, and the material effects of colonialism in different places’. (Blunt and McEwan, 2001: 1)

Considering the recent interest of postcolonial theory amongst development geographers, the following section draws upon a number of studies to demonstrate the concerns and benefits of postcolonial geography to the study of development. These studies are grouped around three key areas closely linked to the themes covered earlier in the chapter: postcolonial statehood (governance), postcolonial power relations (power) and voices of the postcolonial subaltern (subaltern)¹⁹.

Postcolonial statehood

The first theme, referred to as studies of postcolonial statehood, is an emerging area of critical scholarship examining issues of colonialism, sovereignty and governance in contemporary political development. Matthew Lange (2004) examined the impact of British colonialism on post-independence development in Africa. Using a range of qualitative methodologies to assess the affect of indirect colonial rule in thirty-three former British colonies, Lange provides evidence that present levels of political development in these former colonies have historical roots and have been shaped by the extent to which they were ruled directly or indirectly (2004: 905). Likewise, Myers (2006) examined the resilience of the practices, behaviours and cultures of British colonialism in relation to urban development in the Zambian capital city of Lusaka. He discussed two key dimensions of colonialism – exclusionary democracy and the

¹⁹ There are other areas in which postcolonial geographies are making an impact including ‘stretched-out geographies’ and issues of fieldwork (Radcliffe, 2005: 294).

domestication of difference – and argues that these are an important characteristic of the politics of contemporary development. Both examples emphasise the benefits of focusing on colonialism, including the legacies of colonialism, in order to cast light on contemporary development in Africa.

In a study focusing specifically on two supposedly ‘weak’ African states, Angola and the Congo, James Sidaway (2003) questions western understandings of sovereignty. He argues that the dominant (western) media, academic and fictional narratives present African sovereignty through a discourse of insufficiency i.e. they lack the sovereignty of ‘strong’ western states. Through a focused account on the trajectories and complexities of the colonial development of sovereignty in Angola and the Congo, he challenges these dominant narratives by arguing that the supposed ‘weak’ states are in fact the result of excesses of certain forms of authority and connection (capital, rationality, instrumental power) (Sidaway, 2003). Drawing inspiration from Achille Mbembe’s attempts to move beyond traditional geographic representations of Africa (Mbembe, 2001), Sidaway concludes by suggesting an examination of new and unorthodox maps of flows and sovereignties as a promising departure towards a postcolonial political geography (Sidaway, 2003: 175).

In a similar vein, Bilgin and Morton (2002) consider the rise of various representations of ‘failed’ and ‘rogue’ states arguing that the representations are steeped in (often colonial) historicised understanding of state formations. They question who has failed the ‘failed state’ suggesting more attention should be given to the failed universalisation of the imported state within the post-colonial world (2002: 75). Mercer et al (2003: 429) make a similar argument by suggesting that the focus on governance in development policy seems to imply a pre-agreed scale of ‘adequate stateness’ against which the progress of African states can be measured by the more ‘advanced’. These two examples demonstrate how postcolonial perspectives upset conventional representations of the state and preconceived notions of African statehood.

In a final example, Kate Manzo (2003) uses a postcolonial perspective to examine the rise of rights based development (RBD) in relation to the expectations of the African state. Manzo argues that RBD, endorsed by the United Nations to improve the human rights records of African countries, is both paradoxical and highly political. On the one hand, RBD expects greater accountability of the African state and thus emphasis is placed on a more state-centric version of the state. On the other, the neoliberal inspired World Bank/IMF policies of structural adjustment and poverty reduction strategies have rolled back the role of the state in development which ultimately has led to the undermining of democracy, weakening of state capacity and a diminishing state authority (2003: 437). Manzo argues that RBD is a form of conditionality which allows the West to monitor human rights issues in Africa; RBD says less about human rights abuses and more about the power relations between western development actors and the recipient countries. Therefore, as demonstrated by these studies of the postcolonial statehood, thinking critically around the politics of state sovereignty, governance and colonialism, helps to sketch out an important agenda for decolonizing our knowledge about political developments in the South (Radcliffe, 2005: 294).

Postcolonial power relations

The second group of studies, referred to here as postcolonial power relations, re-think aspects of power within contemporary development. One of particular note is Timothy Mitchell's analysis of the making of 'the economy' in *Rule of Experts* (2002). Recognizing the critical perspective of the postcolonial lens of enquiry, Mitchell locates the making of the 'economy' in relation to the history of colonialism. He challenges more conventional analyses that perceive the origins of the economy as a product of the eighteenth and nineteenth centuries, arguing instead that the economy emerged in the 1930s as a result of a number of internal and external processes. The internal processes refer to the progress in the discipline of economics such as accounting, mathematical modelling and statistical techniques. The external processes refer to several significant global financial events including the Great Depression and importantly, the collapse of the European (and Japanese) empire. The formation of an economy allowed a way of

conceptualising and managing capital, people and resources in a geographically defined enclosed space which became particularly pertinent when the former colonies looked to break away from their colonial rulers. In effect, the creation of the economy allowed the European colonizers to retain and consolidate their economic and political control and power over their colonies in the face of imminent colonial independence. As Mitchell (2002: 82-83) argues

‘...as an apparatus to be managed and made more efficient, the economy was the object upon which the new politics of development was built after the 1930s. The development of economies provided the forms and formulas through which European power could attempt to restructure the relationship with their colonies in the mid-twentieth century, and through which imperial powers whose reach was still expanding, in particular, the United States, could find a new mode of operation’.

Interestingly, Mitchell’s application of a postcolonial perspective in relation to the making of the economy and the politics of development has inspired other authors to follow suit. Haripriya Rangan (in press) takes Mitchell’s argument one step further by arguing that whilst the making of the economy allowed the colonizing countries to retain and maintain their imperial powers, the invention was also useful for the new post-independence leaders. The creation of the economy created a ‘national space’ which, ultimately, was far more coherent than anything the anti-colonial movements were proposing. Given the realities of tribal, social and territorial difference of most countries in the early days of independence, Rangan argues that the concept of a national economy was a means of legitimizing the power and control of the leaders. Nevertheless, linking back to Mitchell’s argument, whilst embracing the idea of the economy helped consolidate the authority of the elite and create a degree of internal stability, ultimately, it signalled a return of the *real* economic and political power to the West. As Rangan (in press) articulates:

‘So, even though economy and development were central in enabling postcolonial nation-states to establish territorial integrity and political stability within their boundaries, they simultaneously rendered these countries vulnerable to an international realm of culpability and geopolitical interests within which their economies were embedded’.

As demonstrated, the postcolonial perspectives taken up by Mitchell and Rangan allow them to re-examine the forms of power in relation to colonialism and global expansion within a specific history and practice. These theoretical perspectives challenge the forces creating development discourse which in turn, asks questions of global and local power relations as well as issues of inequality and materiality that are nowhere to be discussed in today’s political climate (Mitchell, 2002). These sentiments are congruent with the arguments of Morag Bell (2002) in relation to her study of power relations and representations of poverty in South Africa. In exploring the ‘usefulness’ of an inquiry into South African poverty in the 1980s, called the Second Carnegie Inquiry, and the subsequent relations forged between the philanthropic trust in New York and the public intellectuals in South Africa, Bell (2002: 64-65) questioned the processes by which the knowledge of poverty was constructed and communicated to the public. She found that postcolonial perspectives challenged the underlying assumptions about institutional knowledge and western cultural power allowing a move beyond a crude characterisation of power as merely power over others, as well as demonstrating the extent to which institutions acknowledge the limits of their credibility (Bell, 2002: 52). Therefore, as demonstrated by Bell’s study, postcolonialism’s critical analysis of power is useful in questioning the underlying assumptions about power which leads to more nuanced and critical representations of power relations between North and South agencies in development.

Voices of the subaltern

The third group of studies, voices of the subaltern, refers to postcolonialism’s approach to giving voice to postcolonial subjects in order to cast light on their experience in relation

to development. By focusing on the perspective of the subaltern, the localised and grounded realities of development are revealed, which helps in our understanding of the materiality of development. Yeboah (2006) examines the voice of the subaltern in the discussions surrounding the water privatisation policy in Ghana, a subject that has experienced limited postcolonial analysis. He argues that despite the difficulties in the relationship between postcolonialism and development practice, examining the voice of the subaltern in the story of water privatisation in Ghana ‘identifies the Eurocentricity associated with development practice’ (2006: 63). Moreover, in focusing upon the grounded experience of the local water consumers, Yeboah found that the water scarce communities could survive adequately without a western imposed policy such as ‘water privatisation’, demonstrating once again the usefulness of a postcolonial perspective in challenging the dominant development discourses.

On the theme of water development, Kazimbaya-Senkwe (2005) researched the impact of colonial water policies on marginalised populations in urban Zambia. Kazimbaya-Senkwe examined archival records to reveal how decisions were made with regard to ‘native’ water and sanitation (watsan) provision whilst under British colonial rule. She found an inherently racist rationale underlying the water policies which, in prioritizing the water needs of the white above the ‘natives’, created an uneven water landscape (Kazimbaya-Senkwe, 2005) (see Chapter Five). Kazimbaya-Senkwe thus challenges the conventional managerial argument which accounts for urban water scarcity as a combination of over population, underinvestment and inadequate water management. Instead, she argues that the racist colonial water policies embedded an uneven water geography into the urban water landscape, which has contributed in a considerable way towards present day urban water scarcity (Kazimbaya-Senkwe, 2005). This example demonstrates postcolonialism’s focus on the impact of colonialism and how the subaltern is important in decolonizing our knowledges about political and social development in the global South.

A final example of postcolonialism’s focus on the subaltern is reflected in the work of Christine Sylvester. In a highly original study overlapping the original literature based

focus of postcolonialism and the more recent material concerns of development, Sylvester (2006) explores transitions in postcolonial Africa through analysis of selected development and fictional writing. She argues that development texts too often assume technologies lie outside politics whereas the fictional stories convey relentless experiences of the 'bare life' which development texts can not consider. Sylvester concludes by arguing that it is important to follow 'bare life' politics into the hideouts of fictional texts because it uncovers an alternative method of understanding the ways in which material issues are played out on the ground. Focusing on the subaltern, whether through methodologies that record genuine subaltern experiences or through fictional accounts, provides an insight into the grounded narrative of development which, in confronting issues of materiality may serve to challenge accepted norms about development.

In summary, the thematic review has demonstrated a critical and refreshing approach in which development geographers are applying postcolonial perspectives in order to show how postcolonial geographies are developing the tradition of the study of development. Firstly, in exploring the politics of African statehood in relation to historical and contemporary trends in development, postcolonial geographies challenge conventional understandings and representations of state governance which, in turn, is leading to a promising departure towards a postcolonial political geography (Sidaway, 2000: 175). Secondly, postcolonial perspectives explore the impact of development discourse on the contemporary state in relation to internal and external power relations. In re-examining power relations in development, as demonstrated by Mitchell (2002) in his analysis of the making of the economy, postcolonial geographies challenge some of the underlying assumptions about power in development discourse. Thirdly, postcolonial geographies are commonly giving voice to the subaltern in order to reveal a more grounded account of the experiences of development. From examination of historical, current or fictional narratives, postcolonial geographies look to challenge dominant discourses by opening up the 'bare life' (Sylvester, 2006) politics of the subaltern.

2.4.2. *Postcolonial geographies and the Zambian Copperbelt water sector*

Having elaborated the examples of *postcolonial geographies in action* and demonstrated how these studies are opening up refreshing and critical perspectives of development in Africa, the following question is posed: how and why is a postcolonial perspective useful to the study of urban water policy reforms in the Zambian Copperbelt? The following addresses this question around the four key themes identified earlier: colonialism, governance, power and the subaltern.

Firstly, the theme of colonialism provides a useful analytical lens to consider the complex political economy of water and sanitation (watsan) provision in the Zambian Copperbelt. Whilst a colony of the former British Empire between 1924 and 1964, Zambia's urban water landscape was immeasurably shaped by colonial water policy and, therefore, it is critical to question how these historical developments have affected contemporary watsan governance. Accordingly, Chapter Five specifically examines the history of the political economy of the Copperbelt water sector drawing on considerable secondary sources of data before relating these findings to the empirical outcomes detailed in Chapters Six and Seven.

Secondly, the theme of governance provides a critical line of inquiry into the management and organisational structure of the urban water sector in Zambia and how these impact upon the provision of watsan. Examining issues of water governance leads to important questions in relation to how the watsan providers cooperate with overseeing institutions and, crucially, how the new water policy reforms interact with the existing governance structures. Exploring water governance also involves examination of how these governing water institutions intersect with local, national and international politics. In the case of most African countries, watsan has traditionally remained a specific function of state-run water institutions. This is not the case in the Copperbelt with involvement of both private and public agencies since the creation of the water sector in the first half of the twentieth century (see Chapter Five). Using governance as a point of

departure leads to questioning of how these public and private agencies have interacted and evolved to create the current water governance structures.

Thirdly, the research seeks to unpack various power relations between the various state and non-state actors involved in watsan development. Postcolonial perspectives draw particular attention to the discursive use of power in the colonial era and how these uses and cultures of power are maintained into the period following independence. This is important considering the monopoly of power over the water sector held by the colonial and mining authorities and the passive role of 'native' African water users during colonialism. Using a postcolonial lens will help unpack these power relations to better understand who holds the power (and who does not) under the current water governance. In turn, understanding the specific power relations within the water sector will cast light on the uneven geographies of watsan provision in the Copperbelt.

Fourthly, and following on from the above point regarding the passive role of the 'native' African during colonialism, postcolonial perspectives emphasise the experience of the subaltern. The research sets out to capture the voice of the subaltern, specifically the water poor which includes poor men, women and children, in relation to their experience of urban water policy reforms. In a similar vein to Yeboah's (2006) research of subaltern responses to water privatisation in Ghana, identifying the subaltern as point of departure allows examination of how the urban water policy reforms affect watsan provision of marginalised groups in the Copperbelt. This relates closely to the influence of postcolonial theory over the choice and types of research methods chosen for an appropriate examination of development. As elaborated upon earlier, postcolonial theory lends itself towards more ethnographic styles of methodology than relying on methods that provide 'instant judgement' (Mbembe, 2001). This research has utilised this approach by carrying out ethnographic styles of methodology alongside other methods such as interviews, focus groups and social surveys. The combination of qualitative methods allows for a rich interrogation of the research environment that is hoped will clearly capture the voice of the subaltern. These methods are discussed in more detail in Chapter Four.

In short, a postcolonial perspective moves beyond a simple fixation on the short term in the Copperbelt water sector. Instead, contemporary issues of governance, power and subaltern experience are placed in relation to their historical (colonial) development. Furthermore, this theoretical approach seems ideally suited to address urban African watsan issues considering the degree to which the colonial regimes have shaped the urban water sector in the Copperbelt. Other than a handful of studies (see Kazimbaya-Senkwe 2005; Page, 2005; Yeboah 2006), very few postcolonial inspired studies have considered African watsan policy in this way and, thus, this research is an excellent opportunity to demonstrate the value of such an insight.

2.5. Conclusion

This chapter has set out the conceptual framework of the thesis. By positioning the rise of postcolonial critiques in relation to the ‘widening gap thesis’ and the African tragedy (Leys, 1996) of the 1980s and 1990s, postcolonialism is seen to emerge in academic circles against the backdrop of increasing disenchantment towards the dominant development discourses. Through the themes of colonialism, governance, power and the subaltern, the chapter has demonstrated how there is a coherent framework in which postcolonialism can address uneven development in Africa. A number of examples were drawn from the discipline of geography to argue that postcolonial geographies can contribute towards the study of development. Furthermore, in response to accusations levelled at postcolonialism for being overly concerned with discourse, the chapter has argued that postcolonial perspectives can be applied to address issues of material concern such as poverty, inequality and uneven development. Lastly, the chapter has demonstrated that this theoretical approach can provide a critical and insightful perspective into the research agenda of watsan development in the Zambian Copperbelt.

Having elaborated the conceptual framework for the thesis, the following chapter takes this approach forward into a review of the existing literature of African watsan

development. Drawing inspiration from the postcolonial perspective as discussed above, the chapter examines the material and spatial provision of watsan services as they have developed in urban Africa since the first construction of watsan infrastructure during colonialism. The chapter also aims to examine the origins of uneven watsan access in urban Africa and how it relates to the exercise of power in the evolving water governance regimes.

3. Water and sanitation development in Africa

3.1. Introduction

The purpose of this chapter is to review the literature on water and sanitation (watsan) development in Africa in relation to the major shifts in development policy and practice throughout the nineteenth and twentieth centuries. Whilst there is a healthy body of literature exploring the significance of the historical development of water and sanitation in relation to contemporary water issues across the developed world (Goubert, 1986; Finer, 1997; Swyngedouw, 1999; Bakker, 2002) and regions of the developing world such as Latin America (Marvin and Laurie, 1999; Barlow and Clarke, 2002; Castro, 2006), fewer authors have examined this issue in relation to Africa (Page, 2004; Kazimbaya-Senkwe, 2005; Njoh, 2002). Inspired by the postcolonial perspective as elaborated in Chapter Two, the chapter examines the production of watsan inequalities in urban Africa and how they have developed since the construction of the first urban water sectors. The production of these inequalities is explored in relation to the exercise of power in the evolving water governance regimes. The chapter also examines the impact of recent neoliberal inspired water policies to explore how these policies have interacted with the identified watsan inequalities.

Drawing predominantly on historical studies of British and French colonialism, it is argued that colonial water governance created the foundations for contemporary uneven watsan development in many towns and cities in Africa. Although problematic to make broad generalisation of colonial water policies, a clear trend emerges from the literature: the discriminatory colonial logic of 'differential access' (Kazimbaya-Senkwe, 2005) led to the creation of distinct urban water geographies whereby water rich environments juxtaposed with water poor ones. It is argued that these socially constructed uneven water geographies have deepened since colonialism, becoming further entrenched, even after many former colonies gained independence in the 1960s. Notably, the most recent neoliberal inspired development policy, water privatisation, has caused particular

controversy because private water companies are shown to expose and exploit these watsan inequalities. Furthermore, through analysis of water governance regimes, it is argued that the uneven power relations established during colonialism have persisted which, in turn, is to the detriment of the watsan needs of the majority urban poor. Drawing on Spivak's (1985) notion of the subaltern (as examined in Chapter Two), this chapter demonstrates the recurring marginal position held by urban poor populations throughout the course of watsan development in many towns and cities in colonial and post-independent Africa.

The chapter is organised into three separate historical phases. It begins with the period of colonialism which is assumed to be from the mid-1800s to the 1960s. This section examines the original construction of European watsan infrastructures in African towns and cities and the manner in which the colonial authorities managed the water sector. The second historical phase covers the period from the 1960s through until the late 1970s and is referred to as the post-independence era. This section considers the impact of a number of developmental policies and global events important to watsan provision in this era. The third and final historical phase is referred to as the neoliberal development era and covers the period from the late 1970s up until the present day. This is divided into two main sections: the first and second wave of neoliberalism. The first wave considers the policy of water privatisation and the second wave, the subsequent water commercialisation policy.

3.2. Colonial water governance: the origins of uneven water development

Gilbert Rist (1997: 47) argues that despite the ancient and classical origin of 'development', the period starting from the middle of the nineteenth century was when the 'great powers' put their dominant ideas into practice and opened up the way for development. Cowen and Shenton (1996:12) argue that the modern idea of development was created as Western Europe made the transition to an industrial, capitalist economy thus drawing the link between development, colonialism and the need for resources in the

colonies. Furthermore, Cowen and Shenton argue that while development was invented in Western Europe to control and manage the social effects of industrialisation, in the colonies it was applied *pre-emptively*, to engineer progress within a framework of order, intention and design to anticipate and contain the social and class contradictions of capitalist development experienced in Europe (Bernstein, 2000: 267).

To support this argument, Cowen and Shenton draw specifically on the period of colonialism after the 1930s where colonial rule was characterised by a more comprehensive series of interventions to promote development in agriculture, land use planning, labour relations and health care, including the construction of water and sanitation infrastructure. The overarching position of this colonial doctrine, as argued by Cowen and Shenton, was such that at the end of colonial rule, the ruling authorities could say to its former subjects: ‘we have given you foundations’ – new transport infrastructure, new crops and ways of growing them, exposure to international trade, schools, hospitals and – ‘so now its up to you’ (Bernstein, 2000: 268).

Less sanguine arguments suggest there was an inherent contradiction in the way the colonial doctrine looked to engineer economic and social change (Cowen and Shenton, 1996). Research into colonial policies and practices demonstrates the often intrinsically flawed and inappropriate manner in which the policies were applied. Such doctrines could be imposed on colonial subjects with all the confidence of modernity and arrogance of trusteeship, even though their consequences might prove to be negative or simply ineffective. More extreme opinions of the relationship between colonialism and development see it as nothing more than a project to further western economic and political power based on racist and exploitative principles. Franz Fanon held such an opinion referring to the imperial project of colonialism as ‘resource robbery’ (1961: 81) which was based on ‘absolute violence’ (1961: 29).

With these opposed positions on the relationship between colonialism and development in mind, the following examines the literature on one specific expression of colonialism; domestic watsan. The following argues that despite the ostensibly noble colonial goals of

introducing European watsan infrastructures to the urban (and some rural) areas of colonized Africa, watsan development was, in fact, founded on a racially discriminating rationale that placed the colonizers needs above the needs of the colonized. As a consequence, this created uneven water development in urban Africa which, as demonstrated later in the chapter, has had a considerable impact on contemporary watsan development.

3.2.1. Unequal balance of power

One of the key features of colonialism was the establishment of formalised water rights in the respective colonies. Although not identical for each colony, the colonial regimes mirrored policy in their own countries by implementing legislation to secure control over water. As Swatuk (2002) argues, this was especially important for three main reasons; firstly, there were competing interests for water, mostly from private companies looking to use water for industrial purposes, and so it was important to have control over how the water was used by these companies; secondly, water was integral to the 'development' of the colony, particularly in terms of agriculture and thus it was important the regime harnessed water effectively for irrigation purposes; thirdly, water resources were often scarce in some of the African colonies, and so it was important to efficiently utilise it by managing and controlling the use of both ground and surface waters (Swatuk, 2002). By establishing water rights, the colonial authorities could have complete ownership and authority over water and so instigate policy and practice that satisfied the needs of the colonizer and associated groups.

As mentioned above, irrigation was one of the major incentives for colonial control and jurisdiction over water. The colonial regimes recognised the need to develop western style agricultural methods in order to sustain settler populations and controlling water was a central factor (Zwarteveen, 2006). One of the earliest examples of the

establishment of water rights by a colonial regime took place in South Africa²⁰. After toppling the Dutch in the early nineteenth century, the British implemented English Laws in place of the previously existing Roman-Dutch Laws (Tewari, 2001: 13). These English laws automatically favoured those needing water for agriculture and as a result irrigation played a major part in shaping future water policy. Equally, in Zimbabwe and Tanzania, the establishment of water rights were engineered around the needs of agriculturalists, which suited the large-scale water users and later favoured the urban based and industrial users (Van Koppen, 2004). A similar situation existed in Niger (Thébaud and Batterbury, 2001) where colonial policy favoured livestock development programmes and so water infrastructure was constructed to bring water into a region that was previously inaccessible due to unavailability of water in the dry season. The point here is that the colonial authorities geared the establishment of water rights around the needs of the colonizer. The small scale water users, mostly native farmers and a minority of settlers had limited water rights and consequently, the water needs of these users were frequently overlooked.

The manner in which the colonial authorities prioritised large-scale irrigation projects above other water needs water reflected the way in which power was exercised over the native Africans. As Diemer and Slabbers (1992: 7) neatly put it: ‘the way in which irrigation science came to develop is closely linked to the hierarchy between the colonizer and the colonized, or between “developed” and “underdeveloped”’. Van Koppen et al (2004: 4) draw on the establishment of water rights in Tanzania stating that the power over water was monopolised by the ‘colonial water officer’ who was ‘vested with the almost absolute authority to make decisions regarding the allocation and changes of water rights’. The native Africans had limited representation within the water legislation of Tanzania and tended to be perceived as being controlled by tribal customary law. This ‘secondary status’ for natives in Tanzania was not lifted until a policy permitting registration for water rights by native Africans was introduced in 1959 (Van Koppen et al, 2004). Likewise, a similar situation existed in Zimbabwe whereby the

²⁰ It must be noted that long before colonial rule in South Africa, water rights were governed by African Customary Law. Water rights were not pronounced and therefore only contested if a tribe felt another tribe or community was unfairly encroaching into its resources to its disadvantage (Tewari, 2001: 2).

natives had a minimal role in discussions affecting their water needs. As Derman and Helling (2002: 36) summarise:

‘...development or progress during this period [colonialism] is believed to lie with the European or white sector. The development of water, as with most other economic developments, was associated with the colonialists, while the colonized were seen as passive and mainly responsible for themselves through subsistence agriculture’.

The above has demonstrated a key issue with regard to water management in colonial Africa; the establishment of water rights by the colonial authority’s instigated control over water use which in turn led to a prioritisation of irrigation in order to develop western style agricultural methods in the African colonies. The needs of the native African were barely considered, as they were regarded as marginal players in the dynamics of water management. As a consequence, the rule exercised by the colonial authorities with regard to water set the tone for the unequal balance of power between colonizer and native in matters related to water. As will be shown below, this uneven power relation led to more cynical and cruel outcomes with regard to access to watsan in urban areas.

3.2.2. The creation of uneven urban water geographies

Despite the unbalanced relations of power between the colonizer and native African in water management affairs, the colonial regimes did finance and construct the first urban watsan infrastructures in many African towns and cities. The central motivation was the desire for a high standard of water supply in order to recreate familiar domestic ‘comforts’ for the European population (Swatuk, no date)²¹. Equally, the colonial regimes recognized the importance of clean watsan for native populations, especially in colonies

²¹ There was also a desire to bring clean water and sanitation to the native as reflected in the Order in Council, 1898, Section 81 pertaining to the British South Africa Company (BSAC) in Zimbabwe. This legislation required the company to ensure that natives had a fair and equitable portion of springs and permanent water (Derman and Hellen, 2002).

depending on an active, native labour force. This is reflected in the considerable share of colonial budgets allocated towards more 'social investments' such as watsan infrastructure during the period of late colonialism. Meredith (1975; 492) states that whereas transport was the main concern of earlier colonial investments, after 1930 medical, health care and sanitary facilities were perceived as more important. As a result, water supply and public health (including sanitation) made up 26% of the British colonial development fund between 1929-1940 (Meredith, 1975: 493), the second largest share of the budget behind transport and communications.

However, in a manner indicative of the way power was exercised with regard to colonial water affairs, access to European standards of watsan facilities was also a privilege of the settler populations who initiated an uneven water geography in the urban areas of the colonies. Crosby (1986: 5) described the settler colonies as 'neo-Europes' referring to the importing of European design and standards for colonial inhabited urban centres. For watsan provision, the European standards meant in-house piped water supply with numerous connection points and waterborne sanitation facilities. The African native populations, on the other hand, often received sub-standard watsan services such as shared water connections, communal washing and more basic sanitary facilities such as pit latrines. Kazimbaya-Senkwe (2005) refers to the specific difference in colonial and native watsan services as 'differential access'. As shown below, the notion of 'differential access' was not isolated to a few colonies but was a common planning phenomenon across many African (and outside of Africa) colonies.

In her archival research of colonial water policy in the Zambian Copperbelt (see Chapter Five for a detailed account of research findings), Barbara Kazimbaya-Senkwe (2005) demonstrated the dual nature of the urban water systems; a convenient and 'European' standard of water to the colonial areas and a secondary, often inconvenient and at times unsafe, supply of water to the 'native' townships. A clear example of the way the British colonial authorities perceived the watsan needs of the 'native' is further demonstrated in her research. Kazimbaya-Senkwe uncovered archival evidence documenting official orders carried out by colonial administrators to reduce the dosages of chlorine to sterilize

the water to the 'native townships' in order to reduce expenditures. Chlorine levels were never reduced in the European townships, regardless of the budgetary constraints. On another occasion, a colonial administrator requested the removal of chains from toilets in the native townships in order to reduce water consumption in these areas. In both instances, the risk of the spread of waterborne diseases was significantly increased and argued to be a contributing factor in the high cholera mortality and morbidity rates in these 'native' townships (Kazimbaya-Senkwe, 2005).

Njoh (2002) found a strikingly similar pattern in West Africa. In researching historical documents plotting the colonial planning schemes of Cameroon, he noted the superior water supply in the colonial areas as compared to the 'native' townships. Echoing Kazimbaya-Senkwe's findings in Zambia, Njoh states:

'the colonial authorities, who insisted on segregating the races, aimed, amongst other things, to ensure that *only* European residents of the colonies were benefited by the public utility, infrastructure and services provided by the colonial state'. (Njoh, 2002: 412, emphasis added)

Moreover, the colonizers enjoyed leisure activities requiring large volumes of water such as golf, hockey, football, rugby and other sports pitches. This epitomizes the notion of 'differential access'; the 'native townships' suffer with an inconvenient (and often unsafe) supply of water whilst the colonizers enjoy a regular, safe supply to their homes in addition to the luxury of water-rich leisure activities (Njoh, 2002).

Another important factor affecting the geographies of watsan in urban areas during colonialism were planning practices based on the ideology of 'separate development'. The practices of 'separate development', which is more commonly associated with the Apartheid regime in South Africa but in fact occurred across much of colonial Africa until independence, meant locating African townships away from settler communities. Having jurisdiction over the planning of towns and cities, the settlers often located themselves in the most appealing and pragmatic areas whilst the Africans were placed in

other areas, sometimes in locations where it was technically problematic to construct adequate watsan services. This geographical separation from the main European hub could affect the quality of watsan service such as reducing the water pressure (especially if located on higher ground) and presented practical difficulties with regards to the connection to the sewer network. For example, in the Zimbabwean capital of Harare (then called Rhodesia and Salisbury respectively), the city council decided to relocate the African populations after deciding that the earlier African housing was inadequate. In 1974, an area of land was chosen that was described as:

‘a low ridge between two rivers, with intersecting streams cutting the ridge into narrower sections separated by extensive granite rock out crops and poorly drained vleis [seasonal wetland]. Overall, only 60% of the area was considered suitable for building’. (Radoki, 1995: 54)

Despite the choice of site being opposed by the chief planning officer of Harare, the relocation went ahead and, as a consequence, there were severe problems of sewage disposal (Radoki, 1995: 54). As well as demonstrating the lengths to which the colonial administration were prepared to locate native Africans on nothing more than a poorly drained wetland, the Harare case highlights the technical difficulties of providing adequate watsan associated with colonial ‘separate development’.

Arguably the most pronounced example of ‘differential access’ was in South Africa, a country that implemented the ideology of separate development (Apartheid) throughout a significant period of the twentieth century. Minkley (1994) and Smith (2004) both refer to the considerable extent to which the racially discriminatory logic of Apartheid created uneven watsan geographies between white and black populations. Echoing the research findings from other colonies in Africa, these studies highlight the stark contrast between the water rich environments occupied by the ‘whites’ and the water poor ones occupied by the ‘blacks’. As South Africa’s then Minister for Water Affairs, Kadar Asmal (1997: 10) summed up:

‘South Africa’s water law comes out of a history of conquest and expansion...they harnessed the law, and the water, in the interests of a dominant class and group which had privileged access to land and economic power’.
(Asmal, 1997 *cited in*: de Coning and Sherwill, 2004)

The construction of uneven water geographies extend beyond colonies in southern Africa as demonstrated by the research of French colonial urban planning in North Africa. Graham and Marvin (2001) refer to the garden suburbs in Fez (Morocco) and Algiers (Algeria) which were laid out according to European urban planning designs. In these suburbs, also known as the French quarters, the dwellings were provided with running water and in most cases, waterborne sanitation. This is in contrast to the Muslim townships where there was a general neglect of water supply, sanitation and other services (Graham and Marvin, 2001: 82).

In terms of the motivations for differential access, it must be acknowledged that there were increasing monetary constraints placed on the colonial administrations. Throughout the twentieth century colonial budgets rapidly diminished as the metropolitan countries took on increasing debts to finance other projects (Ferguson, 2004). One example is the substantial cut in the British colonial budget after the Second World War in order to increase funding to the welfare state budget. Analysis of the financing of Britain’s colonies in the 1950s reveals that most colonies were expected to source the majority of the domestic budget from local funds (Herbert, 2002)²². This usually meant through taxation of the colonized or through funds generated in the selling of raw materials from the colonies. As a consequence, it made ‘economic sense’ for the colonizers to minimize the expenses for ‘native’ social services than to provide everyone with the same standard of service, particularly given the increasing African populations in towns and cities.

²² It must also be noted that social services such as the provision of water and sanitation were also financed through private sources as well as colonial budgets. The mining communities, for example, in the Zambia Copperbelt were built off the revenues generated through copper sales by the British South Africa Company (see Chapter Five for more detail).

However, the overwhelming rationale for 'differential access' was the racially discriminating logic of the colonial regimes. The racist backbone of the colonial project justified the unequal construction of watsan services and thus was also a reflection of western superiority over the native peoples. Echoing Franz Fanon (1963), who argued the colonial depiction of the native as inferior served to justify the unequal and discriminating colonial society, Balbo (1993: 25) argues the differing standards of modern infrastructure was 'a very deliberate attempt to symbolise the superiority of colonial power holders over colonized civilisations'. The large avenues of the European city, he writes, with its modern services and infrastructures, were to show clearly on which side progress, wealth and power were situated' (1993: 25). Equally, Yeoh (1996: 28) draws on the example of colonial development in Singapore arguing that the construction of western style water and sanitation systems for the colonial core 'served to legitimize imperial rule...and was in itself an exercise of disciplinary power'. Therefore, 'differential access' reflected not only the superiority of western, imported technologies, but the demonstration of power of one race over another.

In summary, the colonial era laid the foundations for uneven water development in urban Africa. Firstly, the establishment of water rights in order to promote large scale irrigation projects set the tone with regard to the unequal balance of power between settler and native in matters related to water. The marginal role of the native African established under colonialism is significant because this uneven balance of power repeats itself throughout the course of Africa's watsan development. Thus, it is argued that colonial forms of water governance set the foundations for the uneven balance of power between the powerful and the subaltern in African water governance. Secondly, the outcomes of colonial urban planning created uneven water geographies across urban Africa: minority water-rich environments housed by a 'European' population juxtaposed to majority water-poor environments housed by a 'native' population. The racially motivated logic of 'differential access' (Kazimbaya-Senkwe, 2005) served to embed an uneven water geography into the landscape, which is shown to have had a significant impact on the provision of watsan after independence. The following now considers how the

subsequent post-independence era, including development policies and practices, impacted upon the established uneven watsan development.

3.3. Post-independence water governance: the consolidation of uneven water development

The decade of the 1960s, also known as the independence decade, was a period when the majority of African colonies become independent from their colonial rulers (see Nugent, 2003). For the first time since before colonialism, Africans were now in a position to make decisions regarding their own affairs, including decisions affecting their own development. In terms of water policy, many African governments looked to redress the balance in terms of the uneven urban water development and provide good quality watsan services to all citizens. However, as demonstrated below, the period from the 1960s to the late 1970s (referred to as the post-independence era) was, in fact, characterised by a consolidation of the uneven water development originally constructed in the colonial era. Three main contributing factors are identified and examined to explain this consolidation: urbanisation, economic decline and urban bias of watsan resources. The final section concludes by examining the subsequent rise in water related NGOs and the alleged failure of African water governance. Both these issues are shown to contribute towards an important shift in the future of Africa's watsan policy, one that involves an increasingly dominant role of western development agencies and western water discourses.

3.3.1. Urbanisation

At independence, in many countries, the new political African elite looked to roll back the influence of the former 'colonial masters' in order to seek economic as well as political independence (Rapley, 2002: 25). For many African governments, especially those whose political elite had been educated at universities in the First World, Keynesian

inspired state led development (also referred to as modernisation theory²³) held great appeal. The previous decade had been fraught with overcoming the racist and uneven colonial society so the prospect of providing jobs for all combined with a generous welfare state was hard to resist. Another important reason for the experiment with state led development policies was that ‘most of Africa’s independence movements had been led by modern petty bourgeoisie, teachers and civil servants who had vested interests in the state as compared with the private sector’ (Rapley, 2002: 19). For the ‘new elite’, state intervention seemed an attractive option and a tool for social change.

State led development models required that the state should be the primary agent for development. In the developed world, these policies were characterised by considerable state intervention, substantial welfare legislation, an enlarged public sector and the nationalisation of private industries. In the developing world however, it took the form of legislation to entice industrialisation in order to instigate the growth of indigenous industries (Rapley, 2002: 19). This policy relied heavily upon a thriving urban population and many African governments encouraged urban migration to support the industrialisation policy. As Rapley (2002: 45) contends, industrialisation and urbanisation went together as the growth of the city symbolized the advance of modernity. Figure 3.1 below demonstrates the exponential growth of six African cities from 1955.

²³ See Chapter Two for more details of modernisation theory.

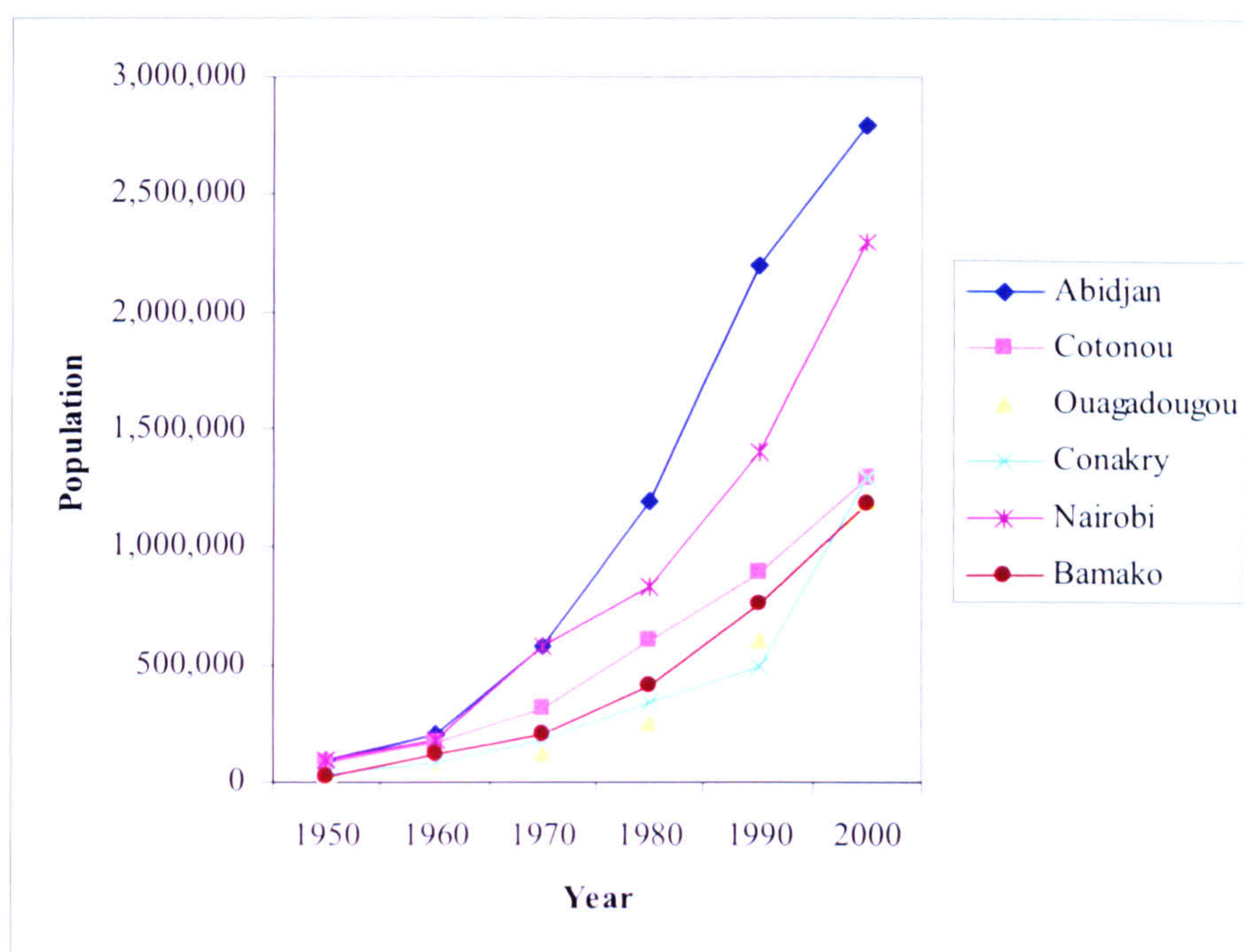


Figure 3.1: Population growth in six African cities, 1955 – 2000

Source: Collignon and Vézina (2000)

The considerable post-independence growth in the urban population in Africa was not only a reaction to the urban migration policies of the new governments, but was also a response to the restrictive nature of colonial urban policies. During colonialism there was very limited migration of Africans to the urban centres. The colonial regimes generally restricted their movements recognising that an increasing urban population would place unnecessary pressure on the resources and urban services. Nugent (2003: 13) contends that the colonial regime feared an increasing urban population would undermine the foundations of colonial rule. There seemed to be a particular concern to preserve the city as an exclusive European domain where the African presence in the towns was seen as purely transient (Nugent, 2003: 59)²⁴.

²⁴ An example of the austere nature of colonial policy towards native urban migration is recorded by Andrew Sardanis in his account of Zambian colonial society. In *Africa: Another Side of the Coin* (2003), Sardanis describes the daily ritual made by the British colonial authorities in order to locate and arrest those without the correct permits. As soon as the 'illegal residents' were located, they were arrested and marched to the local police station (2003: 57). Hence, it is no coincidence that at independence, the new regimes immediately abandoned the restrictions allowing free movement of people across the country.

The rapid growth of the urban areas had considerable implications for the development of watsan. The formal, government-initiated settlements that provided the basic public services such as water supply and sanitation systems were too few as compared with the vast numbers of people migrating to the urban areas. As a result, informal settlements, also known as 'shanty towns' developed on the fringes of towns and cities in many African countries. Disputes over the legality of these settlements meant governments were less inclined to recognise their existence by providing the basic services such as watsan. Consequently, water poverty remained high in these informal settlements as these dwellers had limited access to a clean water supply and safe sanitation.

3.3.2. Economic decline

As urban populations grew exponentially in the years after independence, there was increasing strain on African governments to manage the provision of watsan effectively. In addition to the growing informal and formal populations which required, amongst other social services, the construction of new water and sanitary facilities, maintenance was also required of the existing water infrastructure, including water and sewage treatment facilities and associated costs (i.e. chemicals for water treatment). Considering the capital-intensive nature of the water sector, the urban municipalities were extremely reliant on the financial support from central government in addition to any revenues raised from water and other local taxes. However, as elaborated below, from the early 1970s a combination of global events outside the control of African governments and events more closely related to the practice of state led development, led to an economic malaise that had significant impacts on the financing of the water sectors.

The experiment with state led development by many African governments after independence soon began showing some signs of success (Mkandawire, 1998). One particular aspect of state led development which was making a significant impact was import substitution industrialisation (ISI). ISI involved a number of trading policies that allowed a country leverage to make and manufacture goods within the country including

heavy state intervention of tariffs and trade quotas (Sapelli, 2003). Cote D'Ivoire, Kenya, Malawi and Tanzania all recorded annual growth rates above 6% for a decade after implementing the ISI policy (Mkandawire, 1998). Equally, ISI ventures in Ghana demonstrated the success of state led development practice as illustrated by the construction of the Volta Dam which exceeded forecasts of power sales and profitability (Rapley, 2002: 31). These countries proved that state led development could provide significant economic and social gains that were often overlooked when the neoliberal discourse for development came to the fore in the late 1970s (Mkandawire, 1998).

Despite the noted successes in state led development in Africa, some argue that progress and growth were inevitable given the global economic and political climate of the post-war era (Rapley, 2002). The western 'baby boom' contributed towards a 'golden age' whereby the western world created an enormous demand for goods and services which inevitably benefited the African economies. However, as the global economy edged towards a period of general malaise following declining productivity and rising incomes in the late 1960s and early 1970s, the situation took a dramatic and destructive turn. The Organisation of Petroleum Exporting Countries (OPEC) oil crisis of 1973 resulted in a fourfold increase in the price of oil, which, whilst hurting the economies of the West, had a far more negative impact on the economies of Africa. Combined with a second oil crisis in 1979 and rising interest rates to combat increasing inflation in the West, the increasing debt repayments and decreasing value of commodity exports sent the majority of African economies spiralling into heavy debt. The repayment of debts, although not expected to remain a long term problem for Africa by the main bilateral and multilateral donors (World Bank, IMF, African Development Bank) became a central focus of government spending which ultimately impacted upon African economic and social development (Nugent, 2003).

By the mid-1970s, the shortcomings of state led development were becoming obvious. Large state owned corporations financed by governments to create mass employment and produce previously imported goods became defunct as the lack of competition fostered an apathy which ultimately affected their overall productivity (Rapley, 2002). Alongside a

poor agricultural output during this period, corruption was rampant with abuse of power by administrators and officials commonplace. To compound the problem, neopatrimonial behaviour of the elites meant resources were often used for personal use and civil service promotions were not based on personal ability, but on other reasons which ultimately affected the overall performance of the public sector (Mbembe, 2001).

In all, a combination of the OPEC oil crisis in the early 1970s, the resulting debt burden and the poor performance of state led development led to a steep economic decline in Africa. Governments desperately looked to salvage their economic stability by implementing a reprioritization of development financing and as a consequence, along with other social sectors, central government financing of the water sector was drastically reduced. In spite of the vast growing urban informal populations, investment in new water and sanitary facilities was limited and existing infrastructure fell into a state of disrepair.

3.3.3. Urban bias of watsan resources

At the time of independence, the African political elite were often the ones who had gained access to education, economic and political structures during colonialism and thus took the lead once colonialism had ended (Mbembe, 2001). The leaders of the 'elite', usually the ones coordinating the anti-colonial and African nationalism political movements, then took on prominent positions in post-independence political structures. Promoting the rhetoric of 'nation-building' (Nugent, 2003), the new African leaders looked to address the imbalances in 'development policy' that had so characterised rule under colonialism. Indeed, as demonstrated in some of the writings of African leaders in the early days of independence, there was a great desire to promote a fair and equal society. This included equal access to the key development requirements such as the provision of clean water and safe sanitation. As the first Zambian President, Kenneth Kaunda wrote in 1966, the new independent African society meant:

‘...the greater sharing of wealth, the end of exclusiveness and racial privilege, and the offer of opportunities to those who have been denied all the elements of a good life – education, health, responsibility and a fair return for labour’. (Kaunda and Morris, 1966: 60)

Here the offer of opportunities to health may well refer to access to watsan, which in large parts of urban Zambia had often been the privilege of the colonial settlers (see Chapter Five). However, despite the positive rhetoric in providing fair and equal access to all the population, the reality in many African countries was an urban bias which reflected the priorities of the political elite (Sandbrook, 1985). The disproportionate amount of resources spent in the urban areas, particularly in the areas home to the elite, was reminiscent of colonialism as the African political elite, looked to prioritize their needs above the rest of the urban (and rural) populations. This polarised further the urban water inequalities by consolidating the distinct urban water geographies constructed under colonialism; a minority elite experiencing a ‘European’ standard of watsan provision juxtaposed to a majority population experiencing an inferior quality of service provision. As Mbembe (2001: 46) comments:

‘...the advantages and privileges that holders of positions of authority granted themselves with a cumulative value sometimes far greater than the salary: housing, furniture, water, electricity, cars, domestic help, entertainment, and travel expenses, bonuses, reserve funds’.

Indeed, despite the economic malaise, there was not a geographically uniform decline in water services as elites had the political power to channel municipality resources to their suburbs. As a consequence, this period also served to further consolidate the uneven water development by maintaining the uneven geographies first established under colonialism. As Graham and Marvin (2001: 129) observe:

‘It was increasingly realised that colonial infrastructure policies, and broader ideologies of modernist urban planning [state led development], had supported a

powerful fragmentation in developing cities between minority elites in their well networked enclaves and the poorly served majority’.

Whilst commentators blamed the mismanagement of resources on the corruption and greed of the African elite (see World Bank, 1983), Mbembe (2001) takes a different perspective, arguing that the African elite were, in part, inheriting a tradition of resource abuse and impunity from colonialism. Referred to as the ‘colonial rationality’ (2001: 25), Mbembe states that the colonial spirit of managing the state’s resources to the advantage of the colonizer, such as the appropriation of water rights for colonial irrigation projects, had contributed towards the way the new African elite understood power. According to Mbembe, the misuse of resources by the elite after colonialism was largely a reflection of the way power was abused under colonialism and not just a post-independence construct.

3.3.4. The rise of non-governmental organisations (NGOs)

By the late 1970s, there was increasing international awareness of the escalating levels of poverty in Africa including inadequate watsan provision. This led to a proliferation of western initiatives and campaigns (Barratt, 1996) culminating in the designation of the 1980s by the United Nations as the ‘International Decade for Clean Water Supply and Sanitation’. This period was also characterised by an increase in NGOs carrying out water related projects in Africa and other parts of the developing world. Perceived as filling the gap not adequately filled by African governments, NGOs sought to improve watsan services by constructing basic water and sanitation facilities in various African countries funded by western donations. One such NGO, WaterAid, established by the British water industry in 1981 typified western desires to address the inadequate water and sanitation problem in Africa. Although initially concentrating on rural water supply, WaterAid soon moved into urban water supply and sanitation projects.

In the context of development, the rise in NGO activity from the late 1970s was significant on two fronts. Firstly, drawing parallels with the earlier colonial era, it

signified a renewed importance in western technical and financial 'assistance', commonly referred to as a type of 'neo-colonialism' (Escobar, 1995; Mbembe, 2001). The post-independence era had provided the opportunity for African nations to follow a path to development of their own making without the overbearing European/western influence which had characterised the colonial era. However, the resulting economic stagnation, perceived failure of state led development and overall inability of African governments to sufficiently provide the basic social services acted as a catalyst for greater western involvement in Africa's development. The increasing number of NGOs carrying out basic development projects in African countries served to magnify the importance of western notions of modernity. As Jenny Edkins (2000: 71) argues in relation to the western rationale for an increase in food aid in the 1980s:

'Famine and third world poverty can be solved by the provision of food aid or self sufficiency in food through agricultural modernisation...the problems of the third world are to be solved by the west'.

This echoes the sentiments of the poststructuralist, Arturo Escobar (1995) who asserts that the identification (or 'problematization') of poverty after the Second World War served to assert the West's dominant position of power over the Third World. Therefore, the rise of NGO activity during this period acted to assert the West's superiority and reinforced the colonial stereotypes of Africa as 'underdeveloped', 'poor', 'hungry' and 'illiterate' (Escobar, 1995: 54) and in terms of the lack of access to water – 'thirsty'. In turn, African 'thirst' could be quenched with the assistance of western development experts – whether NGOs, international financial institutions (IFIs) such as the World Bank or development consultants – thus bringing to the fore a new, important role for the West in Africa's watsan development.

Secondly, the need for financial and technical assistance in the form of multilateral and bilateral loans and the rise of NGO activity in Africa added greater support to a fundamental change in Africa's development vision. Corresponding to strategic funding of African governments during the Cold War and the ascendancy of an economic and

political logic based on export orientated growth and open markets (neoliberalism) in the West, the IMF and World Bank began to assert their power over recipient governments. The twin architects of development saw an opportunity to address Africa's economic stagnation and resulting high levels of poverty via the implementation of this new ideology and the water sector was identified as one area that could benefit. The subsequent discursive changes took place against a backdrop of national and international criticism directed at African public water authorities and their failure to adequately manage the provision of watsan.

From the late 1980s, the World Bank started to voice concerns over African water governance regimes. The World Bank (1989) questioned the capabilities of the public sector in the provision of basic services, such as water and sanitation, arguing that the governance arrangements were not conducive to the generation of sufficient capital for public sector investments. An internal review of World Bank supported projects found that only one-third were covering the full economic cost of supplying water (Winpenny, 1994). In addition, weak billing and collection systems and erratic payments led to a vicious downward spiral in the performance of the responsible water authorities. As a consequence, the public water authorities could not sufficiently invest in new and existing infrastructure which led to a high proportion of unaccounted for water (UfW), such as leaks and burst pipes. As the World Bank (1992) stated:

‘By the early 1990s it became apparent that the public sector...could no longer bear the sole burden of investment financing for the sector in industrialised countries (such as the United Kingdom), let alone in developing countries’.

In line with a neoliberal logic which was taking the ascendancy in the West, the World Bank and IMF looked to instigate a fundamental change in African water governance. The inadequate pricing of water, the overly political nature of watsan and the inabilities of the public authorities had led to a situation where water sectors could not meet the rising economic demands. As demonstrated in the next section of the chapter, the 1990s ushered in a new era of development policy that placed far greater emphasis on water as

an 'economic good' and a desire for greater economic accountability, efficiency and an overall improvement in management under broader reforms referred to as 'good governance'. These policies led to a new logic of water governance which has had considerable impacts on the historically uneven nature of the African urban water sectors.

3.4. Neoliberal water governance: the deepening of uneven water development

Having considered the origins of uneven water development in urban Africa during colonialism and its consolidation during the post-independence era, this section examines the impact of the most recent set of neoliberal inspired policies on watsan development from the late 1970s. Using the notion of 'good governance' as a point of departure, the first section outlines the influence of the early neoliberal orthodoxy in shaping World Bank and IMF policy towards urban watsan policy, referred to as the *first wave of neoliberalism*. In particular, this section examines the controversial policy of water privatisation which has been implemented across the continent from the early 1990s. Drawing upon a limited number of studies that have explored the social and political outcomes of the policy, it is argued that water privatisation has led to a deepening of watsan inequality as well as maintaining an uneven balance of power between the elite and the subaltern populations in the water governance regimes.

3.4.1. The first wave of neoliberalism: 'good governance' and water as an economic good

As discussed in Chapter Two, the early 1980s ushered in a new era for development policy lending. The preceding years of poor economic growth and increasing poverty in the developing world combined with a neoliberal ascendancy in Western Europe and North America led many developing countries to question the long term merits of state led development. Neoliberal elites had taken the upper hand in Chile, Turkey, Ghana and Cote d'Ivoire by the mid 1970s and thus the experimentation with neoliberalism was

already under way in the developing world (Rapley, 2004: 77). Importantly, the World Bank and IMF took on an increasingly important role with regard to development policy and practice and set the tone for the disbursement of large scale loans for development projects. These organisations were not prepared to repeat the mistakes of the commercial banks during the OPEC oil crisis whereby there was little or no scrutiny over how recipient countries spent the loans. The World Bank and IMF insisted on a number of structural changes to the recipient countries which, in theory, would enable a more competitive, efficient and open economy. These loans were referred to as structural adjustment programmes (SAPs). Whereas structural adjustment was the vehicle through which the Bank could implement change in the developing world, it was the rhetoric of 'governance' that became important in understanding how these changes would occur. Therefore, the following examines the emergence of 'governance', unpacks some of its meaning and examines the implications for the management of water resources and the provision of watsan in Africa.

The origins of the term 'governance' in development policy circles can be traced as far back as the early 1980s. In an annual World Bank publication, the *World Development Report* (1983) initial concerns were raised about the need for greater efficiency in the public sectors of the developing world, the need to overcome high levels of corruption and a suggestion for the greater role to be played by the private sector. However, the landmark publication which set out the revised manner of thinking for the World Bank was not published until 1992. In *Governance and Development* (1992) the World Bank set out a new agenda for the promotion of governance with an emphasis on creating an 'enabling environment for growth' (World Bank, 1992: 4). Governance became the all encompassing term that would address a wide range of mostly institutional factors that was hoped would overcome the weakening state capacity that had hindered development in Africa.

The emphasis and shift towards governance was in response to what the World Bank called a 'crisis of governance' (1992: 5). A number of Bank staff, many working in Africa, referred to the 'crisis of governance' in an earlier publication entitled *Sub*

Saharan Africa: From Crisis to Sustainable Growth (World Bank, 1989). In this publication, concerns were raised over the environment in which structural adjustment was taking place rather than the content of the programmes themselves. As the 1992 publication stresses: 'despite some encouraging success with adjustment lending and public sector reforms, the enabling environment is still deficient in many areas' (1992: 4). For the Bank, raising the notion of governance was a way to address the inefficiencies and malpractice of the recipient countries which would lead to improved structural adjustment.

The World Bank (1992: 3) defines governance as the 'manner in which power is exercised in the management of a country's economic and social resources for development'. However, this definition sheds no light on how the World Bank understands the role of governance with regard to development policy and practice. A more comprehensive understanding of governance is offered by Rhodes (1997: 47) who finds six separate uses of governance. The following identifies four²⁵ of these as being important in understanding the World Bank's position on governance:

1. as a minimal state
2. as corporate governance
3. as the new public management
4. as 'good governance'

Although 'good governance' has become the term most associated with World Bank policy (Rhodes, 1997), the other three also have relevance in the context of water governance and, therefore, are worth examining in more detail. Firstly, governance as the minimal state refers to the cutting back of public expenditure or 'hollowing out of the state'. Stoker (1997: 6) refers to it as the 'acceptable face of spending cuts' meaning the reduction of public spending by creating less government and replacing it with the use of

²⁵ The other two uses are: i) governance as a socio-cybernetic system and ii) governance as self-organising networks. Governance as a socio-cybernetic system refers to the interaction of different actors such as local government, the voluntary sector, the public sector, the private sector and, in turn, how they interact with one another. Governance as self-organising networks refers to the networks established between these different groups of actors (Rhodes, 1997).

markets and quasi-markets to deliver 'public services'. As is demonstrated later, the idea of the 'minimal state' had a dramatic impact on the way the African state removed itself from the direct provision of watsan.

Secondly, corporate governance is the adoption of corporate principles such as open decision making, which induce a departure from inefficient public sectors echoing 'new public management' (NPM) and 'good governance'. Thirdly, and crossing over with corporate governance, governance as the NPM refers to the introduction of business (or commercial) principles to the management of the public sector. As Minogue (2002: 134) asserts, the defining characteristics of NPM are its entrepreneurial dynamic, its reinstatement of the market as a potentially more efficient provider of public services than the state, and the proclaimed intention to transform managerial behaviour in the public sector. The neoliberal undertones of NPM could not more apparent, and this is further demonstrated through the practical implications of NPM. These include privatisation, reduction of the public sector, the introduction of competition by contracting public services to the private sector and the improvement of public services by conducting auditing and assessment (Minogue, 2002). In essence, the underlying principles of NPM are to transform the public sector into behaving more like the private sector.

Finally, and most importantly in the context of the World Bank's understanding of governance is the term 'good governance'. Leftwich (2000) singles out three meanings to the term: systemic, political and administrative. The systemic use of 'good governance' is broader than government covering the distribution of both internal and external political and economic power. Political use of 'good governance' refers to a state enjoying legitimacy and authority derived from a democratic mandate. Administrative 'good governance' refers to improving efficiency in the public sector by the introduction of commercial principles and the private sector. Therefore, 'good governance' appears to be a combination of the four separate uses but with an underlying democratization element. As Rhodes (1997: 50) states, 'good governance' is the marrying together of the principles of NPM and liberal democracy.

In terms of the provision of water and sanitation, the practices of governance (in particular ‘good governance’) transformed the nature of the African state’s involvement in the water sector. The adoption of the NPM principles was clearly demonstrated as the World Bank looked to roll back direct involvement of government by placing greater emphasis on the ‘wider application of commercial principles to service providers, the broad use of competition, and the increased involvement of users where commercial and competitive behaviour is constrained’ (World Bank, 1994: 8). However, a major obstacle to the successful implementation of NPM in African water sectors was the issue of *water pricing*. NPM relies heavily on the implementation of user charges in exchange for a service (in this case water and sanitation) and so this system was undermined by the fact that water was not regarded as an economic good in many African countries. These concerns were all too apparent for one World Bank official who stated that ‘...work is still needed with political leaders in some national governments to move away from the concept of free water for all’ (World Bank *cited in*: Grusky, 2001: 4).

Importantly, particularly in terms of the World Bank’s good governance agenda for the water sector, there was growing international recognition of the need to address the economics of water in relation to development policy and practice. In 1992, the international conference on Water, the Environment and Development held in Dublin, and attended by academics, policy makers and key development actors, concluded with four principles (which have subsequently become known as the Dublin Principles). The fourth principle²⁶ stated that:

‘water has an economic value in all its competing uses and should be recognised as an economic good while also maintaining that access to clean water and sanitation at affordable prices are fundamental human rights’ (Finger and Allouche, 2002 *cited in*: Robbins, 2003).

²⁶ There are three other Dublin Principles: firstly, freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment; secondly, water development and management should be based on a participatory approach involving users, planners and policy makers and all levels; and thirdly, women play a central role in the provision, management and safeguarding of water (Global Water Partnership, 2007).

This fourth principle was hugely significant in terms of the World Bank's good governance agenda and watsan provision because it gave greater weight to the argument that water should be priced according its cost of production rather than provided as a free good. Crucially, the recognition of water as an economic good meant a move away from the provision of water on the economics of supply management to a move towards the provision of water on the economics of demand management. A major advocate and influencing force, James Winpenny, explains the logic of water demand management:

'Managing demand entails taking into account the value of water in relation to its cost of provision, and introducing measures which require consumers to relate their usage more closely to those costs. It entails treating water more like a commodity, as opposed to an automatic public service' (Winpenny, 1994: 27).

In turn, this allowed the fulfilment of the World Bank's major water policy initiative of the 1990s; water privatisation. The next section examines how the water privatisation policy manifested itself in Africa with examples drawn from a number of cases from different countries. It is shown that despite the good intentions of 'enabling an environment' for private sector investment in the dilapidated watsan infrastructure of African towns and cities, the result in many cases was socially harmful for the urban poor and led to further entrenching of the uneven water geographies which have characterised the history of Africa's watsan development.

3.4.2. Water privatisation

'Privatisation is the only way to get the investment that [poor] countries needs in things like banking, telecommunications, and services such as water under good regulatory conditions' (Rt. Hon. Clare Short MP, 2002)

‘Investors need to be convinced that they will get reasonable returns...the issue we consider include who the end users are and whether they are able to afford the water tariffs...from a social point of view, these kinds of projects are viable but unfortunately from a private sector point of view they are not’ (Richard Whiting, Biwater [British private water company] country manager, Zimbabwe, 1999 cited in: Bayliss, 2005: 5)

The ongoing discussions centred around the involvement of the private sector in the provision of water and sanitation have remained heated for a number of years (Batley, 1996; Swyngedouw, 1997; Bond, 1999; McKinley, 2005) but as the United Nations Development Programme (UNDP) poignantly summarise, the debates have ‘created more hot air than light’ (2006: 6). In the 1990s and until more recently, the water privatisation debate tended to focus around two polarised views of the role of the private sector. On the one hand, there was the view taken by the World Bank and other neoliberal supporters arguing that the market should be allowed a free reign and that ultimately the private sector will provide the capital that African governments lack for watsan services. This is the position clearly taken up by the British government in 2002 as demonstrated by the quotation above by Clare Short. On the other hand, there are those who see the profit orientated motives of the private sector in conflict with the social needs of watsan provision as shown by the above comment by the Biwater country manager. With these two positions in mind, the following examines the experience of water privatisation in Africa from the early 1990s arguing that, despite the economic rationale for privatisation put forward by the World Bank, privatisation has led to increasing urban water inequalities mirroring the historic uneven water development as described earlier in the chapter.

Water privatisation became a major policy option for the World Bank from the early 1990s, with a sharp rise in the number of actual and proposed privatisation contracts in 1997 (Bayliss, 2002) (see Figure 3.2 below). Enticing private sector participation was hoped to bring a fresh group of investors to Africa that would help address the problem of water sector under investment, especially given the relatively disappointing rate of return

of past investment projects by development banks (Whitfield, 2006). The establishment and recognition by the international community of ‘water as an economic good’ spurred on the private sector giving them greater incentive to seek out profit making opportunities in emerging water markets. Water privatisation was often tied to the World Bank’s structural adjustments programmes as well as being a major component of IMF lending packages (Grusky, 2001) which signalled the green light for private sector participation.

In Ghana, for example, the structural adjustment programme stipulated that urban water tariffs had to increase by 95%, in order to appeal to the international private sector before the disbursement of a \$110 million World Bank loan (Grusky, 2004). Furthermore, private sector participation in water services was advocated by all major international lending agencies and most bilateral donor agencies in the 1990s (Seppala and Hukka, 2004) which gave greater support to the cause of the private sector. Figure 3.2 below demonstrates the rise, and subsequent fall, of private sector investments in water and sanitation from 1991 to 2003.

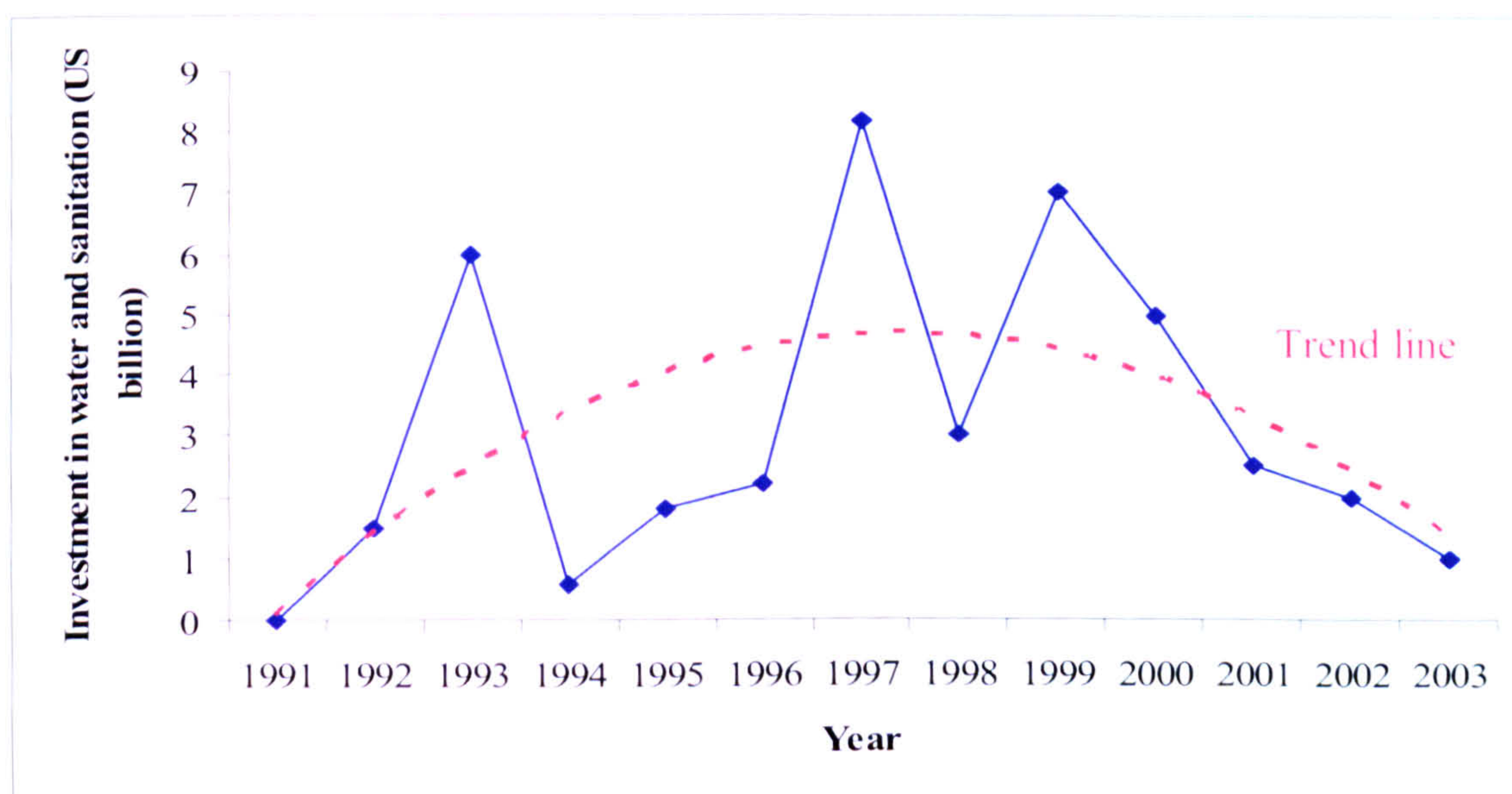


Figure 3.2: Private sector investment in water and sanitation in the developing world from 1991 to 2003 (US\$ billion/year)

Source: Adapted from World Bank (2006)

Water supply and sanitation services are usually privatised through contracts between public authorities and private companies. The three main types of contract – concession, lease and management – have different implications with regard to new investment and extending services to unconnected households, which ultimately is the principle motive behind the global push for introducing private investment in African water markets. Firstly, the concession contract provides the greatest opportunity for meeting this goal because investors are often expected to meet specific targets as stipulated by the public authority (Hall and Lobina, 2006: 12). These targets usually involve the amount invested in new infrastructure and the number of new households connected. Importantly, this type of contract allows the private company to take as much profit from the sector as deemed necessary and thus investment often correlates with the company's profit margin. Secondly, lease contracts differ from concessions in that the private company is expected only to make running repairs of existing infrastructure whilst the public authority finances infrastructure to new customers. Thirdly, of the three different types of contracts, management involves the least amount of funding from the private company. Management contracts allow private companies to act as managers of the public authority whilst not risking any company capital in the investment of infrastructure. Although offering no short-term investment, management contracts allow private water companies to gauge the potential for any future concession or lease contracts.

Significantly, of the three contracts, the concession contract was the one supported most firmly by the advocates of privatisation because it was the only one that fulfilled the expectations of private sector participation. Penelope Brook, a World Bank water supply specialist and determined advocate of privatisation, has frequently argued for water concession contracts in order to demonstrate the appeal to both recipient governments and private companies (Brook and Cowen, 2002). She argues that complete privatisation and an unregulated natural monopoly could produce maximum profit for the private water company whilst still yielding high connection rates for low income populations; the profit made by company allows for connections to customers who can not necessarily pay the full cost of water (Brook and Cowen, 2002). Furthermore, private companies compete for the market and thus the competition created will generate incentives to maintain high

quality services (water quality and quantity), increase water connections, whilst maintaining affordable water charges for consumers.

Despite Brook and Cowen's faith in the power of the unregulated, fully privatised water model, the examples of concession success stories are few and far between. The most frequently World Bank cited examples of water privatisation success stories in Africa, Senegal and Côte d'Ivoire, are both, in fact, lease contracts (Hall and Lobina, 2006). In Senegal, millions of previously unserved customers are now connected to water mains as a result of the 10 year lease to a private company, Sénégalaise des Eaux (World Bank, 2006). However, many new connections and investments were paid for via public finance; either government capital or development loans, and not from the private sector (Hall and Lobina, 2006). Equally, in Côte d'Ivoire, the contracted private company invested only in existing networks whilst the government financed the investment of new customers. Nevertheless, as demonstrated below, the few privatisation 'successes' are in stark contrast to the high number of failures and the alarming associated trend with regard to rising water inequalities in urban Africa.

The damning record of water privatisation

The current record of water privatisation in Africa has been a less than positive one²⁷. According to Hall and Lobina (2006), only twenty percent of all private contracts have been completed successfully with the remaining eighty percent having been cancelled and/or dismissed as a result of a shortfall in investment (see Appendix A). Recipient governments have become disillusioned with the concentration of investment by the private water companies in 'financially safer' neighbourhoods rather than unconnected ones and as a consequence, there has been a high percentage of contract cancellation. The commercial logic of the private company speaks for itself; the 'financially safer' urban areas are those with relatively 'developed' (i.e. European) existing levels of infrastructure

²⁷ There is much research demonstrating the problems of water privatisation across the developing world. Some notable examples: La Paz and Cochabamba in Bolivia (see Laurie and Crespo, 2003; 2007), Jakarta in Indonesia (see Bakker, 2002), Argentina (Castro, 2007), Mexico (Castro, 2006) and Tanzania (Mashauri, 2003).

and so investment is less expensive than extending watsan services to unconnected populations. This type of selective development, also known as ‘cherry-picking’, is a common feature of the privatisation experience in Africa. For example, the privatisation of water services in Stutterheim, South Africa in 1993 led to the marginalisation of black communities by the private firm. As Hall and Lobina (2006: 26) comment:

‘Privatisation in Stutterheim allowed the company to ‘cherry-pick’ the profitable white and coloured [mixed race] areas, which already received dependable water supplies, while much of the official Stutterheim township (Mlungisi) remained unserved and the unofficial neighbouring townships (Cenyu, Kubusie, Cenyulands) almost entirely outside the network’.

Poorer urban communities are furthered marginalised by the resulting increase in water tariffs and strict disconnection policy that characterise water privatisation. The commercial logic of the private company drives a ‘cost recovery approach’ which contrasts to the previous public water governance. The immediate increase of water tariffs with no noticeable change in the quality of service creates tension in communities where the watsan services are poor. This was the case in Dar es’ Salaam where the Tanzania government accused the private water company, BiWater, of increasing water tariffs without improvement in the quality of watsan services (Vidal, 2005). The government could not see what benefit BiWater were offering to low income water supplies and so decided to revoke the water contract (Vidal, 2005).

Another key problem identified with water privatisation is the numbers of households – often the poorest urban households – who are disconnected from receiving a clean water supply. A combination of high levels of poverty corresponding to a lack of disposable income, an unwillingness to pay for water as a result of a culture of non-payment (Robinson, 2002) and no obvious improvement in quality of services leads to a high percentage of payment defaulting. The private company often respond by implementing a strict disconnection policy in the hope that this lack of water will act as a catalyst to future payment. The result is a marginalisation of these poor communities and a search

for alternative sources of water. A report to the UK's Department for International Development (DfID) in 2005 found that water privatisation in the KwaZulu Natal region of South Africa had led to a reduction in service levels in poorer areas. The report argued that the high disconnections rates in the poorest townships was a consequence of the higher water tariff (Hall and Lobina, 2006). A separate study of water privatisation in the same region of South Africa found that the imposed water charges forced some poor people to rely on polluted river supplies for their water (Grusky, 2001). Public health officials traced a 2001 cholera outbreak, which killed dozens of people, to the water pricing policy linked to water privatisation (Grusky, 2001).

The central point here, leading back to the main argument of the chapter, is that the socially harmful outcomes of water privatisation expose the embedded uneven water geographies in urban Africa and so serve to deepen the inequalities. As shown above, the communities benefiting from water privatisation are those which have historically always been relatively well served as compared with those with historically poor or inadequate levels of watsan service. The commercial logic of the private companies, in particular the cost recovery tactics such as 'cherry-picking', tariff increases and strict disconnection policies, drives them to concentrate investments in 'financially safer' communities whilst avoiding risky investments in areas where poverty is high and existing levels of services are poor. This is epitomized by the very low numbers of concession contracts in Africa and the high numbers of contract cancellations as private companies fail to invest in unconnected, poor areas (Bayliss, 2005).

Furthermore, drawing parallels with the unequal power relations in colonial times and the concentration of power within the African elite in the post-independence era, water privatisation places the authority for water governance into the hands of a powerful elite agency. Other than meeting the demands of the water regulator, which are often not met (Hall, 2004), private water companies have the power to make decisions that meet their own demands, most notably the commercial demands of the shareholders. Consequently, as demonstrated by the described findings above and the high level of contract cancellation (see Appendix A), the private water companies have limited incentive to

serve the unprofitable aspects of urban poor watsan provision meaning the watsan needs and demands of these populations are often ignored and overlooked. Thus, mimicking earlier governance regimes, privatisation continues to marginalise the subaltern in the African urban water sector as the authority of watsan provision remains in the hands of a powerful elite body.

The experience of water privatisation reveals the resolve and persistence of uneven water development in Africa. As shown earlier in the chapter, the colonial era laid down the foundations of uneven water geographies whereby a minority population had superior watsan service as compared to the majority which experienced inferior services. The subsequent post-independence era experienced a consolidation of these water inequalities as a result of urban bias of elites, urban growth and economic stagnation. These factors thus created an environment of uneven development which was re-enforced by the commercial logic of the private sector. Therefore, it is worth emphasising the significance of the history of Africa's uneven water development and how water privatisation has interacted with these embedded watsan inequalities²⁸. The following now examines the most recent policy options for water governance – water commercialisation – within the broader development remit referred to as the *second wave of neoliberalism*.

3.4.3. The second wave of neoliberalism: water as a human right and the water poverty agenda

Whilst the early 1990s were characterised by the growing momentum of the neoliberal doctrine in development policy and practice, the later stages of the decade were typified by revisions and modifications to this doctrine as a result of the socially painful outcomes of the first wave of neoliberalism. The increasing levels of poverty and inequality as a

²⁸ Interestingly, the social exclusionary outcomes of water privatisation mimic the history of private sector participation in the provision of watsan in the developed world. Although overlooked by the advocates of privatisation, as typified by the World Bank's Penelope Brook Cowen, various studies have illuminated the reinforcing of social inequalities and the required public intervention (Swyngedouw, 1999). This leads Castro (2007: 760) to ask: on what grounds could it have been expected that the solution for improving water and sanitation systems and expanding these services to the poor was to be found in the expansion of free market water policies?

result of World Bank and IMF structural adjustment programmes fundamentally undermined the credibility of these two development actors as well as the policies they prescribed. In the face of considerable internal turmoil, and spurred on by the commitment of President James Wolfensohn, the World Bank took the lead by refocusing the policy rhetoric towards emphasising the needs of the poor and, above all, poverty alleviation. This is demonstrated in the World Bank's Comprehensive Development Framework (CDF) which was described as 'an attempt to operationalise a holistic approach to development' (Wolfensohn, 1998). The main focus of CDF still remained improving economic growth but the needs of the poor were elevated so that there was greater prioritization of society's resources around their perceived needs (Pender, 2001).

As well as changes to policy, the World Bank and IMF modified their rhetoric to reflect the poverty agenda. Accordingly, the term 'structural adjustment' was replaced with 'poverty reduction strategy' which signalled their intent with regard to their revised approach to development. The 2004 World Development Report (WDR) is illustrative of the re-focused approach of the World Bank. The report, named '*Making Services Work for the Poor*', epitomizes the rhetoric of the CDF warning that broad improvements in human welfare would not occur unless poor people received wider access to affordable and improved services in health, education, water, sanitation and electricity (World Bank, 2004). The report goes on to state that without improvement in these services, freedom from illness and freedom from illiteracy would remain elusive to many (World Bank, 2004).

Further to widespread criticism of water privatisation across the developing world, as occurred in South Africa (Bond, 2001; Hall and Lobina, 2006), Indonesia (Bakker, 2007) and Argentina (Loftus and McDonald, 2001), public protest as occurred in Bolivia in 2000 (also known as the 'Cochabamba Water Wars') and the proliferation of anti-privatisation organisations²⁹, there were several important landmarks redefining the need

²⁹ Examples of Anti-Privatisation organisations include the Anti-Privatisation Forum (<http://www.apf.org.za/>) based in Johannesburg, the Polaris Institute (<http://www.polarisinstitute.org/water>) based in Canada, and the Sierra Club of America (<http://www.sierraclub.org/cac/water/>) and Public Citizen (<http://www.citizen.org/cmep/Water/>) both based in America.

to address the watsan problems in the developing world. These landmarks included the UN Millennium Declaration in 2001 which identified the issue of the lack of clean water and adequate sanitation in the developing world as one of eight Millennium Development Goals (MDGs)³⁰. This was also followed by the UN Conference on Financing for Development, in Monterrey in 2002, which instigated an increase in western aid to the water sectors of the developing world by US\$12 billion a year (Winpenny, 2004).

Perhaps most significantly of all the landmarks was the United Nations (UN) declaration of water as a basic *human right* at the UN Economic, Social and Cultural rights Conference in 2002. The UN (2002: 2) declared that ‘the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses’. Although not providing any legal grounds on which citizens could challenge or contest the actions of their governments, the declaration has since served to re-emphasise to governments (in the developing world) the need to recognise the importance of clean water and adequate sanitation to all populations. The declaration has since instigated discussion over how governments can best provide clean water and adequate sanitation, including questioning the role of non-state actors such as the private sector. Indeed, in light of the UN declaration of water as a human right and the damning record of water privatisation in Africa, this period was characterised by increasing pressure on the World Bank from NGOs, governments and other commentators to move away from the focus on private sector solutions to Africa’s (and the developing world’s) watsan problems.

Responding to the refocused approach of the World Bank towards poverty alleviation, the criticisms of water privatisation and the subsequent debates after the various water related landmarks, the World Bank placed greater emphasis on a set of policies referred to here as the *second wave of neoliberalism*. However, as demonstrated below, despite the revisions to the water policy, this second wave of neoliberalism had a resemblance to the

³⁰ The eight MDGs are as follows: 1) To eradicate extreme hunger and poverty 2) To achieve universal primary education 3) To promote gender equality and empower women 4) To reduce child mortality 5) To improve maternal health 6) To combat HIV/AIDS, malaria and other diseases 7) To ensure environmental sustainability 8) To develop a global partnership for development (<http://www.un.org/millenniumgoals>).

earlier privatisation policy as the Bank re-emphasised the ‘good governance’ rhetoric which had become popular from the early 1990s. This initiated a ‘home-grown’ water commercial culture but without the presence of the private sector which serves to demonstrate (again) the World Bank’s faith in the neoliberal agenda for water development in Africa.

3.4.4. Water policy revisions

One of the lessons drawn from the cases of water privatisation throughout the developing world was the issue of governance, or more appropriately, the lack of ‘good governance’. The introduction of markets in the provision of public services from the early 1990s placed too great an emphasis on the private sector without putting into place the necessary conditions to allow it to work effectively. In particular, the lack of government regulation hindered the ability of states to monitor the activities of the private company. As Smith (2004: 379) argues ‘marketizing essential services without strong state regulation undermines the public authority objectives in devolving its core responsibilities to an external provider’. The privatisation case thus illustrates the paradox of the ‘good governance’ agenda; on the one hand governments are meant to stay out (the minimal state) and yet, on the other, still have to remain as regulators of the public service. The second wave of neoliberalism thus prompted widespread thinking on the role of the state in making markets more effective and this included initiating improved regulation (Smith, 2004). The British NGO, WaterAid (2003: 5), neatly sum up the problem by stating:

‘Without adequate government capacity, no reform processes can be successful. The private sector cannot be contracted without tackling failing government. The government’s role to facilitate, monitor and regulate is as much an essential element in private sector participation (PSP) as in public and user-managed utilities. Yet, it seems that this requirement is being practically ignored in the rush to establish PSP [private sector participation]’.

The problems encountered with water privatisation also served to reaffirm some of the original features of the good governance agenda as highlighted by Rhodes (1997); in particular, corporate governance and NPM. Although these two features have always remained an integral part of the water governance agenda from the early 1990s, once the limits of privatisation were fully realised the emphasis was placed on these aspects of governance but in the *existing water authorities*. This entailed the full adoption of the commercial rationale, such as the implementation of cost recovery and the reorganisation of the water authorities in order to resemble a private company. These reforms are referred to as water commercialisation or corporatization and, as Bakker (2002: 769) describes:

‘In institutional terms, the process is one of cohabitation, competition, and eventual displacement of allocation principles based on social equity, economic self sufficiency, or security of supply by market principles prioritising economic efficiency and of allocation techniques based on public policy decision making processes by a market-led calculus’.

Despite the move away from a coarser version of neoliberalism (i.e. water privatisation), water commercialisation still has a strong neoliberal undertone. This is reflected in view of the fact that the private market logic remains constant in the water debates of both the first and second waves of neoliberalism (Smith, 2004: 380). Indeed, the reforms do not so much disregard private sector participation, but emphasize the importance of public sector reform before any further private involvement. For example, a leading panel of water experts brought together in 2003 by Michael Camdessus, the former managing director of the IMF, concluded that public sector reform (i.e. commercialisation) was necessary for future sustainability but importantly, there was still a significant role to be played by the private sector and donors (Winpenny, 2003). Equally, WaterAid (2003) emphasizes the importance of creating public sector capacity without ruling out the possibility of private sector involvement, which mirrors the World Bank’s position on this issue.

Therefore, despite the international backlash to water privatisation and the refocused poverty agenda, the second wave of neoliberalism has created conditions that 'enable an environment' for privatisation. The World Bank, NGOs such as WaterAid and influential actors such as the Camdessus panel all seem to agree that it is the lack of 'good governance' that explains Africa's water and sanitation problems and thus importantly, also explains why privatisation failed. The 'good governance' reforms have meant the creation of 'home-grown' commercial water companies and the adoption of a private sector rationale and regulatory institutions which mimic western modes of watsan provision. In essence, these reforms have looked to create conditions that mirror a western, neoliberal logic of development which ultimately will appeal to the western private sector. However, as is shown below and linking back to the examples of water privatisation, the neoliberal approach fails to take into account the historically uneven water geographies that have plagued African water development. With this in mind, the following examines the limited empirical evidence of water commercialisation arguing that this policy appears to follow the pattern of privatisation; the 'commercial logic' harms the urban poor, both in terms of access to watsan but also in terms of the politically marginalised position of the subaltern in the formalised water governance regimes.

3.4.5. Water commercialisation

As opposed to most forms of privatisation, water commercialisation does not involve the introduction of a private company or indeed the sale of water assets to a foreign firm. On the whole, change occurs within the existing water authorities and is commonly characterised by the adoption of a commercial rationale and the introduction of private sector mechanisms such as a state regulator. As Bakker (2002: 368) defines the difference between the two types:

'Privatisation entails organisational change, in ownership (from public to private) and in management (from near-complete public control of water-management

functions to the involvement of the private sector). Commercialisation entails changes in the institutions of water management, with the application of private sector institutions (markets, efficiency measures, principles of competition, and economic equity) and culture in water-sector management.'

Although water commercialisation is referred to as part of the second wave of neoliberalism in this chapter, it is in fact a major component of the good governance agenda which influenced the first wave of neoliberalism. Privatisation was the more desirable policy for the World Bank because it offered the prospect of large-scale investment and, therefore, was pushed forward via SAPs and lending 'conditions' throughout the 1990s. However, as described above, the widespread criticism of privatisation led to the World Bank re-emphasising the benefits of commercialisation as opposed to complete privatisation. It was argued that commercialisation would initiate 'good governance' which was required in order to reform the structure and culture of the public sector before any further reforms, including water privatisation (Bakker, 2002).

Examining the water policy reforms of Africa's water authorities from the early 1990s reveals the continent-wide uptake of the commercialising policy. In response to national and international support, the commercial ethos common to the private sector was rapidly taken up by reforming water authorities, often referred to as 'utilities' or 'commercial utilities'. This is demonstrated in Appendix A which presents a list of commercial water utilities from a variety of different countries and regions across the continent in 2003. In line with the growing support for water as an 'economic good' in the western world (as detailed earlier), many African water authorities took the unprecedented move of following the principles of water demand management (WDM) which involves costing water in line with the costs of production and introducing measures requiring consumers to relate their usage more closely to those costs (Winpenny, 1994). This reform became all the more important to the World Bank once the privatisation discourse became less favourable in the late 1990s. In addition, pan-African initiatives were set up to support the commercialising reforms as demonstrated by the creation of an independently-run organisation, the Water Utility Partnership

(WUP). Sponsored by a variety of leading development actors including the World Bank, DfID and UN-HABITAT, WUP seeks to create capacity for new utilities by providing information and hosting seminars on ‘capacity building’ and ‘improving water governance’ and different forms of ‘partnerships’ such as those between public and private organisations.

So, given the current uptake of the water commercialisation policy across urban Africa, how have these reforms impacted upon access to watsan service for urban populations? And what impact do these reforms have with regard to the uneven water geographies as detailed throughout the chapter? Whilst there have been a number of studies examining the commercialisation of water services in the developed world (Palmer Development Group, 2001; Kelsey, 2001) there are very few focusing on the specific impacts within the developing world, especially within Africa. However, as demonstrated below, recent research of water commercialisation in Cape Town, South Africa reveals a strikingly similar pattern to the outcomes of water privatisation, particularly with regard to the deepening of uneven water development and the marginalisation of the urban poor.

Water commercialisation in Cape Town: water privatisation in disguise?

Laila Smith (2004) examined the transformation of the water sector in Cape Town, in particular the adoption of a commercial rationale and the impacts upon low-income water consumers. Smith found that the transformation from a public to commercial model did not favour equitable service to all as low-income regions of the city often experienced increasing irregularity of supply alongside mass disconnections. Smith blames the commercial goals of efficiency and cost-recovery that end up hurting the low-income communities because either the poor can not pay or do not attract the necessary investment that would improve the service. Significantly, the areas with historically poor levels of service are the ones experiencing the socially harmful outcomes of commercialisation. As Smith (2004: 386) articulates her concerns:

‘The implementation of water demand management [commercial rationale] strategies in Cape Town have failed to consider the spatial legacy of apartheid where the highest poverty rates in the city are high-density households living in township areas with historical underinvestment in infrastructure’.

Therefore, it is the commercial rationale underpinning both the privatisation and commercialisation policy which is serving to deepen the uneven water geographies in South Africa. The ‘cherry-picking’ behaviour of the commercial companies mimic the strategies of private companies, as detailed earlier, by targeting areas of the city where there is an existing high level of service and an ability to pay for water charges. Without appropriate social safety nets such as a subsidisation policy, which Smith found to be ineffective in Cape Town, the areas with a historically poor level of service, typically low-income townships, remain the same whilst the minority rich areas continue to have high levels of watsan services. Crucially, this case reveals that commercialisation does not necessarily involve any extra capital from local or central government to assist in the transfer to commercial operations. In this way, the commercial companies mimic the profit making tendencies of a private company in order to remain financially sustainable: targeting the richer areas, therefore, seems like a sensible, commercially minded decision when existing funds are limited. From a social perspective though, it is the poorest and least well served populations that are harmed which demonstrates how the commercial model perpetuates and further entrenches the uneven water geographies in South African society.

A second major outcome of the commercialisation of watsan services in Cape Town which relates to outcomes of water privatisation is the marginalisation of the urban poor in the governance regime. Reflecting upon the changing roles of the local bureaucrats, Smith raises concerns over the erosion of citizens’ rights, particularly those with inadequate, existing watsan services (i.e. the urban poor). As demonstrated in the case of water commercialisation in Cape Town, the change in water governance results in the creation of a commercial water utility in place of the existing local authority water department. However, as Smith (2004: 382) argues below, this change in water

governance has far reaching social consequences in terms of the politics of water distribution:

‘On the surface, engineers appear as the benign agents driving this sophisticated form of state engineering [water commercialisation]...They are not, however, trained to consider the political problems of poverty and the social consequences of denying low-income households access to essential services’.

Whereas under the previous water governance arrangement, the local politician was in a position to influence watsan related issues of the poorest and least well served, after water commercialisation, the same local politician is made virtually redundant as the commercial company operates independently from the local authority. As a result, the new utility makes decisions over the politics of distribution without the public accountability that would occur under public water governance. This is of particular concern to the urban poor, who not only have been marginalised in terms of the quality of their services, as shown above, but have less political means to challenge and influence the status quo. As long as the operations of watsan provision remain outside the realm of local politics, democratic accountability is thus permanently undermined. The commercial water governance model ‘purports to reconcile differing objectives by nurturing technical managerialism at the expense of political considerations’ (Smith, 2004: 381).

Furthermore, the described outcomes of water commercialisation contradict with the claims made by the advocates of the good governance agenda, namely the World Bank. As Castro (2007) argues, good governance should be about the exercise of substantive citizenship rights by allowing social participation and control over the decision-making process, for instance, decisions about how water and sanitation services are to be governed, by whom and for whom. In essence, good water governance means providing the opportunity for consumers to have an input into decisions affecting *their* watsan provision. This rhetoric is clearly demonstrated in the wording of the World Bank’s 2004 World Development Report (WDR), aptly named ‘Making Services Work for the Poor’.

In this report, the Bank acknowledge the persistent marginalisation of the poor in the provision of essential public goods such as water and, instead, calls for greater ‘choice and voice’ for the urban poor (World Bank, 2004). Despite this positive rhetoric, the case of water commercialisation in Cape Town reveals the opposite with a reduction in ‘choice’ for the poor as service levels are restricted (i.e. disconnections) and a reduction in ‘voice’ as the ability to challenge the water provider is undermined. As Castro (2007) sums up, the process of both water privatisation and public sector commercialisation whittles away the roles of the state and of ordinary citizens in defining, protecting and promoting the public interest. Therefore, drawing parallels with Ferguson’s seminal account of western development projects in Lesotho (1990), the case of water commercialisation demonstrates the significant disconnect between World Bank rhetoric and the reality of their water policy.

Finally, the research findings from the case of water commercialisation in Cape Town resonates with the work of a number of academics studying the impact of neoliberal reforms in the provision of essential public services (such as watsan) in Western Europe and North America. Colin Crouch argues that the implementation of NPM has facilitated a widening gulf between rich and poor as a result of what he terms ‘the commercialisation of citizenship’ (Crouch, 2004: 78). Crouch contends that all areas of public life have ‘come under attack’ (2004: 83) as governments look to solve the problems of poorly performing public services with markets and networks of private (sometimes a combination of private and public) and commercial companies. Echoing the Cape Town findings, the creation of commercial utilities in the provision of public services serves to erode the rights of the citizen; the service providers are no longer accountable to the electorate as they perform their tasks beyond the realm of political scrutiny. Those with an ability to pay enjoy the benefits whilst the poorest, even with social safety nets in place, are harmed most by these reforms. The point here is that the outcomes of Smith’s research are not simply isolated to the South African water sector but relate to a global trend reflecting the far reaching spread of the neoliberal development paradigm.

3.5. Conclusion

This chapter has examined some of the existing literature covering urban watsan development in a number of urban regions in Africa, in relation to the major shifts in development policy and practice. Plotting the development through three distinct historical phases, it has been argued that the basis of modern watsan inequalities has its roots in the colonial construction of watsan infrastructure under a logic referred to as 'differential access' (Kazimbaya-Senkwe, 2005). Drawing on the issue of unequal power relations and the politics of watsan provision, the chapter has demonstrated how these inequalities have become further embedded through the years following independence for many former African colonies. More recently, research of water privatisation and the only recorded study of water commercialisation in Africa, have been shown to deepen and further consolidate watsan inequalities. This has since given rise to a heated debate over the role of the private sector and the adoption of private sector principles in the provision of watsan in Africa. Therefore, the thesis seeks to build on this exclusive but important body of knowledge by examining the impacts of the recently initiated neoliberal watsan development in the Copperbelt Province, Zambia. Before doing so, the following chapter sets out the methodologies applied to investigate this research aim.

4. A postcolonial geography methodology

4.1. Introduction

Having reviewed the literature on African water and sanitation (watsan) development in the previous chapter, the purpose of this chapter is to examine the methods pursued in this research. Drawing heavily on a postcolonial theoretical approach as discussed in Chapter Two, the chapter sets out the methods applied to investigate how the recent neoliberal inspired water reforms have impacted upon watsan development in the Zambian Copperbelt. There is a focus towards multiple methods with five specific methods identified and discussed: firstly, documentary methods to investigate the material and discursive legacies of colonialism on watsan development in the Copperbelt; secondly, institutional ethnography to examine the impact of the neoliberal water reforms upon the new commercial water providers; thirdly, interviews to investigate the manifestation of power within the water sector; fourthly, social survey and focus groups to capture the voice of the subaltern in the narrative of recent watsan development; and fifthly, reflecting the rise in interdisciplinary research in British academia³¹, water quality methods to examine the impact of the reforms on the quality of subaltern water supplies.

Reflecting upon the interdisciplinary nature of the methods pursued in the research, a unique characteristic of this study is the willingness to cross the disciplinary divide between the social sciences and the natural sciences/engineering. This chapter demonstrates how the research applies methods common to development geography such

³¹ As stated in Chapter One, this research is jointly funded by the ESRC and NERC. In 1999 the two institutions launched the interdisciplinary doctoral fellowship and, in an evaluation report published in October 2005, supported the increase in the number of jointly funded fellowships (see <http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/Images/ESRC-NEERC%20Scheme%20Review%20Final%20Report%20tcm6-17593.pdf>). Another example of the rise of interdisciplinary research is demonstrated at Manchester University where there have been collaborations between, amongst others, engineers, geographers and planners in research into combating global terrorism. A conference held at the university in July 2007 called 'War and our World' reflects the growing interest in interdisciplinary approaches in the social sciences (see <http://www.arts.manchester.ac.uk/cidra/events/conferences/warandourworld/callforpapers>).

as interviews, ethnography, social survey and focus groups alongside water quality methods common to environmental engineering. Crucially, it is argued that this interdisciplinary approach allows for a more nuanced understanding of development in the global south (Leach and Scoones, 2006) and ultimately the research benefits from the holistic and multi-dimensional approach to methodology.

In terms of the structure, the chapter is divided into five main sections. The first section discusses the influence of postcolonial theory in relation to the choice of methods by drawing on a number of authors and their chosen research methods. In addition, this section discusses the dominant epistemology of development geography as compared with environmental engineering in this research. The second section examines the initiation of a research dialogue and the issue of researcher positionality and power relations in the field. The third section explores the practical challenges of implementing the multiple methods including a discussion of the methodological compromises. The fourth section examines the write-up and representation of the fieldwork before the fifth and final section discusses the interdisciplinary nature of the research. This section is followed by some brief conclusions.

4.2. Aligning method with theory

As discussed in detail in Chapter Two, the conceptual framework for this thesis is one that draws inspiration from the theoretical perspective of postcolonialism. Postcolonialism, or postcolonial theory, refers to ways of unpacking the material and discursive legacies of colonialism which presents a powerful critique of development whilst offering an increasingly important challenge to the dominant ways of apprehending north-south relations (Raghuram and Madge, 2006: 271). This perspective has gained in popularity amongst development geographers because of the way it allows the researcher to think through the relationship between power, knowledge and development and the manner in which we think and write about development in Africa (Mercer et al., 2003). Indeed, it was this type of critique of the neoliberal development

discourses that inspired the initial spark of interest for this research. But, importantly, how does a postcolonial perspective correspond in terms of a research methodology?

An appropriate place to open up this discussion is to introduce the thoughts of Raghuram and Madge (2006: 275) who argue that ‘the initial framing of a postcolonial method must be in terms of why the research is being conducted in the first place’. In this case, the research seeks to investigate the impacts of neoliberal inspired water reforms on watsan development in the Zambian Copperbelt. As outlined in Chapter Two, using postcolonial theory as a conceptual framework, four themes were identified – colonialism, power, governance and the subaltern – with which to address this research question. Moreover, these themes have played an important role in facilitating the choice and implementation of research method. Due to the multiple methods applied in this research, the methods have been grouped into the following five categories: firstly, documentary; secondly, key actor interviews; thirdly, institutional ethnography; fourthly, social survey and focus groups; and fifthly water quality methods. Table 4.1 below summarises these five methods and provides a brief objective of each.

Table 4.1: Research methods and objectives

Method	Objective
Documentary	To investigate Copperbelt watsan history through secondary sources such as maps, journal articles, reports and newspapers
Key actor interviews	To investigate the impact of the reforms on the governance of the sector and power relations between key state and non-state actors involved in Copperbelt watsan development.
Institutional ethnography	To investigate the impact of water reforms on the governing institutions. This involves participant observations as well as formal and less formal interviews with staff working at the four Copperbelt commercial utilities (CUs).
Social survey and focus groups	To capture the voice of the subaltern. This involves travelling into the field and carrying out a social survey via a questionnaire and a select number of focus groups to examine how water reforms have impacted upon the watsan services of the urban poor
Water quality methods	To investigate the water quality of consumable water used by the urban poor.

In relation to the four themes identified in Chapter Two, the following draws on the methodological approaches of authors who have carried out research in a postcolonial manner or have inspired postcolonial research in order to justify my research methodologies.

4.2.1. Documentary methods: researching colonialism

Despite more recent geographical work investigating postcolonialism in relation to development and globalisation (see Corbridge, 1993; Crush, 1995; Mercer et al, 2003), most postcolonial geographical research remains largely cultural and historical in focus (Blunt and McEwan, 2002). The theme of colonialism – a theme central to this research – tends to unite these studies as researchers seek to explore the spatiality of colonial discourse, the spatial politics of representation and the material effects of colonialism in different places (Blunt and McEwan, 2002: 2). As a consequence, postcolonial geographical research methodologies have been dominated by methods that allow the researcher an insight into life under colonialism, often via historical texts and documents. Referred to as documentary methods, these include the examination of various historical public documents such as newspapers and books, to private manuscripts and government papers such as Acts and Regulations (Payne and Payne, 2004).

An example of the use of documentary methods is drawn from a study of ‘white’ experiences and identities in South Africa in the 1930s. In this study, Robinson (2002) unpacks the language, stories and sentiment of articles written in print media such as *The Cape Argus*, *Die Burger* and *The Pretoria News*. In this way, Robinson was able to construct a narrative of the race relations between Afrikaners and black Africans in South Africa during this time. Similarly, Lester (2002) examined a range of historical texts to explore the construction of colonial discourse in South Africa during the mid-nineteenth century. He examined a South African journal called the *Graham's Town Journal* through the 1840s and various texts written by key political and social commentators to cast light on the practices of colonial discourse in this time. Other than relying solely on textual material, postcolonial research methods have also examined other forms such as photographs and maps. Phillips (2002) examines British imperial maps from the late nineteenth century in his analysis of contested regulation of sexuality under British colonialism. In particular, he uses colonial maps as a methodological device in plotting state licensed prostitution in various British colonies.

Therefore, documentary methods appear an appropriate choice of research method when researching the theme of colonialism within the context of this research. Uncovering any historical documents and maps related to colonial water governance in the Copperbelt helps to provide important information on how the urban water landscape was shaped by these early water policies. In turn, this will cast light on the spatial, material and discursive legacies of British colonialism and the extent to which these legacies continue to impact upon contemporary watsan provision (see Chapter Five for historical maps of Copperbelt watsan provision).

4.2.2. Institutional ethnography: unpacking development discourse and practice

In recent years, there has been a growing debate in postcolonial studies over the so-called ‘crisis of representation’ in reference to the way in which the developing world, including Africa, is represented in the West (Mercer et al, 2003; Bale and Cronin, 2003). This has prompted some to question certain research methodologies and how it leads to the stated crisis of representation. An example of this is drawn from Mbembe’s *On the Postcolony* (2001) in which he is especially scathing of the way African societies are understood and represented in western social theory and the western media. He argues there is a tendency for ‘off-the-cuff representations’ and ‘instant judgement’ which, in undermining the complexity of African society, leaves it represented as nothing more than ‘an incomparable monster, a silent shadow and mute place of darkness, amounting to no more than a lacuna’ (2001: 9). Moreover, Mbembe argues that whilst ‘we know nearly everything that African states, societies and economies *are not*, we still know absolutely nothing about *what they actually are*’ (2001: 9, emphasis in original).

A contributing factor for this crisis of representation is an abandonment of in-depth and careful ethnographic research methods as reflected in the corresponding decline in fieldwork (Mbembe, 2001: 7). Mbembe suggests a move to embrace more *ethnographic research methods* in order to depart from the standard prescriptive discourse of

economism which perpetuates the crisis of representation (2001: 9, emphasis added). Historically, ethnographic methodologies have been developed by anthropologists who immerse themselves in the field and collect data by interviewing and conducting participant observation (Wong, 2002). This often involves spending intensive periods of time in the field, living with the local people and learning about their ways of life. As Geertz (1983) famously wrote, ethnography is about seeing things ‘from the native’s point of view’. The overall aim of ethnography is thus to identify ‘patterns and variations in relationships and in the ways that members understand and respond to conditions and contingencies in the social setting’ (Emerson, Fretz and Shaw, 1995: 162).

Similarly, Escobar (1995: 48) argues for greater attention to local-level ethnographies that focus on development discourse and practices as opposed to research methods that emphasise less qualitative dynamics of development. He draws on the research of Stacy Leigh Pigg (1992) who, in carrying out ethnographic research on the impact of a western sponsored ‘health initiative’ in a village in Nepal, revealed a striking disconnect between World Bank policy and the attitudes of the local villagers. She found that the World Bank ‘health initiative’ had revolved around the idea of reducing the village birth rate. However, Leigh Pigg states her shock and surprise at this policy considering the joy and delight Nepalese find in children. She returned to the village and found that the pleasure in children was the thing that she noticed most and therefore was at staggering odds with the World Bank’s ‘health initiative’ policy. As she stressed:

‘...which goes only to show how pathetically narrow the World Bank’s vision is, if it can be a radically new idea to understand what happens at the local level...Thus I learnt something very important about the World Bank in Nepal. To work there you cannot set foot in the real Nepal. Literally. Being in the World Bank offices assumes you live in a house with running water and that you have a driver to take you from door to door’. (Stacy Leigh Pigg, 1992 *cited in*: Escobar, 1995)

Unlike Leigh Pigg's description of the World Bank in Nepal, ethnographic methods encourage a research approach which is more than just a 'package tour' into the lives of others (Raghuram and Madge, 2006). By looking to provoke a thoroughgoing dialogue with the 'researched', the research looks to speak to the problems of those who 'are researched' (Dreze, 2002). This is important when considering those calling for postcolonial studies to align with the material problems of the developing world as opposed to concentrating on more abstract and theoretical issues that have no immediate relevance to the everyday realities of people (Mercer et al, 2003). As a consequence, ethnographic methods have become an established part of postcolonial research (Raghuram and Madge, 2006).

Therefore, this research adopts the more traditional research techniques favoured by ethnographers such as participant observation and informal and formal conversations. As examined later, this method was applied in order to research the manifestations of neoliberal water governance at the newly formed Copperbelt commercial utilities (CU). This type of ethnography is also known as an institutional ethnography, and as Escobar argues, by turning the institution itself into the object of the ethnography, the researcher can move from the textual and work practices of the institution to the effects of those practices (1995: 107). Thus, an institutional ethnography seems a useful way to unpack the discourse and practice of the neoliberal inspired water reforms on the provision of watsan in the Copperbelt rather than apply methods that rely on instant judgement and impulsive representations.

Institutional ethnography is also highly appropriate when examining the theme of power in the study of development. As illustrated by the literature demonstrating the application of ethnographic methodologies in the study of development (Ferguson, 1990, 1998; Escobar, 1995; Mohan, 1999), ethnography provides a means in which to problematise power at multiple levels, from the inter-personal to the global (Raghuram and Madge, 2006). In particular, Escobar (1995: 107) highlights the uses of institutional ethnography in exploring the types of knowledge and forms of power in development. Institutional ethnographies thus present an opportunity to scrutinize the specific practices and actions

through which international lending agencies and Third World governments carry out ‘development’ (Escobar, 1995: 107). Once again, this type of research method appears useful when examining the power dynamics in and between different actors and institutions in the Zambian water sector.

4.2.3. Key actor interviews: examining issues of power amongst elite

Whereas ethnographic research methods have only recently been identified as an established part of postcolonial methodology (Raghuram and Madge, 2006), interviews are a relatively common research methodological tool applied by human and development geographers alike. Defined as ‘a conversation with a purpose’ (Eyles, 1988), interviews are a sensitive and people-orientated approach that allow interviewees to construct their own accounts of their experience by describing and explaining their lives in their own words (Valentine, 1997). The material generated in this way is rich, detailed and multi-layered and allows an insight into people’s opinions and attitudes towards particular issues (Burgess, 1984).

Importantly, interviews are a useful method in unpacking issues of power and governance – two themes central to the postcolonial approach of this research. There is a strong body of literature in the discipline of geography that examines the methodological tool of interviewing to examine the issues of power, especially in relation to researching institutional elite (McDowell, 1998; Cochrane, 1998; Shurmer-Smith, 1998; Hughes, 2000). For example, McDowell (1998) interviewed elites in the City of London in order to examine issues of gender discrimination in the work place. She found interviewing advantageous in teasing out the gendered power relations in a number of powerful city institutions. Equally, Cochrane (1998) carried out a series of interviews to examine the manifestation of power in a study of local political elite. Therefore, interviewing key water sector actors appears a useful methodological tool when exploring power relations in the Copperbelt watsan development.

4.2.4. Social survey and focus groups: capturing the voice of the subaltern

Drawing inspiration from feminist approaches which recognize the voice of the subaltern as a crucial methodological priority, this research lends itself to methods that 'make visible' marginalised groups. As discussed earlier in Chapter Two, a major issue with regard to watsan provision in the developing societies is the considerable role played by the subaltern, particularly women, children and more broadly, the urban poor. However, their voices are often not heard in the story of watsan development discourse and therefore, given the central function of the subaltern in this research, it is critical to apply and implement methods that capture the voice of the subaltern.

Two methods useful in capturing the voice of the subaltern applied in this research are social surveys and focus groups. Social surveys are a valuable methodological tool in extracting specific information from a sample of people when there is face-to-face access to people but only a limited interaction possible (Cloke et al., 2004: 132). A vital part of the social survey is the questionnaire which is defined as:

'...an instrument of data construction comprising a carefully structured and ordered set of questions designed to obtain the needed information without either ambiguity or bias. Every respondent answers the same questions, asked in the same way and in the same sequence'. (Johnston, 2000: 668) (see Appendix B for research questionnaire)

This method is particularly practical in a developing country context where there is minimal public information on specific issues such as the quality of watsan services. Although social surveys have become part of the standard baggage of human geography researchers, and indeed development geographers, combining this method with different data constructions are positively advocated (Cloke et al., 2004: 130). Indeed, focus groups are useful in triangulating data collected from the social survey by exploring in more detail and unpacked further as directed by the moderator. Furthermore, Burgess (1996) describes how focus groups are especially advantageous in enabling people to

share and discuss their views and feelings on a particular subject when available field work time is short. This is particularly pertinent given the time constraints in the field as explored later in the chapter (section 4.3.4). The data collected from the social surveys and focus groups is discussed in Chapter Seven.

4.2.5. Water quality methods

A final theoretical issue in relation to the methodology relates to the water quality methods applied in the research. As introduced in Chapter One, the study attempts to cross the disciplinary divide between development geography and environmental engineering to offer a holistic and multi-dimensional approach to the research. This was attempted by combining methods common to development geography to examine the political, historical and social dimensions of watsan development alongside methods common to environmental engineering to examine the more technical dimensions of watsan development. As discussed in more detail later in the chapter, the environmental engineering methods applied in the research allowed an investigation of the water quality of alternative water sources commonly used in the poorest townships of the Copperbelt. The findings from the water quality study are discussed in relation to the broader impacts of water commercialisation in Chapter Seven.

An important theoretical point in relation to the interdisciplinarity relates to the connections between the different types of knowledge produced in this research. Rather than argue that the types of knowledge produced from the development geography methods and the environmental engineering methods have no connection, it is argued that the two are intertwined. This argument is best illustrated by Mitchell (2002) in his account of the malaria epidemic in Egypt in the 1940s. He emphasises the importance of acknowledging how central the technical expertise of engineers and technical agencies was to the politics of the epidemic. For Mitchell, the clues to why the epidemic took place are related to the interconnections between the technical knowledge and the political, and he argues for greater understanding of where these mix and overlap.

Equally, understanding watsan development in the Copperbelt – a highly technical and politicised issue – must thus be understood by acknowledging how the different types of knowledge are connected. Therefore, rather than separate the different kinds of knowledge produced in this research, connections have been drawn between them as discussed in Chapters Seven and Eight. This particular issue is reflected upon once again in the concluding chapter (Chapter Nine).

Lastly, it must also be noted that despite incorporating methods from different disciplines – development geography and environmental engineering – it is the former which is the dominant epistemology in this research. My broader interests in the politics of African development and postcolonial theory are the main drivers of the research and so, unsurprisingly, there is heavy emphasis throughout the chapter on development geography methods. The challenges, tensions and rewards of the interdisciplinary element of the research are discussed in more detail later in the chapter.

4.3. Into the Copperbelt: beginning the fieldwork and researcher positionality

After several months of preparation, I arrived in the Zambian Copperbelt in May 2004 to begin the first phase of two separate periods of fieldwork. On the whole, my experience of the fieldwork was a highly rewarding and enjoyable one and similar to accounts of doctoral research in the developing world (Jenkins, 2005), it was a continual learning experience from the first until the final day. My time in Zambia also uncovered my underlying naivety around some of the social issues in urban Africa and many aspects of the fieldwork proved humbling and at times, deeply uncomfortable. Indeed, on numerous occasions the harsh realities of township life put into perspective my temporary existence in the Copperbelt.

Adjusting to Copperbelt life was unquestionably one of the most fundamental challenges of the fieldwork. In particular, communication via electronic technology (telephone and e-mail) was often unreliable and consequently, I spent a considerable amount of time

travelling on public transport to forge links with the relevant actors and institutions in the Copperbelt and Lusaka. In this way, I learnt very quickly the practicalities involved in moving around the country and, importantly, I established research links with many of these organisations in a relatively short period of time. Given the protracted nature of certain aspects of Zambian bureaucracy, by having a more face-to-face interaction with these organisations than one based over the telephone or e-mail, I was able to fashion a personal and speedy rapport which would prove advantageous to me throughout the research dialogue. By learning a number of greetings and basic phrases in the local language of the Copperbelt³², I was also able to break down some initial cultural barriers and this assisted me in my desire to create a genuine rapport with the actors and institutions. Despite some occasional impediments to the fieldwork process and moments of brief frustration, once underway there was never any point where it appeared as though the research would be seriously compromised. As a result, I left Zambia relatively satisfied that I had accomplished most of which I had set out to do³³.

4.3.1. Initiating a research dialogue

As intimated above, I organised two separate phases of fieldwork; a shorter trip for three months from May 2004 and a longer second trip for seven months from April 2005. Following in the vein of other ethnographies that demonstrate the benefits of making more than one trip into the field (Punch, 2001; Dowler, 2001) I found two separate periods of fieldwork very beneficial to the research as a whole. In the first trip I was able to use the time to learn as much as possible about generic urban watsan issues, to

³² There are approximately 75 different languages in Zambia, although English is spoken and understood throughout the country. I decided to learn some basic phrases in the language of Bemba which is the language predominantly spoken in the Copperbelt and is probably the most widely spoken language in the country after English. I took some lessons in Bemba before leaving the UK in order to help improve my uptake of the language once I arrived in Zambia.

³³ Whilst I must take some credit for driving forward this ambitious research agenda, I wish to acknowledge the way in which the Zambian people responded to my fieldwork. From the hundreds of water consumers questioned by me and my three research assistants in the townships to the numerous water elites, water managers and staff, virtually all were happy to give up their time and expected nothing in return. Indeed, this level of cooperation may not have occurred in another part of the world (both developed and developing) and thus is testament to the generosity and hospitality of the Zambian people. Therefore, this is more than a simple acknowledgement of the Zambians, but recognition of the important part they played in the attainment of my fieldwork goals.

establish important contacts in the water sector and to experiment with a number of different methods. In this way, the first trip resembled elements of a pilot-study as I tested out a number of research methods such as interviewing of elites and a small social survey of consumer opinions in a township. This not only gave me an indication of the challenges involved in applying these methods, but allowed me to think through the fundamental aspects of the research question. Furthermore, in line with Raghuram and Madge's (2006: 275) argument in relation to the framing of a postcolonial method as stated earlier in the chapter, by gaining an understanding of the local watsan issues I was able to construct a research question with appropriate corresponding methods that reflected the issues of material relevance in the field.

In terms of establishing links with the relevant institutions, during the first trip I was able to make contact with the four commercial water companies (referred to as commercial utilities [CUs]) in the Copperbelt and to forge a key contact at the local university, the Copperbelt University. In turn, this led to a 'snowballing' effect whereby I was directed, and on various occasions introduced, to other actors in the sector. This included the Ministry for Local Government and Housing (MLGH), the World Bank, the water regulator (NWASCO) and the German Development Agency (GTZ). The preliminary introductions with these organisations allowed me to initiate a research dialogue and, crucially, I was then able to instigate an approximate timetable for more formal style interviewing in the following year. Undoubtedly the creation of an initial rapport and research dialogue in the first trip contributed towards the ease in which the fieldwork took place in the second trip.

4.3.2. Being 'an outsider' and 'looking in': positionality and power relations in the field

This next section deals explicitly with an issue that has become a popular point of enquiry and debate for development geographers and the social sciences as a whole; namely, the issue of researcher postionality. Since the early 1990s there has been a drive

for qualitative researchers to reflect upon their own position in the process of doing research, leading to calls for researchers to 'write themselves into the research' (Rose, 1997). In this way, researchers look to acknowledge how the research is shaped by their actions and values (England, 1994) and to recognize how these are part of the construction of knowledge (Dwyer and Limb, 2001)³⁴. Skelton (2001) highlights the importance of acknowledging positionality in an account of her fieldwork experience in the Caribbean island of Montserrat. She argues how her whiteness influenced the way in which the research respondents viewed and responded to her, which ultimately had a considerable impact upon her research findings. Similarly, drawing on ethnographic research of mental-health institutions in Nottingham from the 1990s, Parr (2001) demonstrates the importance of reflecting upon positionality and knowledge production both during and after fieldwork. She argues that these reflections contribute greatly to our understandings of marginality and vulnerability, and of the complicated ways in which they are experienced and articulated in everyday social life (Parr, 2001: 192).

More recently, postcolonial critiques have entered debates over positionality and the production of knowledge (Crang, 1992; Keith, 1992). Given postcolonialism's concern with capturing the voice of the subaltern (Spivak, 1988), questions have been raised over the ways in which to produce knowledge of the subaltern and how best to represent these knowledges. For example, Raghuram and Madge (2006) explore how a postcolonial method allows us to reflect upon how we construct our research questions. In particular, they argue for greater engagement in the 'politics' behind the process of producing fieldwork questions in order to create questions that better reflect the needs of the recipients of the research. Incorporating this type of approach 'gives us a much more thoroughgoing notion of positionality, which is required if we are to address as well as redress the current limitations in how we think and write about issues of development and the 'global south' (Raghuram and Madge, 2006: 271). Therefore, given the postcolonial

³⁴ While there has been much discussion over the way in which researchers can be reflexive, there are also those that argue that we cannot be fully aware of our own self-positioning (Rose, 1997). Smith (2001) and Shurmer-Smith (2001) are also wary of the incorporation of too much self-reflection, arguing that it may make 'the final written text both exclusionary and self-justified or self-centred' (Dwyer and Limb, 2001: 9).

approach of this research, the following reflects upon my position as an ‘outsider’ in the Copperbelt and power relations in the research environment.

Britishness, whiteness and power relations

Reflecting upon the fieldwork as a whole, I attempted to maintain a politically neutral and independent stance throughout. By not associating myself too closely to anyone or any water related institution in Zambia and by not openly expressing my personal political opinions, I hoped the participants of my research would offer candid and open responses. For example, before every interview, social survey and focus group, I informed the participants of my research aims and my association with an overseas academic institution. Although I could never be sure to what extent this was understood by the participants of the research, I felt it was important to distance myself from the water institutions in Zambia before undertaking the methods.

As the fieldwork progressed I found that my position as an ‘outsider’ in the Copperbelt – a white, British citizen – had its advantages; I had very few prior assumptions in relation to the water sector, institutions, places or people and thus, naturally, I had no immediate prejudice. Indeed, a Zambian student carrying out a water related research project emphasised the challenges in maintaining an objective position throughout her own fieldwork. She argued that growing up on the Copperbelt and experiencing the problems and issues of the local water sector first hand led her to develop certain prejudices in her research. She acknowledged how certain colonial legacies were not always obvious to her because of the embedded nature of these legacies in Zambian society. She gave the example of the term ‘second class’, a legacy of British colonialism referring to the urban areas inhabited by ‘native Africans’ in the copper towns, admitting that she had never questioned this because she had been brought up using this term. However, having British origins, I was aware of the more obvious colonial influences in the Copperbelt such as the European style architecture, the British style watsan technologies and some of the British terms used in everyday language. The Zambian student felt that despite my lack of ‘insider’ knowledge, being an ‘outsider’, particularly a British ‘outsider’, allowed

for a fresh and relatively untainted perspective of the issues in the water sector but also one that could quickly identify the British influences, important in a study with a focus towards the colonial legacies in the Copperbelt water sector³⁵.

When reflecting on previous research carried out by white Europeans in non-white environments (Shurmer-Smith, 1998; Skelton, 2001), an important aspect to recognise is the role played by the researcher's racial identity in the fieldwork. On a daily basis I was reminded of my whiteness and, in the vast majority of cases, in a friendly and non-confrontational way³⁶. However, drawing parallels with Shurmer-Smith's (1998) experience of fieldwork in the Indian Administration Service in northern India, I argue that my whiteness carried with it a certain degree of power which, in turn, contributed towards the ease in which I implemented aspects of the fieldwork. Unlike the aforementioned Zambian student who found many people suspicious of her research and unwilling to help³⁷, I found most people – from ordinary citizens in the townships to the key water actors in the capital city – flattered that a 'white' person was interested in investigating the country's water issues and, therefore, more than happy to assist me. As well as a reflection of the generosity of Zambian people and the recognition for the need for water related research, I believe this also demonstrates the power of my whiteness. Given the considerable presence of western donors in Zambia and the fact that the majority are from 'white' countries – Germany, UK, Denmark, Norway and Canada – I gained the impression I was perceived as *another* 'white expert' with a corresponding influence to bring about improvements in the water sector. Furthermore, it appeared that many of the key water actors seemed to feel that I would bring international attention to the problems in the Zambian water sector and, with it, potential funding and research opportunities. Therefore, while acknowledging the generosity of the majority of the research respondents, I believe my whiteness carried a certain underlying power which contributed towards the ease in which the fieldwork took place.

³⁵ Interview with Paxina Chileshe (January 2004).

³⁶ The Bemba for white person is 'muzungu' and this is the term I was referred to by people, mostly children, whilst I moved in and around the townships.

³⁷ The suspicion toward the Zambian female student by Zambian people is hard to explain but is possibly related to jealousy and a general suspicion towards women working in roles more traditionally taken up by men (interview with Paxina Chileshe, January 2004).

In contrast to the above, I also recognise the associated problems and pitfalls of my racial identity. On a number of occasions I was wary of the assumed power I held as a white European researcher and how this impacted upon the respondents of my research. In particular, I sensed certain issues were occasionally exaggerated or overstated in order to bring specific hardships to my attention. For example, CU staff would frequently complain of their own specific working conditions and ask me to influence the management in their favour. Similarly, during the social survey and focus groups, I was wary that some respondents overstated how poor their watsan conditions were in the hope I would use my influence to bring about an improvement. In the case of the social survey, I attempted to validate responses by viewing respondent water supply and toilet facilities. In addition, I must also acknowledge that some respondents, particularly during the social survey and focus groups, may have felt intimidated or threatened by the process of being questioned; indeed, my questioning during the social survey and focus groups appeared to be the first interaction for many of the respondents with a white person. As a consequence, they may have felt pressured to give answers that they felt I needed to hear rather than ones that accurately reflected the reality. Although I can never be sure this did not happen, I approached the questioning in the most unthreatening and approachable way in order to encourage open and candid responses.

Finally, my positionality was complicated further by my association with a World Bank employee. As stated in Chapter Five, my knowledge of the Copperbelt water sector is reliant on the research of Mrs. Barbara Kazimbaya-Senkwe, a former student at Newcastle University. Before completing her research, I made contact with Mrs. Kazimbaya-Senkwe about my research ambitions and she initiated my stay with her family in the Copperbelt. On arrival for my second period of fieldwork, Mrs. Kazimbaya-Senkwe had not long taken up a position at the World Bank's water and sanitation department in Lusaka. This added a complication to my position as a researcher because I was wary how certain water actors may respond if they knew of my association with such a powerful organisation. Therefore, I was careful not to mention my association with

Mrs. Kazimbaya-Senkwe during interviews, and I refrained from discussing my own research findings with her.

4.4. Confronting the practical challenges of multiple methods

This next section considers some of the practical challenges involved in implementing the multiple research methods as discussed earlier in the chapter. It discusses some of the noted strengths and weakness of the chosen methods as well as considering how I began to resolve any encountered problems that arose. This section also explores some of the methodological compromises made whilst out in the field, especially in relation to interviewing, which serves to demonstrate how research is rarely a straightforward linear process but in fact is a far more ‘messy affair’ (James, 1998). It is also worth noting at this point that whereas the following methods are presented in five separate sections, the reality was far more inter-related and overlapping. Drawing parallels with Punch’s (2001) use of a combination of informal and formal interviews and participant observation common to ethnography, multiple methods allows the researcher to clarify and corroborate new knowledges which, in turn, helps to provide a rich and meaningful understanding of the research environment.

4.4.1. Documentary methods

As discussed earlier, the theme of colonialism provides a useful analytical lens in which to unpack the material and discursive legacies of British colonial rule upon the urban water landscape in the Copperbelt. Consistent with other geographical studies of colonialism (Bell, 2002; Robinson, 2002; Lester, 2002), I decided to use documentary methods in order to examine the impact of colonialism. Assuming there was very limited expertise on the history of the Copperbelt’s water sector in the UK, I explored the possibility of uncovering any relevant historical texts and documents in Zambia. A very useful source was the doctoral research of a fellow postgraduate at Newcastle University who was examining the history of the Copperbelt’s water sector (Kazimbaya-Senkwe,

2005). Once completed, this research became a valuable source of information and, consequently, I have made explicit reference to my reliance on these findings in Chapter Five.

Whilst the doctoral research was a useful resource, there was limited information provided on the specifics of the watsan geographies, both before and after Zambian independence. One of my aims was to construct a series of maps that would depict the way in which the watsan geographies in the Copperbelt have developed since colonialism, and the aforementioned doctoral research by itself was not sufficient. Therefore, I decided to research the information held by the CUs on the history of the watsan development in the respective towns and, as a result of these investigations, I managed to collect enough information to be able to concentrate on the watsan history of the town of Kitwe.

When I returned to the UK after my fieldwork, I met with a current Newcastle University lecturer who was a former town planner in the Copperbelt town of Kitwe during the early to mid-1970s. I questioned him on the specific technical variations in watsan provision between African and European townships during this decade, i.e. which townships had access to water in their homes as compared to using communal facilities and whether planning initiatives had any effect on the quality of services for new and existing urban developments. He was also able to provide me with documents and a number of academic papers containing information on the geography and history of watsan development in Kitwe (Tipple, 1981; National Housing Authority, 1980). Consequently, a combination of this material and data collected in Zambia provided me with sufficient information to construct the historical maps of watsan development in Kitwe (see Figure 5.5 in Chapter Five).

However, as with any research method relying on historical data, there are certain limitations. As Scott (1990) argues, the authenticity, credibility, representativeness and meaning need to be recognised with every document examined for research purposes. In terms of the aforementioned doctoral research, I was careful to examine how the data was

collected and question the credibility of the sources. The majority of the cited material was sourced to the National Museum in Lusaka (Zambia) and the National Archives at Kew (London) and thus are presumed as credible sources.

4.4.2. Interviews with key water actors

Once in the field, I chose to carry out semi-structured interviews in English with a number of key actors in the Zambian water sector. The interviews provided an insight into the power relations between the various state and non-state actors as well as an indication of how the water commercialisation policy had impacted upon the overall governance of the sector. As opposed to the detailed insight into the day-to-day operations of the CUs through the institutional ethnographies (examined later), the interviews were an important methodological device in casting light on the broader politics of water reform in Zambia as a whole. These actors included officials in the government department overseeing urban water and sanitation policy (Department for Infrastructure and Services in the Ministry for Local Government and Housing), the water regulator (NWASCO³⁸), the World Bank and the German development agency (GTZ).

³⁸ NWASCO – National Water and Sanitation Council.

Table 4.2: List of key actors interviewed over the periods of fieldwork in 2004 and 2005

Key actors interviewed	Number of interviews	
	2004	2005
Mulonga Water and Sewerage Company (MWSC)	1	3
Kitwe Water and Sewerage Company (KWSC)	1	2
Nkana Water and Sewerage Company (NWSC)	1	2
Asset Holding Company – Mining and Municipal Services (AHC-MMS)	0	2
Department for Infrastructure and Services – Ministry of Local Government and Housing (MLGH)	3	5
World Bank - Water and Sanitation Program	0	1
German Development Agency (GTZ)	1	1
Water regulator (NWASCO)	1	2
Danish Development Agency	1	0
Japanese Development Agency	1	0
Lusaka Water and Sewerage Company	1	1
Total number of interviews	11	19

Whilst I tended to direct questions to CU staff on the specifics of the day-to-day operations (see 4.3.3 ‘Institutional Ethnographies’ for more details), I chose the interviews with the national/international water sector actors (MLGH, the regulator, the World Bank and other development agencies) to explore the broader implications of water commercialisation. As well as questioning whether the water reforms were a success, I asked what commercialisation meant in relation to the future of the sector and whether it was a precursor to further reform. I also questioned who the key drivers of water policy were in the Zambian water sector. In drawing connections between commercialisation in the Copperbelt and examples of neoliberal water policy in Africa, I looked to better understand how key water sector actors perceived the relative importance (or not) of current water policy in Zambia and the potential adoption of further neoliberal inspired water policies. Although these interviews added greater depth to my

understanding of Zambian water politics, these questions were not always received in a positive manner as elaborated below.

Facing up to political sensitivity and methodological compromise

Undertaking the interviews introduced me to some of the underlying political sensitivities towards recent water reforms in Zambia, especially in relation to the adoption of the commercialisation water policy³⁹. A number of the interviewees were defensive over the issue of water commercialisation and appeared wary of overly critical opinions for fear of providing information that may harm the government⁴⁰. As a consequence, I experienced a degree of suspicion and hostility towards my research which had a resulting impact upon the quality of discussion in the interview. Therefore, the following examines an important methodological compromise undertaken in order to try and improve the rapport between myself and the interviewees.

Equipped with pen, paper, research questions and, crucially, a tape-recorder, I arrived at my first interview in May 2004 with limited prior experience of this research method. I decided to follow the normal code of practice for semi-structured interviews by recording the interview on tape (Payne and Payne, 2004). Having briefed the interviewee over the questions to be covered, I asked if it was possible to record the interview on my tape-recorder. The interviewee quickly denied this request adding that if I chose to record the interview anyway, “the tape would be removed and destroyed”. This immediately set a very negative and partially hostile tone to the interview and ultimately had a detrimental impact on my relationship with the respondent and the quality of the discussion. Not

³⁹ In 2004 and 2005, the Zambian government received considerable public criticism over the implementation of various World Bank and IMF ‘conditionalities’. During this period there was general public opposition towards the policy of privatisation which was implemented in many sectors including mining, transport, finance and various public services. Critics were especially scathing of the policy to privatise the copper mines, especially after the foreign owned mining firms made lucrative profits after the price of copper rose in 2004 (Wina, 2005). Similarly, as discussed in Chapter Six, water commercialisation was seen as a prerequisite to water privatisation and so, under the illusion that privatisation was a bad policy option for Zambia as a whole, there was a general negative feeling amongst the public and media towards this policy.

⁴⁰ I decided to remove the names of interviewees from the thesis in order to protect the identities of those concerned.

wanting to repeat this fractious rapport in any later interviews, I made the decision to abandon the use of the tape recorder and, instead, I chose to write down the main points as the interview progressed.

Although a considerable methodological compromise, I recognised the importance of a relaxed atmosphere between myself and the interviewees. Indeed, the majority of the remaining interviews were carried out in a friendly and relaxed manner without the tape-recorder and led to far more productive and candid discussions than the first interview. After every interview I would seek a quiet place (for example a corridor, a waiting room, cafe) to write out the points of discussion before I later wrote out these points from my notes in full. On reflection, this proved a very productive way of deciphering and engaging with the main points whilst the interview was still fresh in my memory. As acknowledged by Loffland and Loffland (1984), writing up of interviews is an important first step in analysing the main ideas and concepts and bringing together the key arguments. Thus, choosing to write down the points raised from the interview immediately rather than to wait until a later date to transcribe the recorded interview was certainly beneficial to working through the main points whilst still in the field. Conversely, the major drawback was that I did not have the interview on record and this was problematic when quoting directly from the interview or reminding myself of the specific details of the discussions.

The point here is that methodological compromise was deemed necessary in order to create an appropriate rapport between myself and the interviewee. As Dowler (2001) found in relation to interviewing methods in politically sensitive areas of Belfast in the mid-1990s, adapting to the local environment by making methodological compromise is an important part of the research experience. Likewise, in order to adapt to the political sensitivities surrounding the water reforms in Zambia, I abandoned the recording of interviews on tape which, I argue, was to the benefit of the discussions within the interview and the research as a whole.

4.4.3. *Institutional ethnographies*

Whilst casting light on the broader power and governance regimes in the Zambian sector, the key actor interviews provided only a partial insight into the impact of the commercial water reforms on Copperbelt watsan provision. To overcome this limited perspective, I chose to carry out an institutional ethnography at each of the four Copperbelt CUs. The institutional ethnography involved a range of qualitative research methods such as participant observation and informal conversations, as well as more formal semi-structured interviews with CU employees. By applying these types of method, I gained a unique insight into the day-to-day operations of the CUs which, in turn, allowed me to investigate the impact of the water reforms on the overall governance of the Copperbelt water sector.

I decided to carry out an institutional ethnography at each of the four Copperbelt CUs for one principal reason: due to the very specific watsan conditions faced in each copper town, concentrating on the operation of one CU would not accurately reflect the wider problems of watsan provision across the Copperbelt as a whole. However, due to time restraints in the field, it was not possible to spend an equal amount of time at each CU. Instead, I made the decision to give greater focus to the towns of Kitwe and Chingola which meant concentrating my time and energies at the two CUs operating in these towns. As a consequence, I spent approximately 8 weeks at the first CU, 5 weeks at second CU and two weeks at the third. I did visit the fourth CU, although I only spent a week here. This information is displayed in Table 4.3 below:

Table 4.3: Number of weeks carrying out institutional ethnography in the Copperbelt commercial utilities (CUs)

Commercial Utility (CU)	No. of weeks of institutional ethnography
1	8
2	5
3	2
4	1

At each of the four CUs there was a relatively uniform pattern to the ethnography. The first phase of the ethnography had a very formal manner as I undertook a number of semi-structured interviews with the high-level management including the managing director, financial manager, commercial manager, and the water and sewerage operations manager. As with the semi-structured interviews, all interviews with CU employees and later conversations were carried out in English. Whilst I did give some indication that I wished to be temporarily based in the CUs to observe operations and to have more informal discussions with employees, my point of contact (usually a technical manager below the managing director) was keen to set up interviews with the management. These interviews were helpful in setting the scene, not only in terms of providing me with information on the specific conditions faced by the CU but also in building a sound rapport with the managers.

Regarding the line of questioning during initial interviews, I pressed the managers and high level staff on what a commercial water utility constituted and how this differed, if at all, with the previous water governance regime. I wanted to know which areas of the business were most important to the economic survival of the water utilities, how this translated in terms of the day-to-day operations and whether there were any major compromises made. Importantly, the findings from these interviews could be then further explored in the next stage of the methodology.

The second phase of the ethnography took a far more informal and unplanned approach and, as acknowledged by Gilchrist (1992: 74), the pattern of learning took three main forms: observing, discussing and reflecting. Each CU provided me with a desk and, depending on its location within the office, I took the opportunity to observe the social interaction of employees in order to examine aspects of the day-to-day operations. This type of ethnographic method is more commonly known as 'participant observation'. Whilst at my desk or moving around the office, I also initiated more informal conversations with various members of staff including those who I had interviewed in the first phase of the ethnography. These informal conversations often provided more candid discussion as respondents appeared more relaxed as compared with the formal setting of

an interview. Moreover, these conversations would often take place in less formal settings such as corridors, in coffee rooms or even in vehicles whilst travelling in the field. When not involved in any discussions or interviews, I made use of 'quiet' times by writing out the important points from any discussion or observation. Similar to my experience of the semi-structured interviews as described earlier, it was during these moments of reflection that I began to organise the ideas, concepts and arguments from the research.

In this second stage of the ethnography, I looked to understand how the individual departments within the commercial utilities operated and what this meant for a commercial watsan service. On the whole, each CU had four main departments: human resources, commercial, technical and financial. I usually spent a couple of days, depending on how long I had at the CU, shadowing a member of staff in each department as he/she went about their daily tasks. Whilst observing I would raise questions as to what a typical day would involve in that particular department and crucially, how operations differed compared with the previous governance regime. I also questioned what the main challenges were for that department as well as the challenges for the utility as a whole. Because I usually spent time with more than one member of staff in each department, I could corroborate my findings later in the ethnography.

As intimated above, I made a number of planned and some unplanned trips into the field during my time with the CUs. On these trips I requested visits to see the various technical aspects of watsan operations including the water treatment works, the sewage treatment facilities, as well as pumping stations, and some major water distribution pipes. In addition to experiencing the practical delivery of watsan operations first hand, these trips provided the opportunity to speak with the engineers and technical staff involved in this side of operations. Interestingly, these employees spoke very openly with me about the dilemmas and problems of their operations and how the water reforms had impacted upon the technical aspects of watsan operations. It appeared that the geographical location of these technical facilities – often many miles from the CU office – allowed employees to speak openly. I also undertook a number of trips into the townships whilst accompanied

by a CU employee. These trips introduced me to some of the problems of township watsan provision from the perspective of the CU. I would later take further visits into the field as part of my social survey methods (see below).

In terms of the major strength of this type of methodology, the 'inside' nature of my position at the CUs provided me with a unique insight into the day-to-day watsan operations. Unlike the semi-structured interviews carried out in the first phase of the ethnography, the second phase provided more prolonged, systematic, first hand and direct encounters (Payne and Payne, 2004) which opened up avenues of experience not possible had I made a fleeting visit to the CUs. Drawing parallels with Dowler's experience of participant observation in a community in Northern Ireland (2001), my close social interactions with the employees, both in the office and in the field, ensured that I did not just skim the surface but dug deeper in investigating how the policy reforms affected their overall ability to provide watsan services. By endeavouring to behave in the same way as the general workforce, such as by arriving and leaving at the same time as everyone else and eating and drinking with the employees, I became a familiar figure in and around the CU offices and was perceived by some as a temporary member of the workforce⁴¹. As a consequence, this relatively close relationship with the employees offered opportunities for open and candid discussions about aspects of watsan operations important to my line of research.

The main drawback was the amount of time required to implement the ethnography. As compared with other qualitative methods, carrying out the ethnographies required several months of patient research in the field, especially in forming good and honest relationships with employees at the CUs. For this reason it was not possible to build up close relationships in the same way at each of the four CUs, and hence, I decided to concentrate my efforts at two CUs (as illustrated in Table 4.3). Another issue was the lack of a clear framework in performing the ethnographies. Although there are a number of written accounts of ethnography in practice (Limb and Dwyer, 2001; Parr, 2001:

⁴¹ I spoke with a number of the workforce at each of the CUs about their perceptions of me. In most instances, particularly at the CUs where I spent 8 weeks and 5 weeks, workers saw me more as a temporary member of staff than as a foreign guest or researcher.

Punch, 2001) and resources advising research students on the best ways to perform such methods (Crang, 2001; Payne and Payne, 2004), there was limited preparation I could have done before undergoing the method. Understandably, I am sympathetic towards the conventional wisdom of the 1980s, ‘ethnography can not be taught; expertise is only acquired by doing it’ (Payne and Payne, 2004).

4.4.4. Social survey and focus groups

As outlined earlier, the theme of the subaltern – referring specifically to the Copperbelt’s urban poor – is one of the principal theoretical points of departure for this research. The previously discussed research methods have offered only a partial glimpse into the watsan issues of the urban poor, focusing instead on the means to examine the power and governance regimes in the water sector. Therefore, the following discusses the social survey and focus groups implemented in order to examine how the commercial water reforms have impacted upon watsan provision in the townships with a particular focus on the Copperbelt’s urban poor.

Whilst my first intention was to live in a Copperbelt township in the style of ethnographic research, I was advised against such a method on grounds of the risk to personal safety. Instead, I chose to carry out two method types: a social survey followed by a series of focus groups. In this way information was collected on a range of watsan related topics in the survey before I addressed more specific issues in the focus groups. Consistent with the geographical scope of the institutional ethnographies as discussed earlier, I decided to focus the social survey in the towns of Kitwe and Chingola. This helped to prevent skewed survey results towards one town with its specific watsan related problems. Although not statistically representative of the two towns or even the Copperbelt, I believe the survey provided me with enough rich qualitative data to reflect how the water reforms had impacted upon watsan conditions in the respective townships.

In order to frame the questions for the survey I undertook a number of accompanied field visits into various townships in one of the copper towns. With the assistance of a local person who acted as an interpreter, I was able to gauge some idea of the general watsan issues faced by people in the townships. These initial findings were then discussed with a contact at the local university who had offered to assist me in my research⁴². By discussing my findings with someone who had an understanding of Copperbelt watsan issues, I was able to frame appropriate survey questions (see Appendix B for a sample of the survey questionnaire). As acknowledged by Fowler (1988: 100), having a reasonable amount of background knowledge followed by discussions with local people is important in setting relevant survey questions that contain the appropriate vocabulary and phraseology. My university contact also selected three field assistants – female undergraduates at the university – whom I employed to assist me in the implementation of the survey. These three female students had previous experience in survey work in the Copperbelt townships and thus I considered suitable as field assistants.

Over a period of four weeks the three field assistants and I travelled to a number of mining and non-mining townships in the towns of Kitwe and Chingola. As illustrated in Appendix B, 323 surveys were carried out across 14 townships in the two towns. Depending on factors such as the time available, the perceived risks in the township and the amount of people willing to respond to the survey, the field assistants and I looked to engage with a responsible adult in their own homes. Interacting with people in their homes also provided the opportunity to view the respondent's own watsan facilities which was critical in validating some of the survey responses. On the whole, I would survey those that could speak English whilst the three field assistants concentrated on those who spoke only Bemba. By employing the three field assistants I was able to cover a far larger sample of people and, importantly, the survey could reach the urban poor, many of who did not speak English. Figure 4.1 below shows one of the field assistants engaging with a number of women and children in their front yard.

⁴² My main contact at the CBU was a lecturer called Dr. Kenneth Maseka. I met with him on numerous occasions over the two trips to discuss my fieldwork and general research ideas.



Figure 4.1: A field assistant (on a chair on left side of picture) and women and children during the social survey

Source: Author's photograph

Employing female field assistants had certain advantages with regards to the quality of the discussion with respondents. During the survey it was more common to find women at home, especially in the poorer townships. The field assistants said that they found it easier to relate with the women respondents and this often contributed towards a more open and honest discussion. Furthermore, due to my concerns over the validity of the survey, I tried to spend an equal amount of time with each field assistant as they carried out the survey. This provided me with an insight into how each of the assistants operated and thus I could direct them on certain issues if necessary. I also initiated group discussions between the field assistants in order to highlight any particular points of interest from the survey. I recorded the discussions on tape and these became useful later in the write-up phase in triggering my memory with regards to certain issues in specific townships.

After initial analysis of the survey findings, eight focus groups were planned and carried out in the town of Chingola. Each individual focus group was made up of people from the same area of the town, though not necessarily the same township, in order to follow up

certain interesting topics raised in the survey. In one focus group I drew on residents from a particularly poor township who had experienced increasing water poverty in recent years. I questioned why there was a lack of water in their township to better understand the implications of recent water policy reforms as well as to cast light on the experiences and perceptions of the residents. In another focus group, I questioned people who had experienced considerable improvements in their watsan service. I was particularly interested to know in what way their service had improved and why these residents were so content with the outcomes of recent water policy reform. In all, these focus groups provided greater depth to my overall understanding of the spatialized impact of water commercialisation.

The focus groups were held in locations where I felt the respondents would feel comfortable to talk openly, such as at medical clinics and individuals' homes. Due to logistical reasons, three focus groups were held at the CU central office, although I was wary that the respondents did not feel entirely relaxed whilst in the premises of their own watsan provider. In addition, before each discussion I stressed the voluntary nature of the group's participation and requested their consent for the recording of the discussion on tape. As with the other methods involved, I have maintained the respondents' anonymity throughout by removing their names from my reporting. I also briefed the groups on the nature of my research and how the data would form part of my own personal research project. However, I could never be sure to what extent the respondents understood my research or its academic output.

Undertaking the survey and the focus groups produced some of the most challenging aspects of the entire research and served to underline my naiveties with regards to qualitative research methods. In particular, implementing the methods exposed some of the ethical dilemmas involved in carrying out these methods and on occasions led me to question my own research strategies. For example, one of the fundamental problems was motivating people to attend the planned focus groups. On two separate occasions focus groups did not go ahead due to a poor turn out. On the next occasion, I offered free refreshments and the turn out was far better. However, was this correct in terms of the

ethics of the research? Were people genuinely concerned with their water or were they just telling me what they thought I wanted to hear in order to obtain free Coca-cola and biscuits? On the whole, I believe the majority of people were genuine and wanted to attend in order to tell a truthful and balanced story but it did not stop me questioning my own research ethics and the motivations of the people concerned. Furthermore, I was able to cross reference specific findings from the focus groups with responses from the social survey which demonstrates the useful way in which multiple methods can confirm (or not) findings from different methods.

4.4.5. Water quality methods

The final method relates to the interdisciplinary element of the research. As discussed earlier, this research attempts to cross the disciplinary divide between development geography and environmental engineering/science. By approaching the research question from an interdisciplinary perspective, I endeavour to bring a holistic and multi-dimensional approach to the study of water commercialisation in the Copperbelt. Whilst the previous methods are orientated towards the investigation of historical, political and social dimensions of Copperbelt water reforms, the following method applies the skills and perspective from the discipline of environmental engineering to examine an environmental issue related to the impacts of water commercialisation.

In particular, I identified the quality of drinking water sources for the urban poor as an important environmental issue in relation to the theme of the subaltern. As discussed later in Chapter Six, one of the corresponding effects of commercialisation has been an increasing reliance on hand-dug wells as an alternative source to piped, potable water. Unlike the latter, water from hand-dug wells has no formal treatment other than basic measures (i.e. adding of chlorine) taken by the consumer, and yet there is limited knowledge on the quality of these water sources. This section examines the methods used to investigate the water quality of samples taken from a number of hand-dug wells in selected areas of the Copperbelt where these sources are regularly used.

The water quality study was carried out in four phases. The first phase of the water quality study involved a preliminary investigation of the extent of hand-dug wells in the townships of the Copperbelt. As intimated above, the social survey provided information on alternative water sources and thus I returned to the townships where I had an existing knowledge of the use of hand-dug wells. Furthermore, in anticipating poor groundwater quality as a consequence of eighty years of copper mining activity in the region⁴³, I identified a number of townships adjacent to the copper mines in the town of Chingola.

After locating the townships in which I would implement the study, the second phase involved a basic water quality analysis of the hand-dug wells. Equipped with a handheld ultra-meter⁴⁴ and accompanied by a local field assistant, I analysed the quality of the water from 45 hand-dug wells for the following standard water quality indicators: pH, Total Dissolved Solids (TDS) and temperature. A definition of pH and TDS and their significance in terms of water quality is provided in Table 4.4 below.

⁴³ Groundwater is the source of water for the hand-dug wells.

⁴⁴ A handheld ultra-meter provides quick and relatively accurate readings of basic water quality indicators and is a common tool for in-situ (i.e. in the field) water quality analysis. The ultra-meter required calibrating with acid and basic solutions at the beginning of the day before each use.

Table 4.4: Explanation and significance of pH and Total Dissolved Solids (TDS)

Water quality indicator	Definition of water quality indicator	Significance of water quality indicator in terms of water quality
pH	A measure of the hydrogen ion concentration in a solution and indicates whether the water is acidic (<pH5.5), alkaline (>pH8.5) or neutral (between pH 6.5 – 7.5).	The pH of the water determines its toxic effect and can indicate the presence of a potential pollutant. For example, very acidic solutions are harmful to human health and may indicate the presence of heavy metals.
Total Dissolved Solids (TDS)	A measure of the combined content of all dissolved inorganic and organic substances contained in a given water sample.	TDS indicates whether there is a high concentration of dissolved material in the water. High TDS levels may indicate the presence of potential pollutants such as ones originating from raw sewage discharge.

Source: Adapted from Younger (2007)

The third phase involved collecting two 50 millilitre (ml) samples from the hand-dug wells before storing in a cool storage container. For each hand-dug well, one of the water samples was applied with hydrochloric acid as means to prepare the sample for later analysis. Once the collection of the samples was complete, the final phase of the study involved several months of analysis at the environmental science laboratories at Newcastle University. After preparation of the water samples, a complex series of laboratory based experiments were implemented to investigate the presence of any potentially harmful substances. The samples applied with hydrochloric acid were analysed for a group of positively charged ions called *cations* which include metals such

as lead, copper and aluminium⁴⁵. The presence of metals in drinking water can be very harmful to human health and, therefore, an important parameter when analysing water for drinking purposes. The remaining samples were analysed for negatively charged ions called *anions* which include fluoride, nitrate and sulphate⁴⁶. In large concentrations the presence of anions can also be harmful to human health, such as in the case of high levels of nitrates in drinking water from agricultural fertilizers (for further information on cations and anions see Younger, 2007). Appendix C provides a full list of the cations and anions analysed and Appendix B provides more detailed information on the analytical techniques. The findings from the water quality study are discussed in Chapter Seven.

Finally, I intended to carry out a biological analysis of the water collected at the hand-dug wells. This would have allowed an examination of the bacteria content of the water samples and thus indicated the potential presence of faecal coliforms (i.e. e-coli) responsible for the spread of waterborne diseases such as cholera, diarrhoea and other water related illnesses. However, bacterial analysis has to take place within a relatively short time of the collection of water samples and with very specific laboratory equipment. After researching the possibility of such analysis at the Copperbelt University, I decided against it on the grounds that it was unrealistic given the basic laboratory facilities at the university.

4.5. Writing and representations of the fieldwork

As intimated earlier in the chapter, the writing and analysing process began in the field as I sought to write up interviews, transcribe recordings of the focus groups and elaborate field notes. This early phase of writing was important in drawing out connections between the different elements of the fieldwork as well as helping me develop the main arguments of the thesis. I also gained from the time spent back in the UK between the two periods of fieldwork where I could reflect upon the empirical findings in relation to

⁴⁵ The cations were analysed using an Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES).

⁴⁶ The anions were analysed using Dionex Ion Chromatography.

the literature. In turn, this contributed towards the development of my theoretical perspective. Furthermore, given my position as an advantaged, western researcher and the privileged access I gained to communities, institutions and individuals in Zambia, I also recognise the need to write in a responsible manner. As Ley and Moutz (2001: 235) argue, it is important to acknowledge that the story told by the researcher becomes part of a pool of shared knowledge which can itself influence the actions of privileged groups towards people in more marginal settings.

Unlike researcher 'package tours' (Raghuram and Madge, 2006: 273) where there is scant regard for the exchange of knowledge between researcher and recipients, I sought to actively engage with stakeholders in order to disseminate some of my initial findings. This involved two separate presentations: one held in the Copperbelt for the CUs and related stakeholders and the other at the annual general meeting of Zambia's principal water association, Water and Sanitation Zambia (WASAZA), held in Lusaka. This proved a useful exercise in gaining feedback as well as contemplating how I should present the fieldwork given the respective audiences. Indeed, it must be noted that my analysis of water commercialisation was not agreed upon by all and I was aware of the uneasy atmosphere created between myself and certain members of the audience. However, as Archer et al. (1983) argue, it is not the role of the researcher to simply regurgitate the words of the research respondents but to analyse, evaluate and form his/her own opinions whilst being wary of the sensitivities of such a task. Furthermore, it is important to me that as part of the dissemination of the research that I write a report of the major findings for the CUs, related stakeholders and the key actors. I intend to return to Zambia to distribute this report as well as providing a hard copy of the thesis for the CBU and the University of Zambia in Lusaka. I also have ambitions to follow up this research and have recently made moves to instigate further research with my main contact at the CBU.

Finally, as alluded to in Chapter One, mention must be given to the sourcing of qualitative data in this thesis. Throughout the following empirical and discussion chapters, I have attempted to reference the exact sources of data, either in the main body

of the text or in a footnote. This was a relatively straightforward task for the documentary methods, social survey, focus groups and interviews where data can be tied to an explicit source. However, referencing the sources of data from the ethnographic research has proved far more problematic, mainly because data is collected from participant observations, informal discussions and personal reflections (as discussed above). In these instances, there is not always an obvious source of data and, as a consequence, there is no clear reference provided in the text. In spite of this, as argued earlier in the chapter, this style of research methodology provides an in-depth and intimate insight into the research environment; one that is not always offered by other research methods. Therefore, I argue that the benefits of producing a rich source of qualitative empirical data outweigh the constraints of failing to reference the explicit source of the data.

4.6. Negotiating the interdisciplinary challenge

In a recent study Leach and Scoones (2006) note how one of the greatest challenges for the study of development is to foster more effective interdisciplinary research. They argue that in order to embrace the dynamism and complexities of the real settings in the south, researchers from different backgrounds – social scientists, technical and natural scientists – need to come together in order to share insight across the disciplines (2006: 69). Importantly, Leach and Scoones suggest a far braver approach to the study of development, an approach that moves beyond interdisciplinarity within the more traditional subjects associated with the study of development (i.e. geography, politics, sociology, anthropology, and economics) to one that crosses the disciplinary divide between the social sciences and the natural sciences. Echoing these sentiments and reflecting the jointly funded nature of the original proposal⁴⁷, this study has incorporated the approaches of development geography and environmental engineering to research water policy reform in the Zambian Copperbelt. But how satisfactory is this approach in terms of the overall aims of the research? What does an interdisciplinary approach add to this study? And what are the tensions and challenges of such an ambitious project and

⁴⁷ The original research proposal was funded by the Economic and Social Research Council (ESRC) and the Natural Environment Research Council (NERC).

how are these overcome, if at all? The following discusses how I attempted to negotiate the interdisciplinary approach of this research by addressing these questions within the context of my fieldwork.

A considerable challenge of interdisciplinary study concerns the epistemological tensions between different approaches. As Redclift (1998) observes in relation to the collaboration of social scientists and natural scientists during interdisciplinary research on environment related topics, opposing epistemological approaches can create tension and often prevents any meaningful research outcomes. He argues that it is no surprise that there is frustration between the two epistemologies; on the one hand, the natural sciences proceed by closing down debate, 'by establishing near consensus between everybody, on the other hand, the social sciences proceed by opening up debate, by admitting the existence of competing universes, or distinct epistemic communities' (Redclift, 1998: 178). Indeed, whilst the interdisciplinary nature of the research had all the potential to create epistemological tension, one particular approach dominated the other. Given my interests in postcolonial theory and the politics of African development more broadly, I found myself pursuing development geography issues as opposed to the environmental engineering ones. As a result, the research has an inevitable leaning towards development geography and this is clearly demonstrated in the above where there is greater emphasis on qualitative research methods common to development geography as opposed to the environmental science methods applied in the water quality study. As discussed in Chapter Nine (Conclusion), elaborating a framework for future interdisciplinary research in the study of development is certainly an area for future research.

Nevertheless, the application of an environmental engineering academic background was not isolated to the aforementioned water quality study. In fact, one of the main strengths of this research was the ability to draw on my environmental engineering knowledge to provide a more holistic analysis of the impact of the water policy reforms. To demonstrate, an important factor involved in the provision of clean water and adequate sanitation is the state of the corresponding watsan technology and infrastructure. Environmental engineers seek to understand how these technologies and infrastructures

function including the water and wastewater treatment plants, water supply, sewage collection and disposal, and household scale water functions such as taps and toilet facilities. In addition, environmental engineers also examine how waterborne diseases are spread and, importantly, how a breakdown in technology can contribute towards poor watsan conditions. Thus, whilst implementing the social survey in the townships, I applied my environmental engineering knowledge to evaluate the technical factors affecting the quality of the respondents' watsan facilities. Likewise, when visiting the various watsan infrastructures with the CU engineers, my background knowledge of environmental engineering helped me form my own judgement with regard to the how the water reforms had impacted upon the technical side of watsan operations.

Another benefit of my interdisciplinary background was the opportunity for interaction with a variety of different water professionals in the sector. On the one hand, my background in environmental engineering proved advantageous when forming a rapport with water engineers. For example, because I understood the technical language and terms used by the engineers in their everyday operations I often felt as if I was perceived as 'one of them'. This led to high levels of mutual respect and seemed to contribute towards more frank and candid discussions. On the other, when interviewing the key water actors (many of whom had a background in engineering) I was careful to present myself as a researcher with a background in the politics of African/Zambian development. This allowed me to direct the interview towards more politically orientated discussions rather than a focus on more technical issues as if I was an engineer. Importantly, in both instances above, because I could demonstrate my background in the respective subjects (engineering and the politics of African development), I believe the research respondents were less likely to mislead or misinform me in any of the discussions. Therefore, switching my research emphasis afforded to me by my interdisciplinary background proved extremely useful throughout the fieldwork process.

In addition, my interdisciplinary background has allowed me to seek a cross-section of academic opinions. Over the course of the last three years I have presented to geography

and social science audiences as well as engineering and natural science audiences⁴⁸. These presentations have provided me with essential feedback on my research as well as helping to tease out the differing perspectives between the engineers, the natural scientists and the social scientists. Moreover, my interdisciplinary background has allowed me to reach a more practical and technical audience with my research as demonstrated by a recent publication in the Chartered Institute for Water and Environmental Management (CIWEM) 'Global Environment' journal 2007. This journal is widely distributed amongst engineers, policy makers and consultants, many of whom work on water related projects in Africa and the developing world. Therefore, by having an interdisciplinary background with corresponding contacts across the different disciplines, I have the opportunity to access both practical as well as academic audiences through a variety of different journals and publications.

4.7. Conclusion

This chapter has established a methodological framework to answer the specified research question of the thesis: to examine the impact of the neoliberal inspired water reforms on watsan development in the Zambian Copperbelt. Inspired by the methodological approaches to the study of development by Ferguson (1990) and Escobar (1995), more recent postcolonial research (Mbembe, 2001; Mitchell, 2002; Bell, 2002) and the growing trend towards interdisciplinarity (Leach and Scoones, 2006), the careful selection of different methods has allowed for a multi-dimensional and holistic approach to the study of water policy reform in the Copperbelt. In this way, the research has sought to move away from researcher 'package tours' (Raghuram and Madge, 2006) but instead instigate a research methodology that requires patience and persistence to understand how 'time is lived' (Mbembe, 2001) in the Copperbelt water sector.

⁴⁸ I have presented my fieldwork findings for engineers (CIWEM annual conference, Newcastle 2006) and at the Civil Engineering and Geosciences (CEGS) seminar series (Newcastle University 2005) as well as at conferences for geographers (RGS, London 2006), postcolonial theorists (Postcolonial Roundtable, Newcastle, September 2006) and at the African Studies Association (Washington DC, November 2006; New Orleans, November 2005).

The ease and speed in which the fieldwork was implemented, especially considering the number of different research methods, is a testament to the openness and generosity of the Zambian people involved in my research. Their willingness to participate and give up their time with no reward was an important feature of this research. If the research was to be conducted again, I would look to spend more time at the World Bank sponsored CU (AHC). My fieldwork at the aforementioned CU provided an intimate insight into the World Bank's philosophy of urban watsan governance and I would have preferred more time to pursue certain issues. Also, I would look to interview more than just one official at the World Bank office in Lusaka in order to gain a better understanding of World Bank watsan policy for Zambia.

Having laid out the methods applied for this research, the following chapter turns towards the key empirical findings. Drawing on a combination of research methods elaborated in this chapter, notably documentary methods and interviews, the following chapter explores the impact of colonial water governance and the subsequent post-independence era on watsan development in the Copperbelt in the twentieth century. This chapter is important in establishing the historical development of the urban water landscape before later chapters (Five, Six and Seven) examine more recent watsan development.

5. Copperbelt water and sanitation development in the twentieth century: A postcolonial analysis

5.1. Introduction

Drawing on a postcolonial perspective as set out in Chapter Two and following on from the research of African water and sanitation (watsan) development discussed in Chapter Three, the purpose of this chapter is to examine the development of the Copperbelt's water sector over the course of the twentieth century. In terms of the broader objectives of the thesis, this chapter provides the historical context to Copperbelt watsan development before Chapters Six and Seven examine neoliberal water reforms and the implications for contemporary development. The chapter draws on interviews, documentary research, photographs and a number of secondary sources including Kazimbaya-Senkwe's (2005) doctoral research of the history of watsan development in the Copperbelt. Whilst the aforementioned study provides a very detailed empirical narrative, this chapter seeks to develop and expand this account in two key ways. Firstly, the chapter focuses upon and analyses the uneven watsan geographies that characterise the urban water landscape of the Copperbelt. Part of this analysis has involved constructing two maps to visually illustrate the development of the uneven water geographies for the copper town of Kitwe (see Figure 5.5). Secondly, through postcolonialism's conceptual lens of power and governance, this chapter seeks to develop the limited research on Copperbelt watsan development by casting light on how the water governance regimes have maintained and consolidated the uneven water geographies. This has involved investigating the power relations between the key state and non-state actors present in the politics of watsan development throughout the course of the twentieth century.

The main thrust of the argument in this chapter is that colonial water governance embedded the foundations for the spatially inscribed material inequalities that have

characterised watsan access throughout the course of the twentieth century. By constructing a distinctly uneven urban water landscape of water rich townships for a minority alongside water stressed⁴⁹ townships for a majority, access to adequate watsan has remained a privilege of the elite populations. It is also argued that colonial and post-independence watsan development was characterised by a dominance of elite policy-making. As a consequence, the subaltern – referring to the ‘native African’ during colonialism and urban poor populations after independence – is shown to play a relatively passive role in the formalised water governance regimes which contributes towards the subaltern’s continuing uneven access to watsan. Furthermore, the chapter explores the involvement of two non-state actors – copper mining companies and the World Bank – in the politics of watsan development in the Copperbelt in the twentieth century. It is demonstrated how these non-state actors, in their separate eras, have played influential roles in the development of the Copperbelt water sector.

The chapter is divided into three main sections. The first considers the key historical events in the development of the Copperbelt’s water sector over three time periods: the colonial era (1920s – 1964), events after independence (1964 – 1990s) and the most recent period (1990s – present day). This is followed by an examination of the construction of the uneven water geographies in the Copperbelt. Finally, the chapter examines power relations in Copperbelt water governance before summarising the key arguments in a conclusion.

⁴⁹ ‘Water stressed’ refers to townships in which access to water and sanitation is subject to restrictions. For example, there was piped water but only for a limited period in the day. Likewise, some townships experienced communal sanitation facilities whereby 10 toilets were shared by several hundred people. This issue is discussed further in “‘Differential access’ and the construction of uneven water geographies’ in section 5.3.

5.2. Setting the scene

5.2.1. Colonialism, copper mining and the birth of the water sector (1920s – 1964)

The initial development of a formalised urban water sector in the Copperbelt dates back to the early part of the twentieth century and relates closely to the discovery and excavation of copper. Having signed a treaty with Chief Lewanika of Barotseland in 1890 and a second treaty in 1909, Cecil Rhodes' British South Africa Company (BSAC) controlled the mineral rights of Northern Rhodesia (renamed Zambia at independence in 1964) including the area now known as the Copperbelt. Until the discovery of vast copper deposits in the region in the late 1920s there was very little development of any sort in the region as the deep lying copper ores of the Copperbelt were overlooked in favour of the more easily accessible copper deposits in Katanga, Democratic Republic of Congo. Other than the construction of boreholes and pit latrines at a number of labour camps and the establishment of the first Village Water Board at the town of Ndola, watsan infrastructure was not developed to any significant degree under BSAC rule (Kazimbaya-Senkwe, 2005).

The discovery and excavation of copper in the region from the late 1920s onwards acted as a catalyst for urbanisation and the subsequent domestication of watsan. Harnessing the vast volumes of underground water arising from mining operations, the two main mining companies on the Copperbelt, Rhodesian Selection Trust (RST) and Rhodesian Anglo-American Limited (RAAL), acted as de facto private water companies by treating the water (with European technologies such as filtration, sedimentation and chlorination) before piping to the surrounding townships. In 1924 the British colonial authorities took control of Northern Rhodesia, which included the Copperbelt Province (see Chapter One), and consequently, watsan development became their responsibility. However, the lack of financial support from the British government in London for development in the

colonies⁵⁰ and the perceived notion by the latter that the provision of social amenities was a private matter between the mining firm and employee (see Kay 1967; Radoki, 1986; Tait, 1997) meant the onus was on the mining companies to provide the watsan facilities in the copper towns. As demonstrated later in the chapter, the central role played by western mining companies in the development of the Copperbelt's water sector was to have profound implications in relation to the lasting urban watsan geographies of these towns.

Another important factor affecting the development of the urban water landscape in the Copperbelt prior to independence was the migration of informal populations to the mining towns (Ferguson, 1999). As the capacity and size of the mines grew so did the number of traders seeking economic opportunities in the copper towns. These informal populations lived outside of the mining townships and were excluded from accessing the formal watsan infrastructure constructed for the native miners. The mining companies made it clear to the British colonial authorities that they would uphold their commitment of providing watsan to the miners, but they would not invest and construct facilities for the informal populations (Tipple, 1981). Instead, the colonial authorities constructed the first public water system adjacent to the mining townships in order to meet the watsan needs of the growing informal population. Therefore, alongside the first large scale planning scheme to improve housing for Africans in both mining and non-mining townships throughout the 1940s and 1950s (Tipple, 1981: 73), this period was characterised by the development of a dual water network in each of the copper mining towns – separate water networks for mining and informal populations. This dual water network became a distinct feature of the urban water landscape in the Copperbelt and is shown below to have implications for patterns of watsan provision later in the century.

⁵⁰ Financial backing from Whitehall was so limited it led Herbert (2002) to describe the colonial budget for Northern Rhodesia to be less than the street cleaning bill for Glasgow.

5.2.2. Urbanisation, economic decline and the fall into disrepair (1964 – 1990)

One of the immediate effects of independence in 1964 was the resulting acceleration of urbanisation in the Copperbelt (Elliot, 1971). As discussed in Chapter Three, the mass migration of rural dwellers to the towns and cities was a phenomenon that characterised many newly independent countries in Africa (Nugent, 2003) including Zambia. The economic success of the mines in the Copperbelt at the turn of independence encouraged thousands of people from across Zambia to leave their villages in search of economic opportunities offered by the thriving capitalist economy⁵¹. The colonial urban policy, implemented to restrict the movement of Africans in order to preserve the towns as ‘white enclaves’ during colonialism (Tipple, 1981), was subsequently dropped at independence by the incoming Zambian president. This allowed the free movement of Zambians across all urban areas and acted as a further catalyst to urban growth in the copper towns. Figure 5.1 below illustrates the accelerated urbanisation in the Copperbelt towns after 1960, particularly in the towns of Kitwe and Ndola.

⁵¹ Copper mining was so successful that the Copperbelt was regarded as the industrial centre of Southern Africa. The sale of copper to Western Europe and North America was a lucrative industry during the 1960s and 1970s given the global demand for copper wiring for the telecommunications industry. One Zambian Kwacha was valued at one pound sterling and, during this period, Zambia was perceived as an example of good practice for former African colonies. See Ferguson (1999) for more detailed discussion of the development of the Zambian economy at the turn of independence.

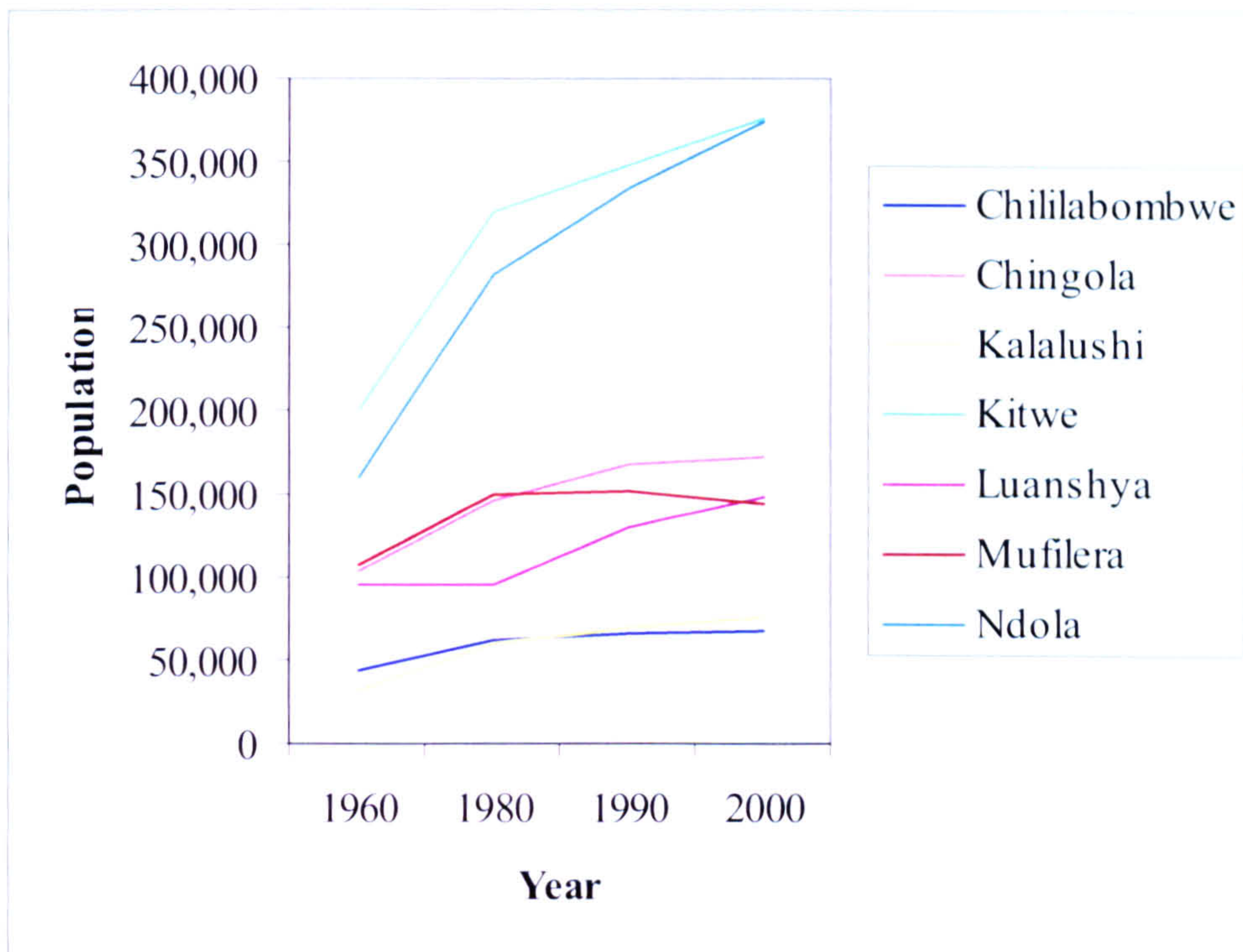


Figure 5.1: Urban growth in the seven Copperbelt towns after 1960

Source: Kazimbaya-Senkwe (2005)

As a consequence of the sustained urban growth after independence, the late 1960s and 1970s were characterised by a number of urban planning initiatives and the construction of new settlements. National and local urban development policies were orientated towards keeping pace with the growing urban, informal populations which had no formal infrastructure such as roads, basic drainage, sanitation or water supply. The priority of urban planners at this juncture became the construction of new housing developments rather than the required maintenance of existing housing settlements. Whilst the mining companies continued to maintain watsan infrastructure in the mining townships, the local authorities failed to do the same in the existing non-mining townships. As a result, the older settlements under the control of the local authorities fell into disrepair which was to set an unfortunate precedent for these townships⁵².

From the early 1970s a number of key global events had a significant impact on the Zambian economy which reduced public spending of urban watsan. The dramatic decline

⁵² Interview with Graham Tipple, September 2006

in world copper prices and the oil crisis of 1973 compromised the strength of the Zambian economy, and so this period was characterised by an overall decline in the quality of watsan services in the Copperbelt. In addition, a more recent study (Malama and Kazimbaya-Senkwe, 2001) found there were problems of maintenance at the household level as many consumers did not keep their installations and fittings in good working order. As well as increase in water wastage and an increase in illegal connections to reticulated water supplies⁵³, water quality declined due to inconsistent supplies of water treatment chemicals. Once described as one of the best in Africa (Kazimbaya-Senkwe, 2005), the quality of watsan services had declined to such a degree that, by the mid-1980s, frequent water shortages and regular outbreaks of cholera became a common feature of Copperbelt life.

5.2.3. The World Bank, a new water policy and a neoliberal discourse (1990 – present day)

The performance of the Zambian water sector reached an all time low in 1995 after an outbreak of cholera killed 370 people in nine days across the Copperbelt (Kazimbaya-Senkwe, 2005). The World Bank responded by funding the rehabilitation of a number of water treatment facilities and a selection of water distribution pipelines as well as the reorganisation of local authority water departments in the worst affected towns⁵⁴. The general decline of watsan infrastructure and the subsequent World Bank emergency response to the cholera outbreak also prompted an overhaul of the water policy and water governance regimes in the region and Zambia as a whole. Considering the important role played by the World Bank during the cholera crisis and the way in which the Zambian government was increasingly looking towards multi-lateral financial institutions to assist their poorly performing economy, the World Bank emerged as an influential player in the transformation of the Copperbelt's water governance regime.

⁵³ Reticulated water supply refers to a piped, treated water supply.

⁵⁴ Interview Barbara Kazimbaya-Senkwe, July 2005.

In line with the neoliberal doctrine adopted by the new Zambian government of the 1990s⁵⁵ and the sector wide uptake of neoliberal policies via World Bank structural adjustment policies (as discussed in Chapter Three) a new national water policy was published in 1994 which conformed to the World Bank's policies in relation to urban water sector re-structuring⁵⁶. In particular, emphasis was placed on the principles of water demand management, including the notion of water as an economic good which, as argued by the Bank and supporters of the principles, would help rectify the poorly performing water sector of Zambia. In addition, the new water policy opened up the way for the involvement of the international private sector as local authorities were permitted to sell off up to forty-nine percent of their equity to private operators. This new water policy contributed towards a chain of events that led to the full commercialisation of the water sector in the Copperbelt and the introduction of an international private water company. Indeed, the water commercialisation policy which has dominated Copperbelt water governance since 2000 is a direct policy condition of the structural adjustment programme and is a key policy in the recent poverty reduction strategy for 2002 (World Bank, 2004). Chapters Six and Seven deal explicitly with the impact of neoliberal inspired development watsan policies on various aspects of Copperbelt water governance.

By the turn of the twenty-first century, Copperbelt water governance was unrecognisable from the regime that existed ten years earlier. Whilst the sector sunk to its lowest point as a result of the cholera outbreak in 1995, this acted as a catalyst for the large-scale financial assistance from the World Bank for the repair and rehabilitation of watsan infrastructure in most of the copper towns. The adoption of water demand management principles, continued donor funding and the commercialisation of watsan services transformed the sector considerably. The period was also characterised by the emergence of the World Bank as a key player in Zambia's development, particularly in the urban water sector. The role of the World Bank in Copperbelt water governance is examined in more detail later in the chapter.

⁵⁵ See Chapter One for more details of the rise of neoliberal ideology in Zambian development politics

⁵⁶ Interview Ministry of Local Government Housing (MLGH) employee, June 2005

5.3. 'Differential access' and the construction of uneven water geographies

Whilst the above briefly outlined the key historical moments in relation to the development of the Copperbelt's water sector, a closer analysis of the geography of watsan inequalities reveals a more pernicious history. As detailed above, the mining companies played a very central role in terms of the development of the copper towns during the colonial era, including the establishment of the first watsan infrastructures. Critically, colonial watsan development was characterised by two motivating factors: racism and commercialism. These two factors are examined in detail below.

Firstly, as discussed in Chapter Three, a common feature of colonial development, especially with regard to the provision of social services such as watsan, was 'differential access' between European and African populations (Kazimbaya-Senkwe, 2005). In addition to segregating races on the basis of skin colour, African townships were provided with a more basic watsan service because of the racially discriminating logic of the colonial and mining authorities. Indeed, in each copper town, the residential and trading areas built for the African populations were known as the 'second class areas'⁵⁷ and their movement was restricted to these areas as opposed to areas occupied by the Europeans. Secondly, the commercial motivations of the mining companies drove a minimalist approach with regard to the investment of watsan facilities for the 'native'. The negligible financial input by the British government in London and the colonial administration in Northern Rhodesia, respectively, meant the mines were left to their own devices with regard to black mine worker accommodation (from now on referred to as 'African townships'), including the construction of watsan facilities. In view of the fact that the mining companies were commercially orientated, they could justify (if it required justifying at all) the basic provision of watsan services in the African townships on the grounds that minimal investment would not detract from the profits of mining.

As a consequence, the Copperbelt developed a very distinct uneven water geography as epitomized by the 'differential access' between European and African populations. On

⁵⁷ Incidentally, the term 'second class' is still a commonly used term used by Zambians.

the one hand, ‘garden cities’ existed for the Europeans which consisted of a constant and reliable water supply as well as waterborne sanitation facilities for each household (Tipple, 1981). In these townships there was an abundant water supply to cover all the consumptive demands of a European population living in a colonial climate including an excessive water supply for swimming pools, gardening and bathing purposes. On the other hand, due in large part to the basic accommodation in the African townships, the quality of watsan facilities was far inferior. These townships were originally built for single males working on short-term contracts with the mines but evolved into housing for families including women and children. The emphasis was on the practicalities of serving a population of unskilled mine labourers and thus the first male inhabitants were expected to use a communal water standpipe and, in some townships, share sanitation facilities. These shared facilities, called ablution blocks, were a far cry from the construction of water facilities for excessive water usage akin to the practices in the European townships. Figures 5.2 and 5.3 below demonstrate the contrast in terms of the size of the individual plots between the two townships which serves to reflect the differential living conditions between the European and African populations.



Figure 5.2: An aerial photograph taken in July 2005 of a former European township (now referred to as a ‘high cost township’) in the town of Chingola built circa 1950

Source: Peter Robinson (2005)



Figure 5.3: An aerial photograph taken in July 2005 of a former African township (now referred to as a ‘low cost township’) in the town of Chingola built circa 1950

Source: Peter Robinson (2005)

Andrew Sardanis describes the striking difference between the living conditions of European and African populations in the 1950s in his account *Africa: Another side of the coin*:

‘The houses where the whites lived, also built by the mine [western mining companies], were spacious bungalows on plots that were close to a quarter of an acre. They had hibiscus hedges, bougainvillea, manicured lawns, flowers and shrubs and fruit trees. Many had vegetable gardens. The large families of black workers were crammed into one or two-room shacks...they had no electricity or water. Women and children had to fetch water from communal taps. Ablution blocks and toilets were also communal’. (2003: 23)

The extent of differential access in the town of Kitwe and in one particular mine township (Nkana) between 1955 and 1965 is demonstrated in Table 5.1 below. The vast gulf in water consumption patterns in the different racially classified residential areas

reveals the considerable disparity in access to water between a continuous piped supply for Europeans and a rationed, communal supply for Africans.

Table 5.1: Differential water consumption in Kitwe (1955-1965)

Housing category in the town of Kitwe	Estimated population (1955-1965)	Total Water Consumption (litres/month)	Per capita consumption (litres/person/day)
European Residential Houses	3,875 / 13,927	9,450,000	163
European Residential Flats	775 / 2,785	5,000	50
African Townships	20,000 / 80,000	7,200,000	12-15

Source: Adapted from Kazimbaya-Senkwe (2005)

Another indication of the differential supply of water is shown in Figure 5.4 below. The figure shows the main water distribution point which supplies potable water to the mining townships of Kitwe. Built in the 1950s, pipelines A and B were constructed to supply several thousand households in the African townships and pipeline C was constructed to supply water to approximately fifty properties occupied by the white mining managers and bosses. The separate pipelines meant that if ever there was a water shortage, the amount of water supplied to the African townships could be reduced whilst always remaining constant to the households of the white mining managers.

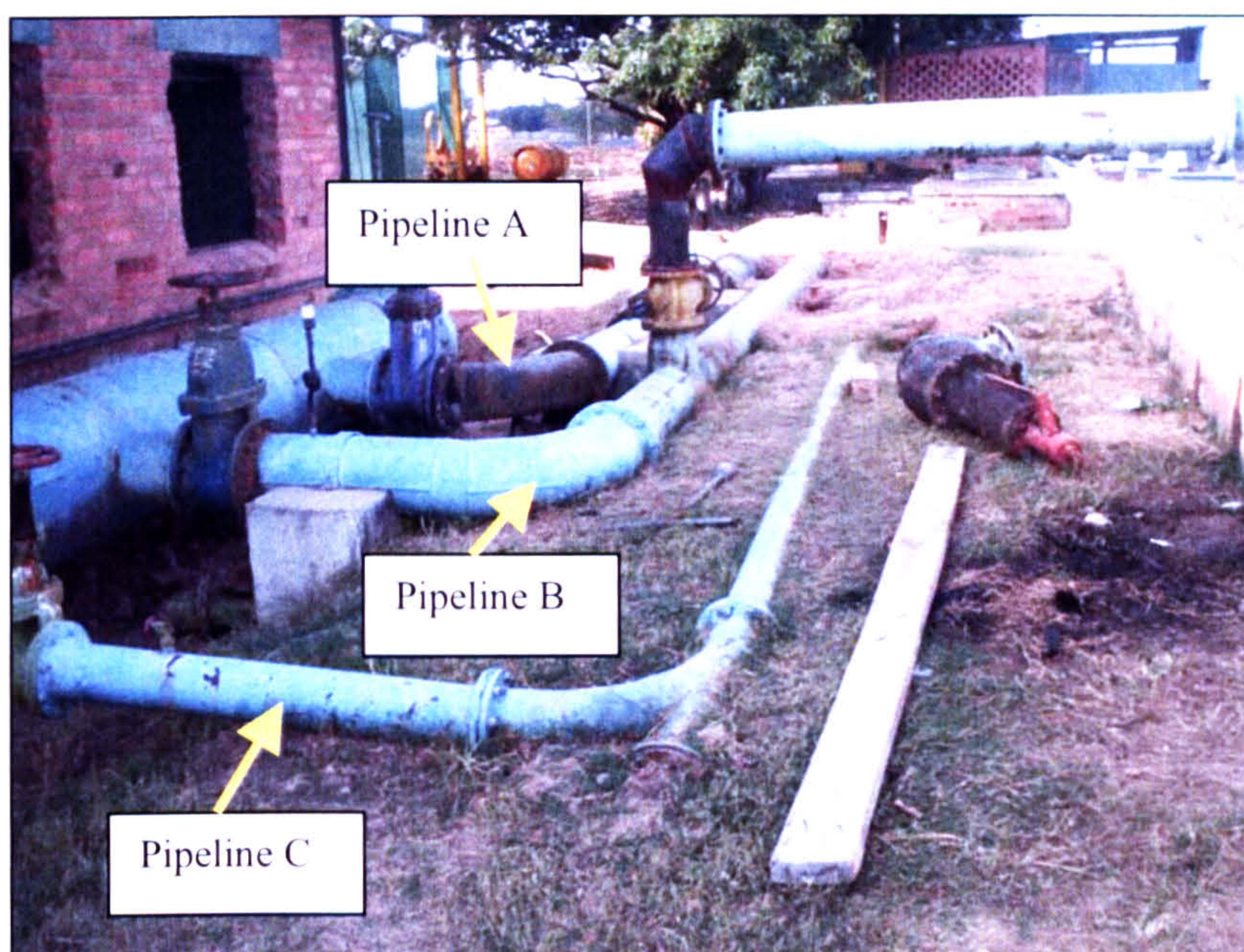


Figure 5.4: Differential supply: water pipelines at a water distribution point in the town of the Kitwe built circa 1950.

Source: Author's photograph

In each of the Copperbelt towns differential access extended to the quality of water as well as the quantity. In the town of Luanshya, for example, the water pumped from the nearby river was divided into three separate batches: township domestic, plant purified and compound water (Kazimbaya-Senkwe, 2005). Township domestic underwent a comprehensive treatment of settling, filtering and chlorination before being pumped to the European and council townships in Luanshya. Plant purified underwent less treatment and was pumped to the mine for mining purposes. Compound water, whose treatment consisted of the addition of chlorine only, was pumped to the African townships in the mining area. Thus whilst the Europeans enjoyed the luxury of a high quality water supply, the Africans had no option but to consume water of an inferior quality. This remained the general pattern of water supply until 1963 when the mining authorities responsible for water supply decided to provide all townships with the same, treated quality of water (Kazimbaya-Senkwe, 2005).

Differential access also extended beyond water supply during colonialism as reflected in the disparity between European and African sanitary conditions. Whilst all European

townships were connected to a sewer line and thus benefited from waterborne sanitary facilities, the African townships were provided with pit latrines and communal ablution blocks. Considering the large numbers of men (and later women and children) using these facilities, it is not surprising these townships were prone to outbreaks of waterborne and water related diseases. Indeed, the sub-standard sanitary conditions for African populations were observed in 1942 by two British led investigations, the Eccles and Forster commissions (Tipple, 1981). These commissions both noted the inadequate living conditions for African populations across the Copperbelt towns. The commissions were especially scathing of the laxness of the responsible authorities in failing to sufficiently finance the provision of adequate sanitation. They found that the provision of latrines fell short of the minimum standard, which under South African law was a ratio of 1 latrine to 10.3 men. In Kitwe, the commission surveyed over 6,000 dwellings and found the ratio a 1: 12 ratio for men and 1: 14.6 for women (Tipple, 1981: 71). It is also interesting to note that the absence of data for European sanitary conditions suggests there was no need to scrutinize these townships, demonstrating once again the differential access in watsan between the European and African townships.

A new independent era, a consolidation of inequality

Despite the eventual parity of water quality across the townships and the various upgrading programmes of miners' and non-miners' sanitary facilities following independence, the fragmentation and differential nature of urban space during colonialism left an indelible impression on the urban water landscape. The construction of water rich townships and water stressed ones during the colonial era ensured that these distinct urban water geographies could not be simply undone by the replacement of a few kilometres of water and sewer pipes. These water geographies were embedded into the urban water landscape and would have taken an unfeasibly expensive planning exercise to rebuild and overcome the existing watsan inequalities. Instead, as intimated earlier in the chapter, the Zambian authorities set about constructing new townships in order to keep up with the increasing numbers of rural dwellers seeking employment opportunities in the copper towns.

The new Zambian government identified the provision of clean water – as opposed to adequate sanitation – as one area which needed rectifying in relation to post-independence urban planning. The government was aware of the inadequacy of water supply services for many urban dwellers, not only for the informal populations relying on hand-dug wells, urban rivers and streams, but also those experiencing poor quality services in the mining townships. As described earlier, in the townships built for African miners, watsan provision was often inadequate and undignified – an irregular water supply with shared ablution facilities. Therefore, in order to create watsan conditions closer to the high standards in the former European townships (i.e. piped supply with an individual household water connection), the government passed the 1965 Local Government Act. This act entitled every urban citizen to a ‘wholesome and piped water supply’ (Government of the Republic of Zambia, 1965 *cited in*: Kazimbaya-Senkwe and Guy, 2007) and was a step towards preventing any further inadequate watsan conditions for newly built settlements.

However, given the minimal local government resources, a number of failed attempts at providing a piped supply and waterborne sanitation facilities to each household (Todd, 1987) and the sheer scale of the operation, the local authorities were forced to opt for more basic planning policies. These basic planning policies included the ‘site and service’ schemes which became a popular planning initiative through much of sub-Saharan Africa for low income settlements in the 1970s and 1980s. In these schemes the local authority provided the basic services such as a water standpipe, drainage and roads whilst the individual was left to construct the house and dig a pit latrine. This remained the principal policy for urban planning of new settlements throughout the late 1960s until the 1980s (Tipple, 1981). Therefore, despite the government’s attempts to provide all urban dwellers with a piped supply of the same standard as the former European townships, the reality was that the majority of new urban settlements built after independence often had very basic watsan provision.

In contrast, the new townships built for the middle-income groups (known as the medium cost townships), and the European and African elite (known as high cost townships) were of the same high standard as the original European townships. Sufficient local authority resources were set aside in order for these new townships to maintain the character of the existing 'European' populated areas. Each dwelling in these townships was built with at least one water connection (in the case of the elite housing areas, several water connections, some with swimming pools) as well as a flush toilet connected to a sewerage system. Furthermore, these high standard facilities were built for a far smaller number of urban dwellers as compared with the more basic watsan services provided for the low-income groups. Therefore, despite the positive rhetoric and planning initiatives by the new Zambian authorities to provide equitable services to all urban dwellers, Copperbelt watsan provision in the post-independence era was characterised by a consolidation of the uneven watsan geographies first established during colonialism.

To illustrate the consolidation of the uneven water geographies in the Copperbelt, Figure 5.5 overleaf plots the development of watsan provision in the town of Kitwe from the colonial era to the post-independence era. The town of Kitwe is chosen to reflect the trends of watsan development in the Copperbelt more generally, and it is assumed the other Copperbelt towns follow a similar pattern. The first point to note is the clearly defined differential watsan access between the European and African townships in 1960. As described earlier, the European townships are shown to have a household water connection in each dwelling and flush toilets as demonstrated in the township of Riverside. In contrast, more basic facilities such as standpipes and communal latrines were constructed for the African populations living in the townships of Wusakili and Mindolo.

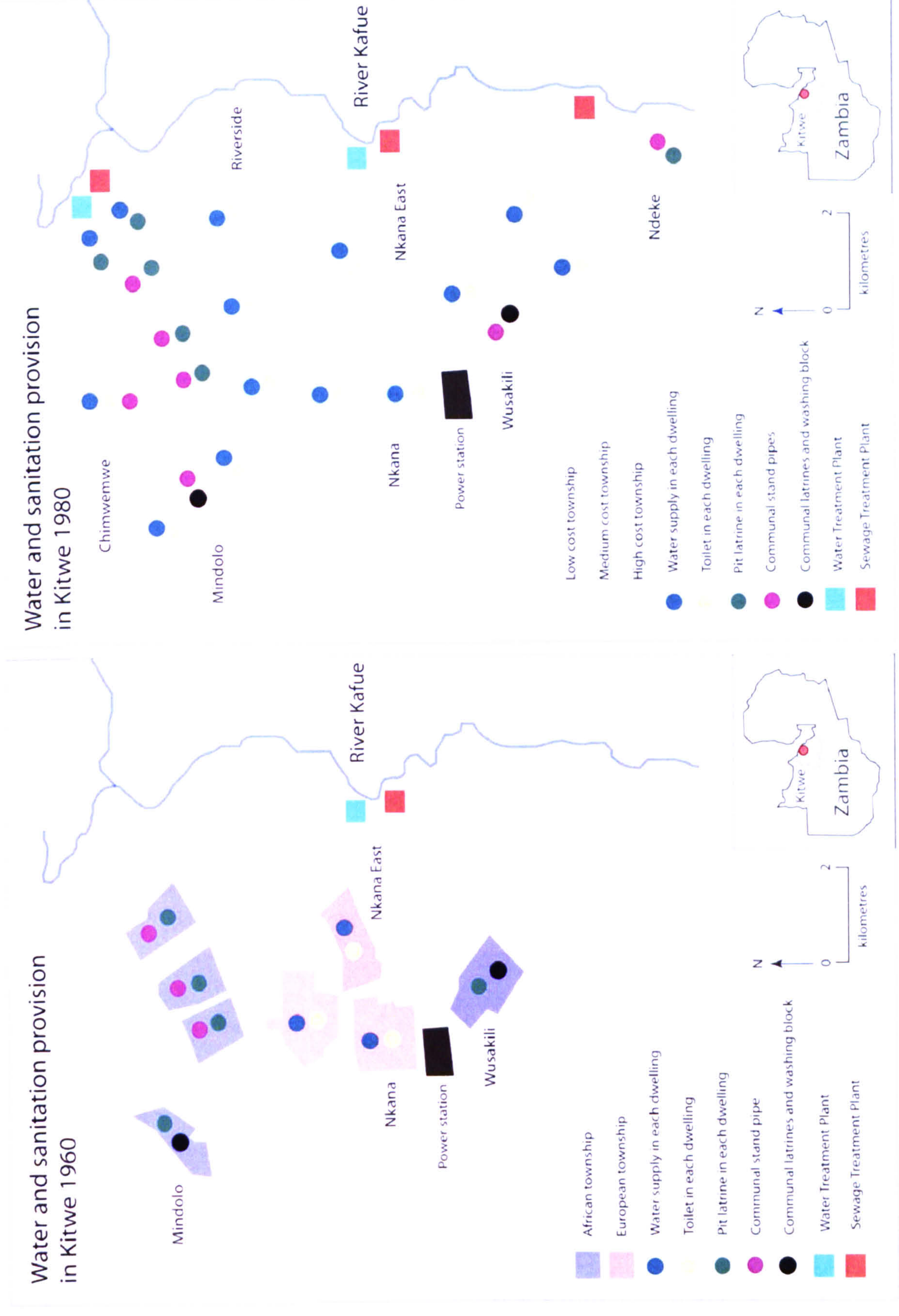


Figure 5.5: A comparison of Kitwe water and sanitation provision between 1960 and 1980

Source: Compiled from various sources including National Housing Authority (1980) and field interviews with CU employees, May – September 2005

The second point to note is that by 1980 Kitwe was almost unrecognisable from twenty years earlier. In addition to the large numbers of rural Zambians settling in Kitwe (see Figure 5.1) there was also a sustained influx of white expatriates throughout the 1960s and early 1970s⁵⁸. Rural Zambians settled in either squatter settlements (not shown on the map) or were housed in the formal low cost townships. The expatriates and a small number of wealthy Zambians – mainly political elite and business men – moved into the high cost townships at Riverside and Nkana East. Mimicking the earlier trend of the 1960s, these high-income groups enjoyed the luxury of household water supply and waterborne sanitation facilities, whilst the low cost townships were provided with basic watsan facilities. For example, the low cost township of Chimwemwe was constructed with a combination of both individual water connections and some communal facilities. Likewise, in the low cost township of Ndeke, the watsan facilities were very basic consisting of communal standpipes and pit latrines.

Furthermore, any chance of the new government fundamentally addressing the uneven water geographies suffered a set back when the Zambian government set the water supply consumption guidelines for the construction of new buildings. Referred to as Zambian Design Standards (Kazimbaya-Senkwe, 2005) and echoing colonial provisions of water, these standards reinforced the differential access of water in the copper towns. The Zambian Design Standards are shown in Table 5.2 below⁵⁹:

Table 5.2: Zambian Design Standards for water supply

Housing category	Litres of water (per capita / per day)
High cost	280
Medium cost	150
Low cost	100
Peri-urban	40

Source: Government of the Republic of Zambia (1997)

⁵⁸ Interview with Graham Tipple, September 2006

⁵⁹ The housing category high cost refers to the former European townships whilst the low cost and peri-urban refer to the African townships built in the colonial era. The medium cost townships are some of the newest townships built after independence.

The inhabitants of the high cost townships – the remaining European expatriates and the incoming Zambian elite – benefited from the Zambian Design Standards. These standards allowed for the continuation of a high consumption pattern in the high cost townships whilst an inferior quantity was pumped to the medium cost, low cost and peri-urban townships. Added to the fact that the new government did not have the economic resources after independence to build European-style housing for the migrating informal populations and instead initiated more basic developments such as the site and service scheme, the uneven water geographies became a prominent feature of the post-independence urban water landscape.

5.4. Elitist water governance and uneven power relations

Given the material and spatial watsan inequalities characterising the Copperbelt's urban water landscape in the twentieth century, what does this history reveal in relation to the exercise of power? Through an analysis of power relations in Copperbelt water governance, the following examines how the uneven power relations created during colonialism have fundamentally affected the exercise of power after independence. This is shown to benefit the watsan services of elite populations whilst being detrimental to the Copperbelt's water poor. The section ends by reflecting upon the dominant role played by non-state actors in Copperbelt water governance throughout the twentieth century.

As discussed earlier, two mining companies – Rhodesian Selection Trust and Rhodesian Anglo-American Limited – played an instrumental role in the construction of the first watsan infrastructures in the Copperbelt. Reflecting their considerable jurisdiction over development issues, the mining companies governed the Copperbelt water sector in a way that prioritized the needs of the colonizer above the colonized. Indeed, the construction of the distinctly uneven water geography is an expression of the overall uneven power of balance of power between European and African populations in the Copperbelt. Moreover, the uneven balance of power is demonstrated by the marginal role

played by Africans in the history of Copperbelt water governance. Africans had limited, if any, political representation and, therefore, had difficulty challenging the mining and colonial authorities over poor living conditions. Consequently, there were frequent outbreaks of cholera and other waterborne diseases in the African townships during colonialism as compared with a very low incidence in the European townships (Kazimbaya-Senkwe, 2005).

In the early 1960s, reflecting once again the overall dominance of the politics of copper mining development in the Copperbelt, the mining companies took a more passive role in issues of water governance in order to concentrate entirely on their chief purpose in the region – copper mining. The mining companies argued that they had constructed the principal watsan infrastructure (treatment plants, water and sewer lines) and did not want any further financial burden to detract from the commercial interests of the mining business. Coinciding with Zambian independence in 1964, authority for the sector was assumed by the local authorities with the new government taking an active role in setting national water policies and strategies. Importantly, the balance of power in the water sector transferred into the control of the new political African elite who replaced most of the outgoing colonial bureaucrats; therefore, power is seen to shift from one elite group (mining and colonial) to another (the political African elite).

As discussed above, one of the key features of the post-independence era was the continuation of uneven water access in the Copperbelt via a policy known as the Zambian Design Standards (see Table 5.2 above). These design standards, devised and implemented by the new Zambian government, continued the colonial policy of differential access of water to the different townships in the region. Inevitably, these standards suited the needs of the new African elite who after independence moved into and occupied the former European townships. Conversely, those living in the former African townships and the newly built urban areas experienced inferior watsan conditions common to the African mine workers townships of the colonial era. Echoing the exercise of power under colonialism in a way described by Mbembe (2001: 23) as the ‘colonial rationality’, the new political elite acted in a way that prioritized the needs of the elite

over the rest of society. Consolidating the material and spatial water inequalities thus served to mimic colonial attitudes towards water governance. As observed by Kazimbaya-Senkwe and Guy (2007: 882):

‘The building codes and practices, laid down by the Zambian government after independence, have continued the exercise of power, over the discursive and material definitions of people, places and [water] access...drop the reference to skin colour and it is colonial business all over again’.

Furthermore, imitating the way in which colonial water policy played an important part in defining on which side of the towns ‘progress, wealth and power were situated’ (Balbo, 1993: 25), water policies after independence continued in the same vein. The persisting uneven water geographies since the 1960s not only demonstrate the material difference in watsan access across the Copperbelt, but also defined a cultural and political barrier between the ‘haves’ and the ‘have-nots’. Indeed, an expression of the continuing uneven balance of power is demonstrated through the incidence of waterborne diseases after independence. Throughout the 1980s and 1990s the urban poor living in townships with historically poor watsan suffered the most from cases of waterborne diseases, leading to the high number of deaths during the severe outbreak of cholera across the Copperbelt in 1995 (Kazimbaya-Senkwe, 2005). Once again, the former European townships did not suffer the same number of casualties which illustrates the superior quality of watsan service in these townships as well as demonstrating the power held by the elite in these townships.

Despite efforts to improve the watsan for the water stressed townships such as the 1965 Local Government Act for piped water and various planning schemes to bring clean watsan to the urban poor as described earlier, the material and spatial water inequalities in the latter half of the twentieth century resembled the first half. Ultimately, conditions created during the colonial era were not fundamentally altered after independence as a minority elite population enjoyed the benefits of the water rich townships whilst the majority suffered in the water stressed townships. Importantly, this serves to demonstrate

two points in relation to Copperbelt water governance; firstly, the original construction of water services during colonialism has had an immeasurable impact on watsan development throughout the twentieth century. The embedded nature of the uneven water geographies in the urban landscape – literally embedded in terms of the subterraneous water and sewer infrastructures – has continued to shape watsan inequalities long after the formal end of colonialism. Secondly, these inequalities have been maintained by the elitist nature of the water governance regimes after independence. The African political elite, despite not being afforded the luxury of a prosperous economy to invest in adequate watsan for all, have consolidated the watsan inequalities by maintaining water rich townships for the elite whilst the majority experienced inadequate access to watsan.

The case of watsan development in the Copperbelt reveals a very pernicious outcome in relation to colonial water governance; independence in October 1964 may have brought colonial rule to an end for the citizens of Zambia but it did not signal an end to the legacies of colonialism. The uneven water geographies of the post-independence era are therefore a testament to the longevity and embedded nature of colonial water governance. The significance of the embedded nature of these watsan inequalities is examined in relation to the recent water commercialisation policy in Chapter Seven.

5.4.1. The dominance of non-state actors

Examining the history of Copperbelt water governance has revealed the over-whelming influence of two non-state actors in shaping the development of the water sector, notably the mining companies in the first half of the twentieth century and the later emergence of the World Bank in more recent history. These actors have dominated in important ways which ultimately demonstrates the power held by non-state actors in the politics of Copperbelt watsan development. For example, as examined above, the mining companies played a considerable role in the initial development of the water sector by constructing the first watsan infrastructures including the water and sewage treatment facilities and pipelines for the mining townships. These constructions led to the creation of an uneven

water landscape which continued to affect watsan provision throughout the rest of the century.

Importantly, however, the dominance and power of the mining companies in the Copperbelt water sector was also revealed when watsan governance became a burden to their operations. This was demonstrated in 1960 when the mining companies opted to take a less active role in water operations in non-mining townships in order to concentrate on their main role of copper mining (Kazimbaya-Senkwe, 2005). Given the considerable investment in the construction of the first watsan facilities by the mining companies and the powerful position held with regard to the politics of Zambia's development, the colonial administration was in no position to demand that the mining companies continue investing. Watsan investment and maintenance in non-mining townships was turned over to the colonial administration who subsequently sourced funds from colonial budgets. Importantly, in relation to the development of the Copperbelt, this episode signalled the power of the mining companies; whilst they needed to invest in the first watsan facilities for African and European urban populations in order to facilitate their mining operations, they refused to invest in watsan provision for the growing non-mining populations. Ultimately, the power was firmly held by the mining companies and thus their withdrawal in 1960 from non-mining watsan operations was a signal of their intent in relation to the wider development of the Copperbelt.

Towards the end of the twentieth century, Copperbelt water governance was once again dominated by a powerful western actor; however, unlike the colonial era which was dominated by mining companies, the World Bank emerged as a decisive and important player. From the emergency funding during the cholera outbreak in 1995 to the rehabilitation of watsan infrastructures in the mining townships in 2000 and finally the commercialisation of watsan services through the conditions of structural adjustment, the World Bank have undeniably played a leading role in Copperbelt water governance from the 1990s. Therefore, the emergence of the World Bank represents another episode in the Copperbelt's history of water governance where a powerful western actor has played a key role in determining issues related to water governance. The central role played by

these actors serves to highlight the continuing influence of non-Zambian actors in the Copperbelt's watsan development, and this issue is returned to in the following chapter (Six) and Chapter Eight.

5.5. Conclusion

In conclusion, a postcolonial analysis of water sector development in the Copperbelt reveals two major points. Firstly, based upon a rationale of racism and commercialism, colonial water governance is argued to have constructed the foundations for the material and spatial water inequalities that have characterised watsan access in the Copperbelt throughout the twentieth century. In acting as *de facto* water companies, the first copper mining companies set the tone for watsan access in the region by constructing water rich environments for the minority alongside water stressed for the majority. Secondly, the water governance regimes throughout the course of the twentieth century have been characterised by uneven power relations. From the domination of colonial and mining elite during colonialism to the ascendancy of African political elite after independence, these uneven power relations have contributed towards the consolidation of watsan inequalities. Furthermore, examining the history of the water sector reveals the principal roles played by two powerful non-state actors: the mining companies in the colonial era and the World Bank from the 1990s. Importantly, the participation of these actors reveals the dominance of non-state actors in the development of the water sector in the Copperbelt throughout the twentieth century.

In terms of the overall contribution of this chapter in relation to the thesis, the above has provided a critical insight into the material, spatial and discursive legacies of British colonialism and how these legacies have shaped the urban water landscape in the Copperbelt in the twentieth century. This insight provides the basis from which the following empirical and discussion chapters consider the impact of recent neoliberal development on the provision of watsan. The next chapter draws upon primary empirical

research to consider the impacts of recent neoliberal development on the politics of
watsan development in the Copperbelt.

6. Neoliberal water governance, power and the politics of development

6.1. Introduction

Drawing on empirical material collected from the interviews of key water actors and data gathered whilst undertaking the institutional ethnographies at the four commercial utilities (CUs), this chapter provides a narrative to recent water and sanitation (watsan) development in the Zambian Copperbelt. Linking back to the stated aims and objectives of the thesis as laid out in Chapter One, the purpose of this chapter is to examine the neoliberal development doctrine in relation to the politics of development in the Copperbelt water sector. The empirical focus of this chapter is the implementation of the neoliberal inspired water reforms in 2000, a specific watsan negotiation regarding the future of Copperbelt water governance and a World Bank funded development project of the repair and rehabilitation of watsan infrastructures in the mining townships. In short, this chapter explores some of the key empirical findings from the fieldwork before Chapter Eight discusses in further detail the findings from this chapter and the arguments raised in Chapters Five and Seven.

This chapter is divided into three main sections and each section corresponds to a specific discussion around neoliberal development in the Copperbelt water sector. The first section discusses the neoliberal inspired policy of water commercialisation in the Copperbelt which, as stated in Chapter Three, is one of the dominant policy options of African urban water governance. Commercialisation is argued to be a fundamental part of the World Bank's 'good governance' agenda which, via Zambia's structural adjustment programmes (SAPs) and subsequent poverty reduction programmes (PRSPs), has sought to implement 'administrative' reforms to the Copperbelt's poorly performing water sector. This section demonstrates that the policy of water commercialisation is more than just 'administrative' but is part of a far broader neoliberal strategy designed to 'enable an environment' for future participation of the international private sector.

The second section refers more explicitly to the conceptual theme of power in the recent water politics of neoliberal development. Following on from the discussions of water commercialisation in the first section, this section examines the power relations between the key state and non-state actors in one specific watsan negotiation regarding the future of Copperbelt water governance. This episode serves to demonstrate the controversy surrounding the issue of water privatisation and, more importantly, the powerful and uncompromising stance of the World Bank in relation to water governance negotiations. The powerful position of the World Bank is argued to be significant because it is shown to lead to their desired neoliberal vision for urban water governance in the Copperbelt.

The third and final section unpacks the allocation of funds from a World Bank development project for the repair and rehabilitation of watsan infrastructures in the mining townships of the Copperbelt. These funds were allocated to engineering and construction companies to supply materials and carry out technical works on the dilapidated state of the watsan infrastructures. This section demonstrates how the neoliberal tendencies of World Bank procurement has tended to favour large, international companies⁶⁰ who are familiar with the bidding processes as opposed to smaller Zambian companies. Exploring the governance of this development project reveals how a World Bank development project supports the participation of non-state actors in Copperbelt watsan development. This final section is followed by some brief conclusions before leading into Chapter Seven.

6.2. Enabling an environment for water privatisation

As intimated in Chapter Five, the implementation of water commercialisation in Zambia evolved from the neoliberal development doctrine adopted by the newly elected government of the early 1990s. In accordance with the World Bank's 'good governance'

⁶⁰ An international company refers to a company based outside of Zambia that crosses into Zambia to do business.

agenda and implemented through structural adjustment, the Zambian government looked to overhaul all poorly performing public sectors by instigating a number of fundamental reforms. These reforms included the adoption of new public management (NPM) principles which, in reflecting the dominant neoliberal discourse for development, required an opening up of markets to the private sector and the introduction of user charges for state services (Mohan, 2000). Significantly, 'good governance' meant that governments would have fewer financial commitments towards public services because a more considerable amount of capital was expected directly from consumers in the form of user charges.

In terms of 'good governance' for the water sector, supporters of this approach argued that if water is priced more in line with the economics of its production, consumers would use it more sparingly and hence bring about a more efficient use of water (Winpenny, 1994). As discussed in Chapter Three, the basis of this logic, referred to as water demand management, has gained support from donors such as the World Bank and, overall, is argued to improve water sector governance in the developing world (Winpenny, 1994).⁶¹ However, one of the main problems with the Copperbelt water sector was the historically low water charges. Significantly, pricing water in line with the true economic cost marked a considerable shift to the culture of water charges in Zambia in the early 1990s. Originating in the period prior to Zambian independence, there was a widely held belief in Zambia of 'water as free for all' (Robinson, 2002). For the most part, this attitude derived in the mining towns of the Copperbelt where charges for water, sanitation and other social amenities were automatically taken from the monthly wage for miners. Water was thus perceived as a free service by the miners and this attitude quickly became engrained in the psyche of urban residents across the copper towns. Throughout the years following independence, not only was there minimal funding from central government but the low water tariffs were sustained by populist political positions at a national level. As a consequence, by the 1990s Zambia had one of the world's highest levels of water

⁶¹ The international pressure on developing countries to implement a discourse of water efficiency links directly to the establishment of the Dublin Principles from the Water and Environment Conference held in Dublin in 1992, as discussed in Chapter Three. The fourth Dublin Principle explicitly stated that water should be recognised as an economic good.

consumption because the low tariffs encouraged profligate uses of water (Robinson, 2002: 853).

The creation of a new national water policy in 1994 signalled the government's intent in relation to the adoption of these 'good governance' measures. The policy laid out a revised approach to the philosophy and management of water around seven guiding principles as shown in Table 6.1 below. Significantly, principle four lent itself to the recognition of water as an economic good by stating there should be full cost recovery in the water sector (GRZ, 1994). This principle laid the legal foundations for water to be charged at its true economic cost because, in allowing water providers to operate towards full cost recovery, there was far greater emphasis on charging consumers for watsan services than had previously occurred.

Table 6.1: The seven sector principles

Seven sector principles	
1	Separation of water resource management and water and sanitation services
2	Separation of regulatory and executive functions within the water sector
3	Devolution of authority to local authorities and private enterprises
4	Full cost recovery
5	Human resource developing leading to more effective institutions
6	Technologies appropriate to local conditions
7	Increased funding to the water sector by the Government of the Republic of Zambia

Source: GRZ, 1994

Another important step towards 'good governance' was the implementation of a number of 'administrative' reforms to the existing governing authorities of the Zambian water sector. As stated by the Zambian government, commercialisation was required to overcome inadequate management, overstaffing and confused responsibilities between

institutions (GRZ, no date). In essence, the reforms were seen as a way to address the practices of 'bad governance' that existed in the sector for many years. Furthermore, water commercialisation was perceived as a way to facilitate a change towards a commercially orientated sector more akin to the UK and other countries in Western Europe. In terms of the Copperbelt, water commercialisation finally occurred in 2000 after the passing of the Water and Sanitation Act in 1997. This Act gave the power to local authorities to create commercial water providers, known for the rest of the chapter as commercial utilities (CUs)⁶². For the seven copper towns three CUs were created to cover watsan services formerly operated by the local authority. The three CUs are known as Mulonga, Nkana and Kafubu. In addition, a national water regulator, National Water Supply and Sanitation Council (NWASCO) was also formed in order to monitor and police the activities of the CUs.

A fourth CU was also established – Asset Holding Company-Mining and Municipal Services (AHC⁶³) – in order to provide watsan in the mining townships, formerly operated by the state-owned mining company ZCCM (Zambia Consolidated Copperbelt Mines). Due to complications in the negotiations between the mining company and the World Bank, the latter provided a loan of US\$37.7 million for the repair and reconstruction of watsan infrastructure in the mining townships⁶⁴ which also covered the 'management contract' of the French water company, Saur International (see Chapter Three for more details on the different types of private water contracts). Although a form of water privatisation, the 'management contract' involved no investment on the part of Saur International and so the water company was regarded more as a consultant than an investor. Table 6.2 provides operational details of the four CUs and Figure 6.1 shows a map of the CUs in the Copperbelt.

⁶² As discussed in Chapter Three, CUs function in the same way as private companies in that they operate towards profit and provide watsan services entirely independently from the local authority. However, the CUs are still owned by the local authority and therefore critically do not have the financial resources of a private company.

⁶³ The correct acronym for this water company is 'AHC-MMS' but for convenience, the water company is referred to as 'AHC' for the rest of the thesis.

⁶⁴ This project was called the Mining Townships Services Project (MTSP)

Table 6.2: Operational details of the four CUs

Commercial Utility (CU)	Water production (m³)	Employees	Total population in service area	No. of connections	No. of towns	Name of towns
AHC (mining townships only)	72.0	312	393,148	43,491	6	Chingola, Chillilabombwe Kitwe Luanshya Mufilera Kalalushi
Nkana	35.2	303	307,405	27,751	2	Kitwe Kalalushi
Mulonga	20	165	246,000	20,984	3	Chingola Chililabombwe Mufilera
Kafubu	57.9	254	362,000	26,898	2	Ndola Luanshya

Source: NWASCO (2005)

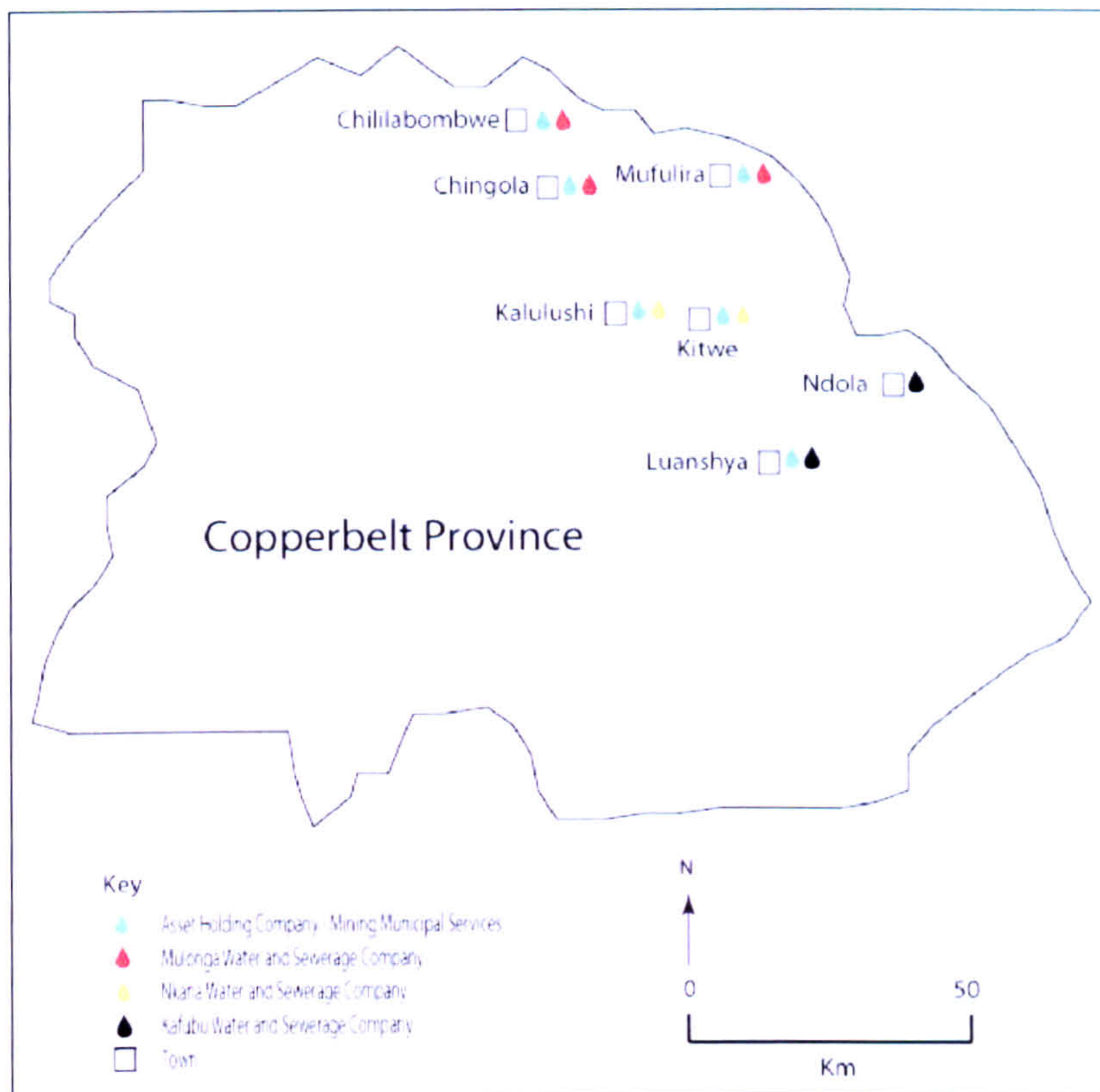


Figure 6.1: Map of the Copperbelt commercial utilities

Source: Author's map

Importantly, water commercialisation was not just regarded as a temporary measure to overcome the practices of 'bad water governance'; the policy was also perceived as a means through which to enable the environment for the World Bank's key policy for the mid 1990s, namely water privatisation⁶⁵. In this sense, water privatisation refers to the concession contracts whereby private companies buy up the networks as opposed to managing them in the case of Saur International's 'management contract'. Indeed, the Copperbelt was singled out by consultants and donors as one such urban area in Zambia where a private concession contract could thrive⁶⁶. It was hoped that privatisation would initiate investment in the urban watsan infrastructure which would eventually lead to

⁶⁵ Between 1994 and 2001, 257 state companies were privatised in Zambia (Situmbeko and Zulu, 2004: 26). Amongst other sectors, this included transport, energy, public services and industry (copper mining). It led the World Bank to proclaim that Zambia had 'the most successful privatisation programme to date (in sub-Saharan Africa) and the experience offers examples of best practice' (World Bank, 1996 cited in: Situmbeko and Zulu, 2004: 26).

⁶⁶ Interview with Ministry of Local Government and Housing (MLGH) employee, July 2005

improvements in the overall quality of watsan services⁶⁷. Crucially, water commercialisation was perceived as a way of ‘bedding down’ a commercial sector ethos which, in turn would convince a private company of the profitability of the water sector. In spite of the fact that a private water concession contract became a less realistic policy option from the early 2000s (see the next section for more details), the point here is that commercialisation enabled an environment for potential future privatisation and thus played a significant part in transforming the overall governance and culture of the water sector.

Therefore, examining the politics of the neoliberal water reform reveals water commercialisation in two distinct lights. In the first, commercialisation is part of the ‘good governance’ reforms intended to improve the overall management of the sector. In particular, commercialisation was required to overcome inadequate management, overstaffing and confused responsibilities between institutions (NWASCO, no date). Thus, the linking of the reforms to structural adjustment is seen as an important step in re-organising a badly performing public sector and a way to introduce a more efficient way of organising the water sector. In this light, the reforms are seen as a way to address the ‘bad governance’ of the Copperbelt water sector.

In the second light, the reforms are seen to introduce a neoliberal logic to the water sector which places far greater emphasis on the cost of water than ever before. Moreover, the reforms have not only instigated a more commercially orientated approach to water governance but also enabled conditions for the involvement of the international private sector. The participation of Saur International in the Copperbelt, albeit in a management capacity rather than under a concession contract, is testament to the new neoliberal logic introduced to the urban water sector. Therefore, these reforms are not simply understood as purely ‘administrative’ but in fact lend themselves to setting into motion the World Bank’s neoliberal vision for African urban water governance.

⁶⁷ Interview with MLGH employee, July 2005

6.3. Water privatisation, political tension and the exercise of power

Whilst water privatisation was considered as a potential water policy for the Copperbelt from as early as the mid-1990s, the issue became the focus of an intense and, at times, furious debate after 2000. The following relates explicitly to the conceptual theme of power in order to illustrate some of the complexities of local, national and international water politics in Zambia, but also the point at which these different perspectives clash. In the mire of political disagreement between the different perspectives the example also demonstrates how the most powerful actors in Zambia's development exercise their control and authority. In particular, the episode illustrates the power of the World Bank and the relative lack of power held by the Zambian government in relation to watsan negotiations in the Copperbelt.

The AHC Exit Strategy

As intimated earlier, the World Bank created AHC to operate watsan services in the mining townships. In addition, the international water company Saur International was employed by the World Bank under a management contract to provide commercial and technical assistance to the staff at AHC and to meet specific operational targets as set by the water regulator NWASCO. The management contract ran between 2000 and 2005, and at the end of this time, Saur International were expected to relinquish their responsibilities whilst AHC would be disbanded and the watsan assets handed over to one of the remaining CUs. During the five years the Zambian government were expected to put in place an appropriate exit strategy for AHC; a strategy that also took note of the World Bank's desires for future Copperbelt water governance. However, it was in the subsequent discussions surrounding the exit strategy of AHC and the connected concerns about the future of Copperbelt water governance where tensions flared up between the competing water actors in the sector.

The origins of the tension in the AHC exit strategy can be traced as far back as 1996 when the World Bank funded the British auditors, PricewaterhouseCoopers (PwC) to

carry out a feasibility study for water commercialisation on the Copperbelt. On the grounds that one large CU was more financially sustainable than three or four smaller CUs, PwC concluded that the most suitable outcome would be the creation of one CU covering all the towns in the Copperbelt. Furthermore, one large CU also set the grounds for the introduction of an international private water company which suited the World Bank's vision for African urban water governance for Africa. The World Bank supported this conclusion and set up negotiations with the government regarding the creation of one large CU on the Copperbelt⁶⁸.

By the late 1990s the Zambian government discussed the possibility of replacing the poorly performing local authority water departments with CUs. However, linked to the pressure from local authorities who were concerned over the extent of job losses if the local authorities in each of seven towns were replaced by one CU, the government went against the World Bank's recommendations and instead created three CUs in the three major Copperbelt towns (as shown in Table 6.2 above). The World Bank were incensed by this decision and, as a consequence, decided to distance themselves from funding any immediate water related projects in the Zambian water sector. This included not fulfilling the promised redundancy pay to the hundreds of local authority employees who were left jobless after the water commercialisation reforms. This created enormous bitterness towards the World Bank and thus, even before discussions over the exit strategy of AHC had begun, tensions were already running high between the World Bank and the Zambian government.

Once operations started at AHC in 2000 the government initiated a Copperbelt technical committee to discuss the possible options for the exit strategy of AHC. The committee was composed of a number of Copperbelt stakeholders including CU managers and local authority officials. They produced a recommendations document in 2004 concluding that there were four possible outcomes for the exit strategy of AHC. Of the four outcomes, the committee recommended against the formation of one CU and, instead, the assets of AHC should be divided geographically allowing the remaining three CUs to receive a

⁶⁸ Interview with MLGH employee, August 2005

portion of these assets. On the whole, this recommendation was tied closely to local politics because maintaining the three CUs safeguarded the jobs of the existing staff – including those in the technical committee – at the three respective CUs. Furthermore, the decision was argued to be financially sustainable because each of the three CUs would benefit from servicing the mining companies who were charged considerable sums for their water usage. In all, the recommendations of the technical committee reflected the mood of local politics towards the water reforms with the most important factor being the prevention of any further job losses in the sector.

In addition to the recommendations of the Copperbelt technical committee, support for the existing three CUs was also expressed at a governmental level. However, the government's support for such an outcome was less connected to local politics but to the wider politics of Zambian development. As intimated earlier, a much criticised and maligned externally imposed development policy in Zambia was the privatisation of the copper mines. In the face of considerable public criticism and tense relations between the Zambian government and the World Bank, the former had overseen the privatisation of the mines throughout the 1990s before eventually AAC bought the mines in 2000. In the years following 2000 there was minimal evidence of the benefits of this policy and various outspoken politicians and independent print media started to voice their concerns over the World Bank policy of privatisation⁶⁹.

Moreover, there was growing concern regarding the World Bank's intentions for the future of Copperbelt water governance. As discussed above, the World Bank desired a private operator on the Copperbelt and the AHC exit strategy was regarded as a way to facilitate this policy. Therefore, for many the Copperbelt water sector was just another sector in which the World Bank could apply the privatisation policy. To add further support to those in government who were against the Copperbelt water privatisation

⁶⁹ *The Zambian Post*, one of a small number of independent newspapers in Zambia, printed an article about the World Bank/IMF policy of privatisation on Tuesday June 7th 2005. In this article the author criticised the implementation of the blanket privatisation policy across numerous sectors in the country: 'On looking back, the sad thing is that Zambia's privatisation programme which was embarked upon at the insistence of the International Monetary Fund and World Bank has been such a great betrayal' (Sikota Wina, 2005).

policy, in July 2005 the Tanzanian government cancelled their contract with an international water company. As discussed in Chapter Three, BiWater won a concession contract for the provision of watsan services in Dar es'Salaam, but were accused of not fulfilling their investment pledges. As a consequence, the Tanzanian government argued there was no tangible improvement in watsan services in the city and decided to cancel the contract. In all, water privatisation was considered a very contentious policy for development in Zambia and thus there was a corresponding antagonism towards such a move in the Copperbelt water sector.

As the Zambian government approached a decision regarding the AHC exit strategy in 2005, the clash between local, national and international politics intensified. On the whole, the government supported the recommendations of the Copperbelt technical committee whose decision favoured the local water actors of the Copperbelt. However, in a series of meetings held between the committee and the government ministry overseeing the exit strategy, concerns were raised by the committee over the direction in which the debate was heading. The committee felt the recommendations were being ignored in order to satisfy the World Bank's development agenda. Furthermore, an outspoken minister responsible for the final decision regarding the exit strategy of AHC expressed her defiance towards the World Bank. In a number of heated exchanges, the minister demonstrated her desire for a decision based on the local economics and politics of the Copperbelt water sector than a decision pandering to the needs of the World Bank development agenda. She argued that given the poor record of privatisation in Zambia and the record of water privatisation in Africa as a whole, the government should take a stand against this policy. Contrary to the defiant attitude shown by the government minister, there were those in government who recognised the need to stay in favour with the World Bank. One government official felt the minister's attitude was wholly inappropriate given the imminent cancellation of Zambian debt following the Jubilee Debt Campaign and the G8 summit held in the UK in July 2005⁷⁰.

⁷⁰ Interview with MLGH employee, August 2005

The World Bank exercise their power

On the eve of the Zambian government's decision regarding the exit strategy, and having already delayed the decision by several months, a meeting was held with the World Bank in order for an agreement to be reached. The nature of the discussions had become so highly politicised that the Zambian president, Levy Mwanawasa, was required to intervene. With growing suggestions that the government would turn against the World Bank's recommendation, the latter took an unambiguous position in this meeting by highlighting the potential impact of the exit strategy on future development loans to Zambia as a whole. The World Bank stated how the funding to the Copperbelt – the Mining Townships Services Project (MTSP) – was already regarded as 'unsatisfactory' and if the exit strategy could not be resolved quickly, future development loans to the water sector may be jeopardized⁷¹. Furthermore, the World Bank identified neighbouring Botswana and Namibia as two possible countries for water sector support if no agreement could be reached. If there were any ambiguities over the position of the World Bank beforehand, this meeting served to pointedly emphasise the power held by the Bank in relation to the politics of development in Zambia.

The World Bank's expression of power fundamentally changed the nature of the discussion and, unsurprisingly, the government wasted no time in making a decision that met the demands of the World Bank. As one government official summed up the situation: 'we didn't want to lose the Bank'⁷². However, the government did stand firm over the immediate transfer of the assets to one CU considering the job losses involved and, therefore, a compromise was reached. On August 5th 2005 the government announced the exit strategy of AHC would involve the transfer of all of AHC's assets to one of the three CUs – Nkana Water and Sewerage Company (NWSC) in Kitwe – and not split geographically as recommended by the Copperbelt technical committee. This

⁷¹ The World Bank had already proposed a development loan called the 'Support of Water Policy Reform' which had been delayed by two years (originally planned to start in 2005 and put back until 2007) as a result of the deliberations of the exit strategy. The World Bank made it clear that any further delays in the exit strategy may result in the cancellation of this funding.

⁷² Interview with MLGH employee, September 2005

was to be implemented over the remaining months in 2005 before Nkana officially took over on January 1st 2006.

Overall, the final decision regarding the exit strategy of AHC was a victory for the broader development agenda than for the local water politics of the Copperbelt. The World Bank got what they wanted by forcing a situation which paves the way for future water privatisation. Because they have made an important financial contribution to the Zambian water sector as a whole in recent years, they were shown to step up the political pressure with the government when their vision for African water governance was challenged. The Zambian government were also relatively content with the final decision because they managed to strike a compromise with the World Bank in order to secure the jobs at the three existing CUs. For the three existing CUs however, unless there is a dramatic change in water policy, the transfer of AHC assets to one CU will inevitably lead to the two smaller CUs – Mulonga and Kafubu – being taken over by Nkana. This may lead to job losses in the future and thus the recommendations made by the Copperbelt technical committee have been completely overlooked. In the mean time, the two smaller CUs will continue to struggle on by operating in the most deprived townships of the copper towns and significantly, without the assets of AHC which would have so dramatically boosted their operations. Therefore, issues of local water politics, as is so well reflected by the Copperbelt technical committee report, are shown to be disregarded in favour of the broader development agenda of the World Bank.

In summary, this episode unravels a clear example of the exercise of power by the key development actors in the Copperbelt water sector. Linking back to the main aims and research questions as laid out in Chapter One, this section has sought to examine the impact of recent neoliberal development on the exercise of power in the Copperbelt. Exploring the AHC exit strategy in relation to the theme of power illustrates the competing local, national and international perspectives in regard to a much debated water governance issue. Importantly for the thesis as a whole, it demonstrates to a large degree where the power is held in the water governance regimes of the Copperbelt; ultimately, the World Bank is the most powerful actor in the politics of Zambia's watsan

development as it is shown to utilise its power to negotiate a result – albeit marginally compromised – that supports its neoliberal vision for African urban water governance. Therefore, this section demonstrates the power of the neoliberal development doctrine and the way the doctrine draws upon its guises of power to implement the desired policy for Copperbelt water governance. Further discussions of the exercise of power are returned to and analysed in relation to the history of watsan development in the Copperbelt in Chapter Eight.

6.4. The internationalisation of development

The third section focuses upon the governance of a multi-million dollar World Bank watsan development project carried out in the Copperbelt between 2000 and 2005. This section explores the politics of the allocation of these funds to reveal how the procurement regulations favour the experienced international companies as compared with their Zambian counterparts. Crucially, an important factor in explaining this trend is argued to be the neoliberal characteristics of the World Bank's procurement procedures that support the participation of international companies as opposed to local Zambian companies, in spite of the fact that many Zambian companies have the skills to perform the technical works. In all, this section demonstrates the way the World Bank's neoliberal development doctrine supports the participation of 'international development actors' – albeit not the more orthodox actors such as non-governmental organisations (NGOs) but engineering and construction companies – in Copperbelt watsan development.

As discussed earlier in the chapter, there was a close association between the privatisation of the copper mines and the reforms to Copperbelt water governance in 2000. The World Bank rescued the privatisation negotiations by offering a \$37.7 million development loan for the repair and rehabilitation of watsan infrastructure in the mining townships, referred to as the MTSP. The project also provided funds for the participation of Saur International to assist in the operations of watsan services in the mining township. These funds were important in improving the overall quality of watsan services in the mining

townships, most of which had experienced minimal replacement of the major watsan infrastructures (high pressure water pipelines, trunk sewers, water and wastewater treatment facilities) since the original construction back in the 1940s and 1950s. Table 6.3 below reveals a breakdown of the MTSP to illustrate how the funding was spent.

Table 6.3: A breakdown of the World Bank’s Mine Townships Services Project (MTSP) in July 2005

Expenditures of MTSP	Amount (US\$ millions)	Percentage (%)
Goods contracts	4.5	11.9
Works contracts	15	39.7
Consultants	1.3	3.4
Consultants – HIV/AIDS	0.2	0.5
Training of AHC	0.2	0.5
<i>Management contract (Saur International)</i>	<i>6</i>	<i>16</i>
Operating costs (AHC and MLGH)	1.8	4.7
Consultants (MLGH)	2.5	6.6
Training of MLGH	1.3	3.4
Total Allocated	32	86
Unallocated	5	14
Grand Total	37.7	100

Source: Saur International/AHC-MMS (2005)

As highlighted in italics above, Saur International received a fee of \$6 million which amounted to sixteen percent of MTSP funding in July 2005. One CU managing director who was privy to the breakdown of the MTSP was especially scathing of this fee arguing that it was scandalous that the expertise of an international water company should be over

valued by the World Bank to such a large extent⁷³. He argued that the commercial expertise provided by Saur International had been helpful but felt the technical expertise was not required. He supported his argument by drawing on the growing numbers of university trained engineers in the water sector and how many of these had been seconded from the mining industry where there was thorough training in watsan engineering. Whether the World Bank had over valued Saur International's services or not, the example serves to demonstrate the considerable financial implications to international private companies who are successfully awarded a World Bank development contract.

The participation of international companies in the MTSP was not isolated to Saur International and is illustrated in a further breakdown of the companies involved in the works and goods contracts. Table 6.3 above shows how over fifty percent of the funding was allocated to the works and goods contracts which amounted to approximately \$19 million. In this case, works contracts refers to the contracts awarded from the MTSP funding to construction and engineering companies to carry out the repair and rehabilitation of the watsan infrastructures and goods contracts refer to the contracts awarded to companies to spend on the physical infrastructure such as water and sewer pipes, concrete and other necessary materials. In total, there were 35 works contracts and 56 goods contracts which AHC put to tender after 2000. Table 6.4 below shows the number of international companies awarded works and goods contracts as compared with Zambian companies. Furthermore, Table 6.5 shows the country of origin of the non-Zambian awarded contracts for both the goods and work contracts.

⁷³ Interview with CU Managing Director, June 2005

Table 6.4: Comparison of Zambian and non-Zambian companies awarded works and goods contracts from the MTSP funding

	Works contracts		Goods contracts	
	US\$ (millions)	%	US\$ (millions)	%
Zambian companies	4	35	1.6	18
Non-Zambian companies	7.5	65	7	82
Total	11.5	100	8.6	100

Source: Saur International/ AHC-MMS (2005)

Table 6.5: Country of origin of the companies awarded works and goods contracts from MTSP funding

	Country of origin of companies awarded contracts and nos. of contracts in brackets
Works contracts (35)	Zambia (18), South Africa (3), UK (3), India (4), China (4), Netherlands (2), unknown (1)
Goods contracts (56)	Zambia (22), South Africa (8), UK (5), India (4), China (8), Netherlands (4), unknown (5)

Source: Saur International/ AHC-MMS (2005)

The tables above serve to demonstrate the heavy involvement of non-Zambian construction and engineering companies in the World Bank funded MTSP. Table 6.4 shows that sixty-five percent of the works contracts and over eighty percent of the goods contracts respectively were awarded to non-Zambian companies. Furthermore, Table 6.5 shows that in terms of numbers of contracts, Zambian companies were actually awarded more than companies from any other country. However, this demonstrates that Zambian companies were awarded the smaller contracts whilst the financially lucrative ones were awarded to international companies. In addition, Table 6.5 shows the wide geographical scope of the MTSP funding with companies as far as China, India, the Netherlands and the UK participating in the project.

6.4.1. *The politics of procurement*

So how do we explain such a significant involvement by non-Zambian companies and a corresponding lack of involvement by Zambian companies in the World Bank funded MTSP? Is it simply because Zambian companies lack the expertise and capacity to carry out the work, especially the more lucrative contracts that require high levels of skills and experience? The following explores the allocation of the MTSP contracts to reveal how the distinct neoliberal characteristics of the World Bank's procurement practices tend to favour large, international companies as opposed to small and medium sized Zambian companies.

As touched upon above, the ninety-one MTSP contracts were put out to tender by AHC between 2000 and 2005. These tenders were advertised in the local, national and international media in order to invite companies to make a formal bid before the procurement office at AHC in Kitwe selected the most competitive bid. The global nature of the advertising meant there was the scope for the participation of international companies in the bidding process. In addition, consistent with all World Bank development projects across the world, each bidder had to adhere to strict procedures in order to be considered for the successful award of the contract⁷⁴. These regulations have a distinct neoliberal character as the World Bank look to award contracts to the companies who can best meet the bidding criteria. In particular, this has meant opening up contract bidding to the international market and allowing the powers of the free market to dominate the process of procurement. In terms of the bidding criteria, prospective bidders needed to provide documentation for three aspects: firstly, previous experience relevant to the contract to a minimum of ten years; secondly, proof of audited financial accounts and thirdly, evidence of financial security. The bidding procedures are accordingly strict in order to mitigate against any potential corruption which has damaged the success of World Bank development projects in the past⁷⁵.

⁷⁴ Bidding is conducted through the International Competitive Bidding (ICB) procedures specified in the World Bank's Guidelines: *Procurement under IBRD Loans and IDA Credits*.

⁷⁵ Interview with CU employee, June 2005

However, the strict nature of the bidding procedures has not worked in favour of all Zambian engineering and construction companies who were not able to meet the aforementioned criteria, regardless of whether they had the expertise and capacity. In the first, the large majority of companies in Zambia have not worked for ten years or they have not kept detailed records of their work. Therefore, even if they had a first-rate recent record of completed work, they were automatically ruled out from the bid. In the second, most of the tenders required at least five years' proof of audited accounts. This was especially problematic for small and medium sized companies who often could not afford a professional firm to audit their accounts. In the third, in most tenders evidence of financial security refers to a bid guarantee of US\$1,000 which almost all small and medium sized local companies could not acquire. Furthermore, due to the weak economy in Zambia, acquiring a commercial bank loan in order to make the bid guarantee can be very expensive for Zambian companies. The interest rates on commercial bank loans are exceptionally high and thus most companies could not afford to take out the loan which thus prevents them from making a bid⁷⁶.

A further important point to note is that on most occasions the successful international contract winners sub-contracted the work to local companies after the contract had been won. In particular, the contracts requiring heavy intensive labour were offered to Zambian companies who had access to pools of local labour. However, rather than pay the Zambian companies the equivalent fee as specified in the MTSP, the international companies paid at a much lower rate. This caused considerable unrest with a number of the local sub-contractors which in turn led to strikes and considerable delays in the completion of the construction projects. Unsurprisingly, AHC became very unpopular in the Copperbelt business community with local companies arguing that AHC was biased towards the international companies because they did not provide equal pay conditions for Zambian companies⁷⁷. Overall, this aspect of the MTSP illustrates a fundamental paradox in World Bank procurement; Zambian companies demonstrated the necessary

⁷⁶ Interview with CU employee, June 2005

⁷⁷ Interview with CU employee, June 2005

skills and capacity to carry out the work by completing many of the construction related projects and yet were excluded from bidding for the contract because of the politics of the procurement as discussed above. Although the specifics of World Bank procurement is not examined in any further detail in the thesis, the example illustrates the way in which international companies have benefited at the expense of Zambian companies in the World Bank's MTSP.

Overall, this section has sought to explore how a World Bank development project has impacted upon the governance of the Copperbelt water sector. The episode above serves to demonstrate how the neoliberal tendencies of the World Bank's development practices favour international companies as compared to local Zambian companies. Furthermore, the MTSP bidding criteria has been shown to exclude small and medium sized Zambian companies in spite of the fact that much of the actual construction work filters down to these companies at a much cheaper rate. While the internationalisation of development may provide greater economic opportunities for international companies, there is less minimal meaningful economic opportunity for local companies. This research outcome is further discussed and analysed in relation to the trend of persisting uneven development in Chapter Eight.

6.5. Conclusion

In conclusion, the purpose of this chapter has been to examine the impacts of the neoliberal development doctrine upon water governance and power relations within the Copperbelt water sector. The first section of the chapter explored the implications of the neoliberal inspired water commercialisation policy to reveal how the policy – intimately linked to the World Bank's 'good governance' agenda – is not just understood as 'administrative' but is a very deliberate attempt to enable an environment for future water privatisation. The second section referred more explicitly to the conceptual theme of power to examine the power relations in development negotiations over the future for Copperbelt water governance. In particular, it considered the competing political interests

of local Copperbelt stakeholders, the Zambian government and the World Bank. Ultimately, this section revealed the power of the World Bank in the negotiations and the uncompromising stance it took when its vision for neoliberal water governance was challenged. The third and final section unpacked the allocation of funds from a World Bank development project to reveal a proliferation of international companies involved in the Copperbelt water sector. Analysing this project revealed the extent to which the neoliberal tendencies of World Bank procurement practices favour international companies as opposed to local Zambian ones.

The following chapter explores another dimension of neoliberal development and its impact upon Copperbelt water governance. Chapter Seven draws upon primary empirical research collected in the field to consider the impacts of the neoliberal water policies on the provision on watsan services in the Copperbelt. This chapter looks specifically at the watsan consumer – with special attention to subaltern populations – and the way in which the neoliberal doctrine has impacted upon the watsan providers.

7. Green Lawns vs. Dry Taps⁷⁸: the uneven impact of a neoliberal inspired water policy on the urban water landscape of the Copperbelt



7.1. Introduction

Having considered the development of the Copperbelt water sector throughout the twentieth century in Chapter Five and explored the broader water governance implications of neoliberal development in Chapter Six, this chapter investigates the impact of the water commercialisation policy from two distinct perspectives. Firstly, water commercialisation is examined from the perspective of the water consumer. Analysing empirical data collected from the social survey and focus group research methods, this section scrutinises water commercialisation in relation to the overall quality of watsan services for urban populations with particular emphasis on the subaltern⁷⁹. Secondly, water commercialisation is examined from the perspective of the water and

⁷⁸ The photographs above illustrate the 'Green Lawns vs. Dry Taps' analogy: the first photograph is of a green lawn from a water rich township and the second shows a young girl carrying several water containers in a water stressed township. Both photographs were taken in the town of Chingola, approximately one mile apart, and yet demonstrate the contrasting water supply conditions. These two photographs thus serve as an introduction to illustrate the differing experiences of water access in the Copperbelt. The photographs were taken by the author during fieldwork in 2005.

⁷⁹ Consistent with earlier chapters in the thesis, the term 'subaltern' refers to urban poor populations – the common men, women and children – most of whom live in the water stressed townships of the Copperbelt.

sanitation (watsan) provider – referred to as commercial utilities (CUs). Unlike the previous chapter which examined neoliberal water governance more broadly, this chapter examines neoliberal water governance as it manifests at a local level, specifically, how commercialisation impacts upon the day-to-day operations of the CU. This analysis is based upon the empirical data collected from the institutional ethnographies of the four CUs (see Chapter Four for more details on the research methods referred to above).

The main argument in this chapter is that water commercialisation has led to a polarisation of watsan geographies across the Copperbelt: the historically water rich townships have experienced improvements in their watsan services whilst services in the historically water stressed townships have continued to remain severely inadequate. The chapter elucidates how residents living in the water stressed townships – more often the poorest urban dwellers – remain reliant on alternative water sources with often questionable water quality. As a consequence, water commercialisation is argued to have a limited positive impact on the urban poor whilst benefiting populations with a relatively safe and reliable existing watsan service. It is also argued that the resulting transformation in water governance as a result of commercialisation is a key factor in explaining the polarisation of watsan geographies. The chapter reveals how commercialisation has led to far greater emphasis on the commercial aspects of watsan operations which, in turn, has encouraged the CUs to follow profit making opportunities into the water rich townships. This is argued to be most harmful to the urban poor who offer far fewer commercial incentives to the CUs than wealthier residents in townships with good access to watsan. Finally, the chapter concludes by questioning the negative social outcomes of commercialisation in relation to the World Bank's stated development agenda. Whilst there have been improvements in certain aspects of Copperbelt water governance, it is argued that the outcomes of commercialisation fundamentally clash with the World Bank's goals of improving watsan access for the urban poor.

7.2. Polarising water geographies: grounded experiences of commercialisation

Before describing the effect of commercialisation on watsan provision it is imperative at this point to briefly re-emphasise the arguments made in Chapter Five. Watsan services in the Copperbelt have been influenced by a legacy of uneven water geographies stemming from colonial urban planning whereby minority ‘white enclaves’ enjoyed the benefits of a European quality of service compared to African townships where there was often inadequate provision. Despite various attempts to overcome these water inequalities after the end of formal colonial rule, the uneven water geographies have become a permanent feature of the Copperbelt. In 2000, when the CUs took over responsibility of the watsan services, the urban water landscape was characterised by townships inhabited by a minority rich population with relatively good watsan conditions compared with townships inhabited by a majority poor population with mainly inadequate watsan conditions. For the rest of this chapter the latter are referred to as ‘low cost and peri-urban’⁸⁰ townships’ and the former as the ‘high cost townships’.

Making generalised descriptions of watsan across a wide geographical area such as the Copperbelt is innately problematic; for a start, the quality of water supplies is in part determined by very specific localised conditions such as the state of the pipes leading from the water mains into the property. If these adjoining pipes are badly rusted or corroded, the quality of water supply into the property will be affected even if the pressure and quality of water are of a good standard. Each township has its own specific conditions that can also have an impact on the overall quality of service in that area. For example, the mining townships have some of the oldest infrastructure in the Copperbelt dating back to the 1940s and thus watsan conditions are especially poor in these townships. Therefore, making common assumptions will inevitably overlook some of the nuances and complexities of specific watsan conditions. Nonetheless, this section sets out to examine the wider geographical trends of watsan provision within the copper

⁸⁰ ‘Peri-urban’ is the term used by Department for International Development (DfID) to refer to informal settlements. These are more commonly known as ‘shanty towns’ or ‘favelas’ (in Latin America). For the purposes of consistency in the chapter, the term ‘peri-urban’ will be used to describe the informal settlements living in the Copperbelt.

towns in order to understand how the commercialisation policy has impacted upon the urban water landscape of the Copperbelt as a whole.

In order to examine the impact of water commercialisation on watsan services the following section explores four key factors: watsan tariffs, water quantity, water quality and sanitation. These four factors are considered for the towns of Chingola and Kitwe over the course of the fieldwork. The choice of these two towns relates to one of the major limitations of the research (see Chapter Nine). Due to constraints in scope and time, I was only able to investigate the impacts of commercialisation upon the consumer in these two towns as opposed to all seven. Therefore, as stated in the previous paragraph, the arguments raised in this section of the chapter are assumed to represent a broader trend in the Copperbelt. Lastly, as part of the interdisciplinary nature of this research, a separate water quality study was carried out to examine the impact of commercialisation on the quality of subaltern water supplies.

7.2.1. Water and sanitation tariffs

As discussed earlier in the chapter, the implementation of water commercialisation had an important impact on the water sector because, in recognizing the true economic value of water, CUs had the means to instigate an increase in water tariffs. This marked a move away from the permanently low water charges which had plagued the Zambian water sector for many years (Robinson, 2002). Consequently, since 2000, each of the CUs has been granted permission by the water regulator to incrementally increase their water tariffs. Figure 7.1 below illustrates the increases in water tariffs for both low income groups (the low cost tariff) and high income groups (high cost tariff) for the town of Chingola over the period 1994 to 2006.

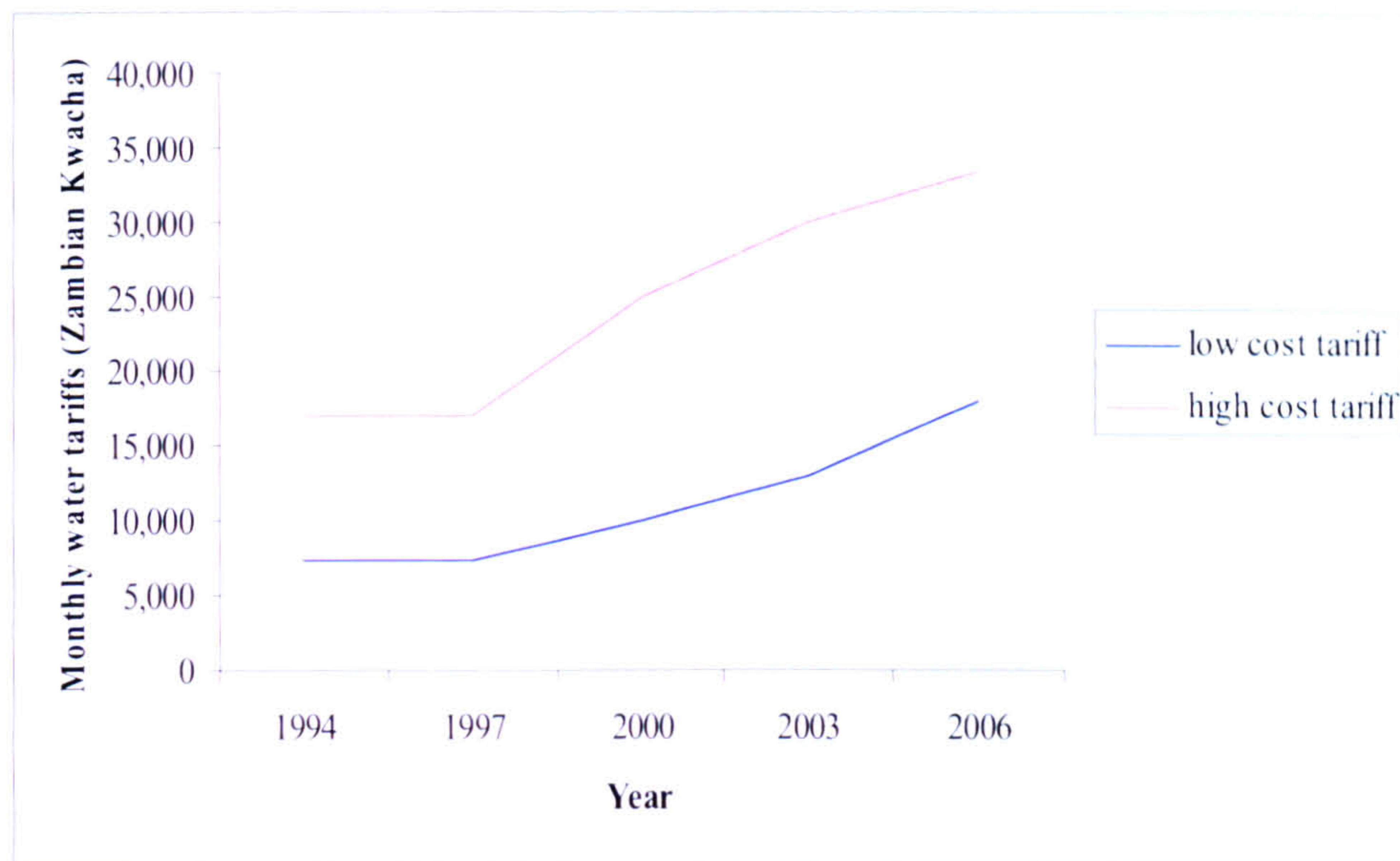


Figure 7.1: Monthly water tariffs in the town of Chingola between 1994 and 2006⁸¹

Source: Mulonga Water and Sewerage Company (2006)

The consumer response to the increasing water tariff is linked to the willingness to pay and economic security of the paying customer. On the whole, those in the high cost townships are relatively economically secure and most can absorb the price increase in order to avoid any possible penalising action taken by the CU. A key role of the CUs is to penalise customers if they fail to pay and unlike the previous responsible water authority, non-payment usually results in a swift disconnection followed by a one-off fee for reconnection once the bill has been settled. In the high cost townships most customers are wealthy enough to either pay their monthly bills outright or pay the reconnection fee and continue paying their bills from the following month if they had failed to pay their water bill on time.

Conversely, the situation in the low cost townships is far more complicated and unpredictable. For a start, customers in these townships are generally far less economically secure relying on informal employment for sources of income. Paying for water on a monthly basis is thus problematic for many, especially considering the large family sizes in these townships. This issue has been further compounded in the last

⁸¹ In July 2005 the conversion rate of US dollars (US\$) to Zambian Kwacha (ZK) was US\$1 to ZK 5,500.

decade by the spread of HIV/AIDS⁸², leaving many families no option but to adopt orphaned relatives. Consequently, family sizes have increased placing even greater financial strain on the principal income earner to provide food and water for each of the family members. Moreover, considering there is always an alternative water source of some kind – hand-dug wells, illegal water connections, urban streams and water courses – paying for a piped water supply is not always a high priority for consumers in the low cost townships. Many customers do not believe commercialisation has sufficiently improved their watsan service to warrant an increase in water tariff and so many refuse to pay out of a matter of principle and as a consequence, are promptly disconnected by the CU. As a poor woman living in a low cost township in Chingola responded when asked why she refused to pay her monthly water bills:

Female resident:

“Why should we pay when our service is so poor?”

[#1]

Another key issue to consider is the familiarity regarding the use of alternative water sources in the low cost townships. The history of inadequate watsan access as discussed in Chapter Five has meant that finding a reliable water source and toilet facilities has been a part of the daily routine of life in these townships for many years. It is no surprise that many disgruntled low cost consumers accept permanent disconnection of a piped supply and instead resign themselves to reliance on alternative water sources. The consequence for many households in the low cost townships is that much of the day is spent searching, queuing or negotiating for water followed by carrying water in containers across vast areas of the township. Invariably this task is carried out by women and children. Figure 7.2 below shows a number of children seizing the opportunity to collect water from a burst water pipe in the town of Chingola.

⁸² Human Immunodeficiency Syndrome (HIV) / Acquired Immune Deficiency Syndrome (AIDS)



Figure 7.2: Children collecting water from a burst water pipe

Source: Author's photograph

In all, the increase in water tariffs, whilst an important way for the CUs to generate funds and become more financially stable, has served to marginalise the poorest and least economically secure populations. Considering the formal low cost townships and peri-urban make up approximately eighty percent of the Copperbelt population, the increase in water tariff has had a largely negative impact on a considerable percentage of the population. Conversely, the increase in water tariffs for the high cost customers, albeit not a popular decision, has not served to marginalise these customers from a piped water supply. Thus the issue of water pricing reveals a significant factor in explaining the polarising effect of the commercialisation policy.

7.2.2. Water quantity

Water quantity refers to the amount of water received by a household and has also been affected by the implementation of the commercialisation policy. Revealing similar effects to the water tariffs, Table 7.1 below demonstrates how the high cost townships have benefited disproportionately as compared with the low cost and peri-urban townships. For

example, the high cost townships have experienced an increase from a maximum of 16 hours a day of water supply in 1999 to a maximum of 24 hours a day in 2005. In the low cost townships however, the increase in the maximum numbers of hours of piped supply has only increased from 12 to 16 hours. As a consequence, the high cost townships receive a far more convenient water supply whilst consumers in the low cost townships need to conserve and utilise the water when it is available. As discussed in greater detail below, in the peri-urban there is no piped supply and thus residents rely entirely on alternative sources of water such as hand-dug wells, urban streams or CU operated ‘water kiosks’.

Table 7.1: Average number of hours of piped water supplied to the Copperbelt townships

Year	High cost township	Medium cost township	Low cost township	Peri-urban
1999	10-20	10-16	4-12	n/a
2005	16-24	16-24	4-16	n/a

Source: Mulonga Water and Sewerage Company (2005)

Importantly, the quantity of water received at a household is also affected by the pressure of the water in the pipe network. On the whole, water is more pressurised in the high and medium cost townships as a result of fewer water leakages and a manageable water demand from consumers. In the low cost townships, due to a constant demand for water and regular water leakages, it is more difficult for sufficient pressure to build up in the pipe network. Whilst the above figure demonstrates an increase in the numbers of hours of piped water supplied to the low cost townships, the perpetually low pressure in these networks means there is not necessarily a tangible improvement in the quantity of water received in these townships. The matter is compounded further by poor residents who chose to connect illegally to the water mains as shown in Figure 7.3 overleaf. Connecting illegally also lowers the water pressure for neighbouring households who rely on the same water mains pipe. Each of the CUs acknowledged that since the implementation of water commercialisation in 2000, the number of illegal connections has increased in the

low cost townships. The CUs agreed that the increasing water tariffs and the minimal improvement in the quality of watsan service were major factors in this trend⁸³.

7.2.3. *Water quality*

Commercialisation has also had a direct impact on consumer water quality across the Copperbelt. Due to the strict regulations of the water regulator⁸⁴, CUs are required to consistently meet World Health Organisation (WHO) standards for drinking water (see WHO, 2007). If there is any failure in meeting these standards, in addition to a considerable financial penalty from the regulator, the CUs are required by law to stop supplying the townships until the quality of water has been approved. This was not always the case under the previous water governance regime where, due to an absence of regulation, water unsafe for human consumption was occasionally supplied to all townships⁸⁵. Despite infrequent water shortage after commercialisation, consumers with access to piped water are generally guaranteed a high quality, safe water supply.

Whilst the majority of the high cost consumers have access to piped water, this is not always the case for low cost consumers. The increase in water tariffs and the general disillusionment with the operations of the CUs has led many in the low cost townships to look for alternative sources of water such as hand-dug wells, urban streams and illegal water connections. The latter has immediate water quality implications because illegal connections involve digging into the ground to expose the pressurised mains pipeline before puncturing it and siphoning off the water. By opening up the pipe in such a way, there is potential for contamination of the open pipe from pathogens (e.g. e-coli) from the surrounding soil and debris. It must also be considered that the general planning procedure in the Copperbelt is for sewer and water pipes to run side-by-side in the ground. There have been cases of local people unwittingly puncturing a sewer pipe

⁸³ This information was collected through a series of interviews with technical and management staff at the four CUs between May and September 2005.

⁸⁴ The official name of the Zambian water regulator is the National Water and Sanitation Council (NWASCO)

⁸⁵ Interview with CU employee, June 2005

instead of the intended water pipe. In this case, not only are there health risks of raw sewage flowing into the nearby properties (see Figure 7.8 later in chapter), but also the potential contamination of water pipelines with sewage. Figure 7.3 below shows an illegal water connection: a rubber tube has been placed over the deliberately punctured water pipe. The figure also shows the close proximity of the sewer and water pipes.

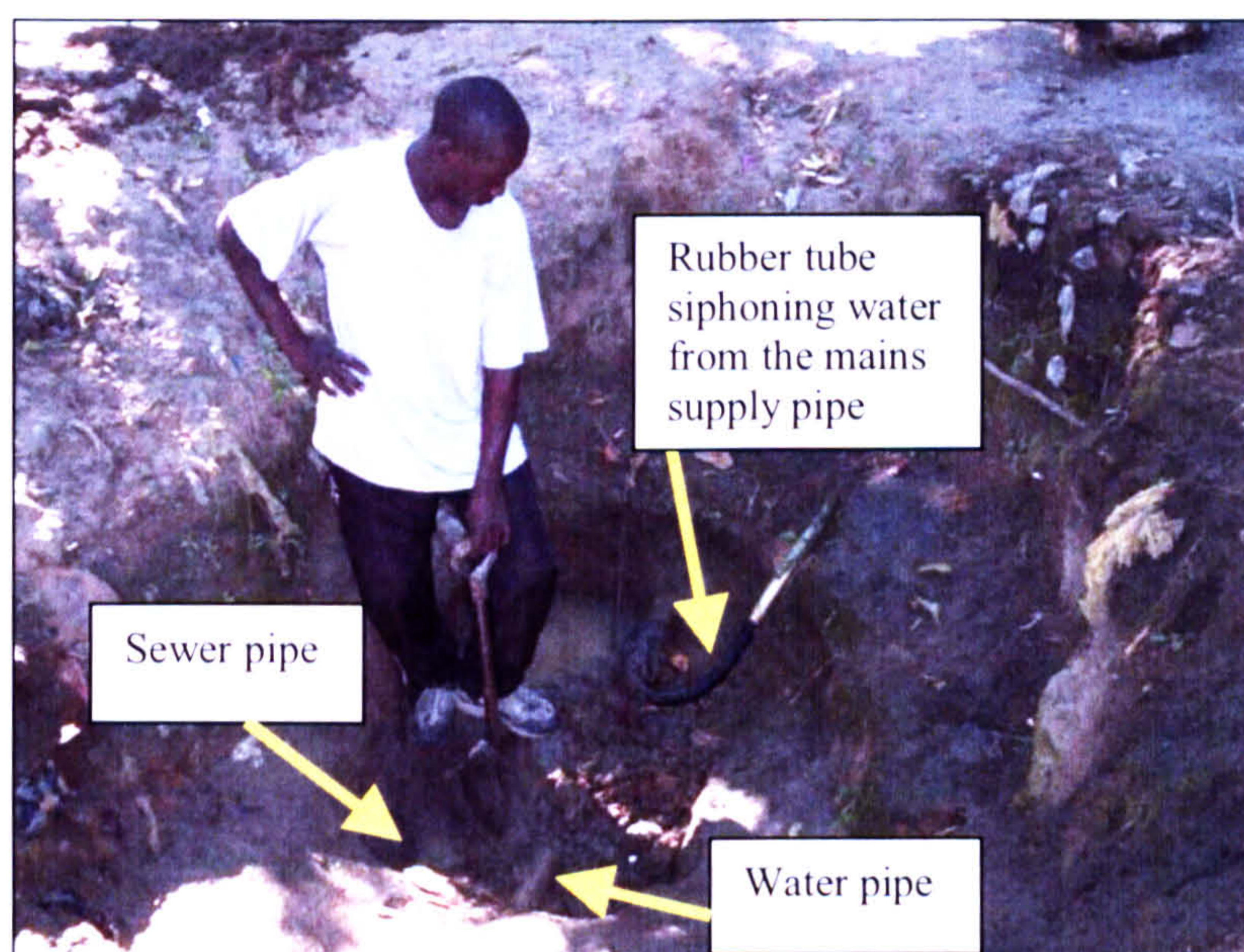


Figure 7.3: An illegal connection to a mains water supply

Source: Author's photograph

Another alternative source with equally questionable water quality is water drawn from hand-dug wells. Whilst the digging of wells across all townships (including the high cost townships) in the Copperbelt has been a common phenomenon since the water shortages of the 1980s and 1990s, there appears to have been an increasing reliance on the number of hand-dug wells since the implementation of commercialisation in low cost townships⁸⁶. In both Chingola and Kitwe the responsible CUs noted that this was the case although they did not keep records of the number of new or existing wells used in their areas. With similar motivations to those connecting illegally to mains water pipes, consumers in the low cost townships have increasingly turned to hand-dug wells as a more available and cheaper source of water; the rising water tariffs and unreliable piped

⁸⁶ Interview with CU employee, June 2005

water supplies (low pressure, limited number of hours of water in the day, water shortages) have turned consumers away from the benefits of the piped supply. As one resident from a low cost township in Chingola observed:

RP:

“So, do you think this [digging of wells] will become more frequent?”

Male resident:

“It’s the talk of the day. A lot of people are digging. It’s been mushrooming of late.”

[#2]

A reliance on hand-dug wells is also a characteristic of peri-urban water supplies where has been an exponential growth in the population size and number of peri-urban settlements since independence. Importantly, it is only since the 1990s that the Zambian government has started to recognise the peri-urban as legitimate settlements which in turn has led to some improvement in basic services including water supplies. On the whole, the peri-urban populations tend to rely on water from hand-dug wells, urban streams and springs and existing public water taps, with some even travelling into the formal settlements to find water. More recently, the government has initiated a ‘water kiosk’ scheme whereby treated piped water is sold at small concrete kiosks at various locations across the peri-urban settlements. With financial support from a number of donors through a government initiative called the Devolution Trust Fund, this scheme is becoming the dominant policy option for providing access to clean water for poor urban populations residing in the peri-urban.

Consistent with the underpinnings of the commercial discourse for water supply, local residents must pay a fee per container of water drawn from the kiosk. In turn, the revenue

is collected by the CUs in order to help recover the cost of supplying the kiosks with treated water. In 2005, the average cost of a twenty litre container across the Copperbelt was approximately ZK 50 which equates as nearly 10 cents (US) per m³. Ironically, the urban poor may pay up to ten times more per unit of water than the relatively affluent high cost populations simply because the economies of scale of an individual water connection allow for a cheaper amount of water per unit⁸⁷. Despite the option of a piped water supply via kiosks there is still a considerable reliance on alternative sources of water, in particular hand-dug wells. There tends to be a perception in the peri-urban townships, as well as in the low cost townships, that if there is another available water source, it is more worthwhile to use this source than pay to have water from the kiosk. Ultimately this belief stems from the notion that 'water is free for all' (as discussed in Chapter Six) leading many people to question the benefits of queuing and paying for a piped water supply when they have been living off alternative sources for most of their lives. Figure 7.4 below shows a father and son drawing water from a hand-dug well in a low cost township of Chingola.

⁸⁷ This issue of the poor paying more than the more affluent residents per unit of water has been the source of much debate at water policy levels in the Ministry of Local Government of Housing (MLGH) and with donors such as GTZ (German Development Agency) in discussions around raising the price of the water kiosk fee. A number of CU managers argued that the water kiosks charge too little for the CUs to make a reasonable return and so would welcome an increase in the tariff of water at the kiosks. Conversely, there are those who argue that the poor already pay too much because they are automatically disadvantaged in that they do not have an individual connection and thus the economies of scale make the cost per unit of water more expensive.



Figure 7.4: A father and son draw water from a hand-dug well

There is an initial cost of digging the well⁸⁸, usually carried out by male friends and acquaintances of the householder. However, unlike protected wells which are lined with a protective synthetic material to protect from soil contaminants, hand-dug wells in the low cost townships are very rarely lined. This is mainly due to the added expense of the protective lining and the lack of availability of necessary materials. As a consequence, this raises a number of water quality concerns, especially in relation to direct consumption of well water as examined below.

Water quality study of hand-dug wells

An objective of this research linked to the interdisciplinary nature of the study, was to examine the water quality characteristics of water drawn from hand-dug wells in the Copperbelt. This is particularly pertinent given the problems regarding access to a piped water supply and the reliance on alternative sources such as hand-dug wells, especially in the low cost and peri-urban townships. Therefore, as discussed in the methodology

⁸⁸ In 2005, the average cost of a hand-dug well was approximately ZK 400, 000 which is the equivalent of US\$80. Once dug, there are no other remaining water charges to be paid and so an attractive option for those residents who can afford the initial cost of digging the well.

section in Chapter Four, a small quantity of water was collected from 45 wells from a number of low cost and peri-urban townships in the town of Chingola. These water samples were then returned to the UK before analysis for a variety of water quality indicators (all results displayed in Appendix B). Of particular interest were the results for pH, nitrates and aluminium as illustrated below in Figures 7.4, 7.5 and 7.6. The World Health Organisation standards are also displayed on the graphs.

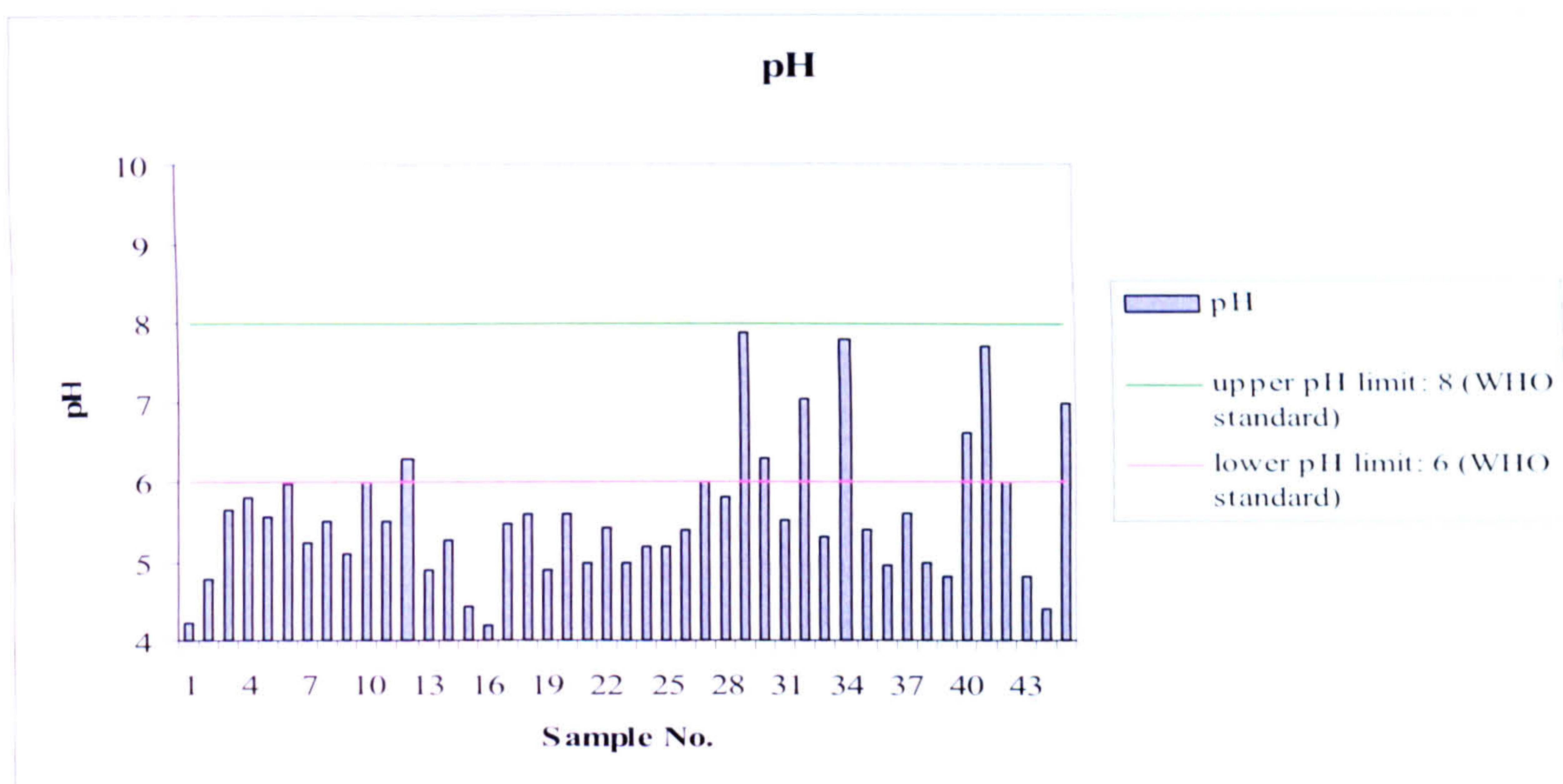


Figure 7.5: pH values for hand-dug wells (mg/L)

Source: Author's research

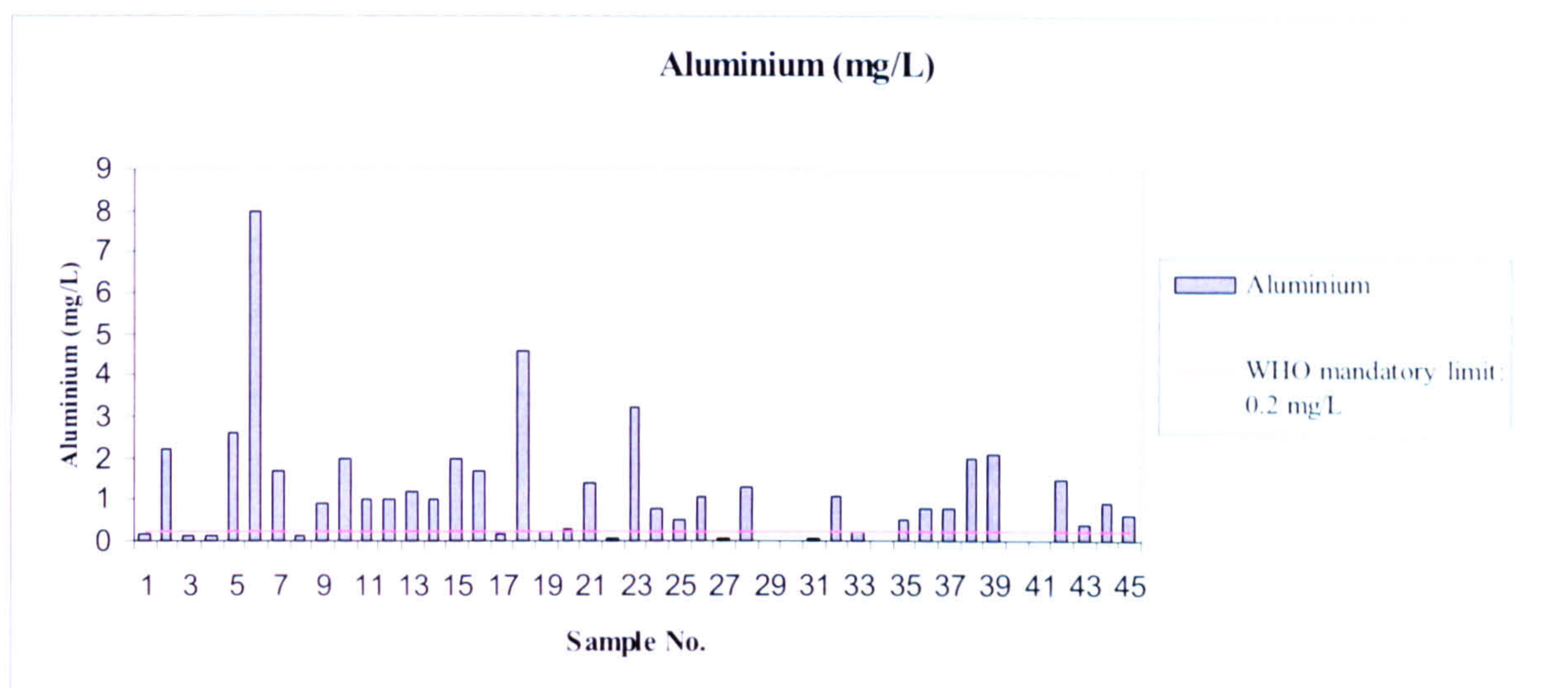


Figure 7.6: Aluminium values for hand-dug wells (mg/L)

Source: Author's research

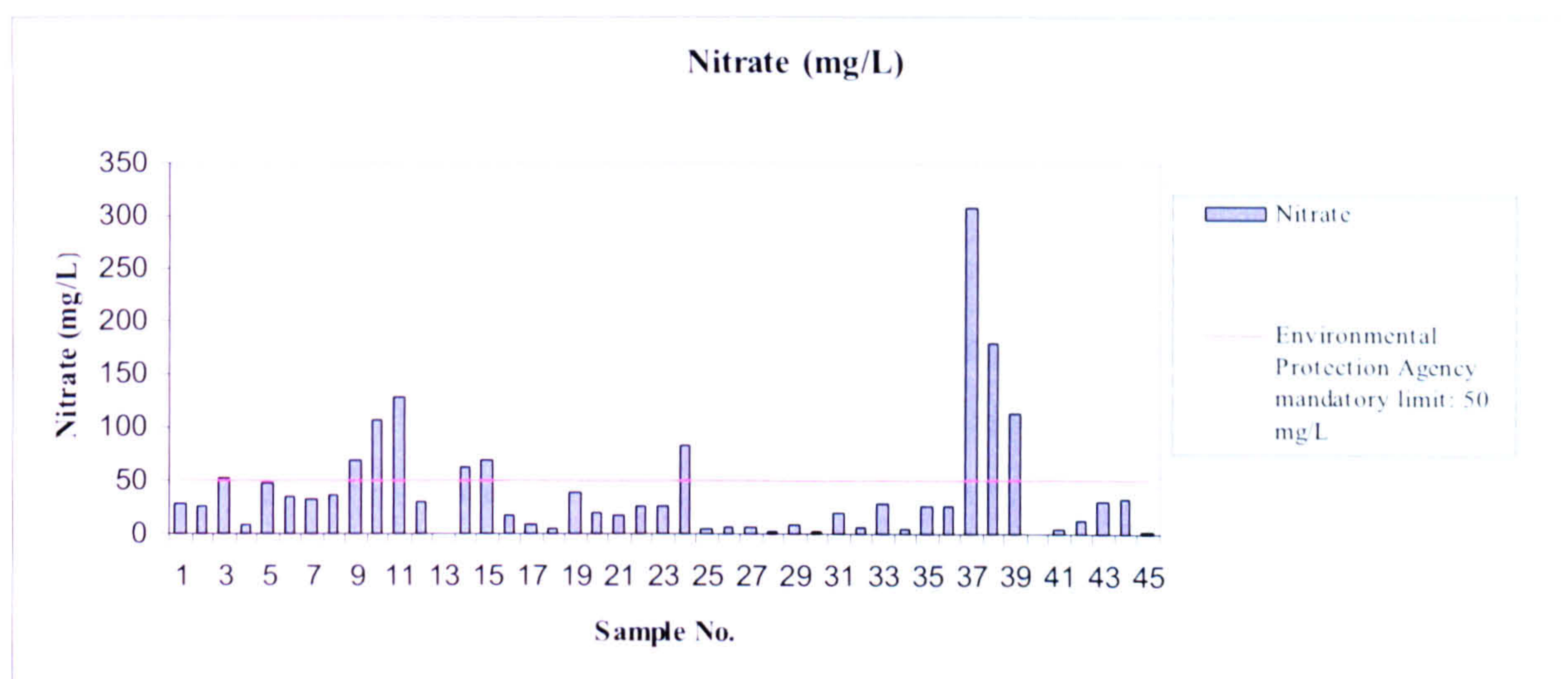


Figure 7.7: Nitrate values for hand-dug wells (mg/L)

Source: Author's research

Analysis of the water samples suggests that, on the whole, the water drawn from the 45 hand-dug wells was not especially poor in water quality but is certainly not desirable for direct human consumption over a long period of time. As displayed in Figure 7.5, the results for pH demonstrate the slightly acidic nature of the water drawn from the hand-dug wells, with 34 of the wells (76%) failing to reach the WHO standard of pH between 6

and 8. Although the consumption of slightly acidic water (pH 4-5.5) does not pose an immediate risk to humans, it is not recommended over a sustained period (WHO, 2006).

The low pH values were caused in part by the presence of naturally occurring nitrates and aluminium in the groundwater as displayed in Figures 7.5 and 7.6. In terms of aluminium, 30 of the samples (67%) did not meet the WHO standard of less than 0.2 mg/L. Indeed, as illustrated in Figure 7.6, three samples recorded values of over 50 times the WHO's acceptable limit for aluminium consumption. Recent research into the human health risks of aluminium in drinking water is relatively inconclusive although it is suspected that high levels can trigger Alzheimer's disease in older people (Alzheimer's Society, 2003)⁸⁹.

Of perhaps greater concern are the high nitrate values in the water as demonstrated in Figure 7.7. To date, the greatest concern over nitrates in drinking water above 50 mg/L relates to the notion that it is directly responsible for an illness called methaemoglobinaemia, also known as 'blue baby syndrome' which is potentially harmful to infants (Younger, 2007). The US Environmental Protection Agency (EPA) use a mandatory limit of 50 mg/L in US drinking water standards in order to avoid infants suffering from the condition (EPA, no date)⁹⁰. As shown in Figure 7.7, 11 of the 45 wells (24%) failed the EPA standard which suggests the consumption of water from hand-dug wells by infants could be a potential health risk in the Copperbelt. Importantly, nitrates cannot be removed by boiling and so, unlike other pollutants, nitrates remain present in drinking water sources (Younger, 2007). A final point to consider is the extent to which the research reflects a seasonal or annual trend in terms of the water quality characteristics of the hand-dug wells. Although the water samples were collected at the end of the dry season (September), the quality of water just below the surface of the

⁸⁹ An incident in the English town of Camelford in 1988 has led scientists to draw stronger links between aluminum consumption and Alzheimer's disease. Over 20,000 people were exposed to high levels of aluminum after an accidental discharge at a local water treatment works. A recent fatality from a form of Alzheimer's and up to 20 unexplained deaths in the local area are leading scientists to speculate over the relationship between aluminum and the disease (The Guardian, 2006).

⁹⁰ More recent research (Addiscott and Benjamin, 2004) suggests there may even be some health benefits of nitrates, including the prevention of dental diseases and helping the human body's immune system defend against the microbes which cause gastroenteritis.

ground (i.e. water supplying hand-dug wells) is relatively unaffected by the replenishment of wells during the wetter months (Younger, 2007). Therefore, it is likely that the water quality analysis reflects an annual trend as opposed to a seasonal one.

Overall analysis of the water quality in a number of hand-dug wells in the low cost and peri-urban townships reveals that, despite a number of indicators of poor water quality, particularly the low pH and the relatively high values for aluminium and nitrates, consumption from the wells does not pose an immediate risk to human health. However, as intimated above, consumption of water over a sustained period of time could be of potential risk, particularly to infants in the dry months of the year. Furthermore, the fact that the poor water quality reflects an annual trend as opposed to a seasonal one raises health concerns for those who rely on hand-dug wells for the majority of their water needs throughout the year. Unfortunately, due to methodological constraints (see Chapter Four) a bacterial analysis of the wells could not be undertaken which would have given an indication of the presence of water-related and waterborne diseases such as diarrhoea, dysentery and cholera. In spite of this, understanding the water quality of these alternative sources is important given the trend towards hand-dug wells in the low cost townships as a consequence of water commercialisation. If more people chose to draw water from hand-dug wells because of the limited access to a piped water supply, the poor water quality of these water sources becomes an issue of concern for a growing percentage of the poor urban populations.

7.2.4. Sanitation

Before examining the impact of water commercialisation on the provision of sanitation it is worth emphasising the general levels of neglect that has prevailed in relation to sanitary policy and sanitation infrastructure across the Copperbelt. As discussed in Chapter Five, the first permanent sanitary facilities were built by mining companies

during the 1930s and 1940s. These mining companies constructed waterborne sanitation⁹¹ for European townships (now high cost townships) and for most African mining townships (now low cost townships)⁹². Waterborne sanitation was based upon a British design and, significantly, was highly capital intensive (i.e. the laying of several kilometres of sewer pipes and construction of wastewater treatment works) requiring considerable resources for construction and maintenance of the infrastructure.

For the first couple of years after independence the new Zambian government followed the lead taken by the mining companies by extending waterborne sanitation facilities to the new urban settlements. It was not until the early 1970s that it was realised that waterborne sanitation was unfeasible for all settlements and thus less capital intensive technologies such as pit latrines were built instead (Todd, 1987). The waterborne infrastructure soon fell into a state of disrepair as watsan budgets were drastically cut as the national economy declined from the late 1970s. Furthermore, the provision of clean drinking water was always given a higher priority compared to adequate sanitation and thus sector spending was disproportionately directed towards water related projects. This lack of urgency towards sanitation was clearly demonstrated in the mid-1990s when, after a western NGO assisted in the creation of a new sanitary policy, the ministry overseeing the policy dialogue chose to ignore the recommendations⁹³. Therefore, the background to commercialisation in the Copperbelt is a history characterised by a fundamental neglect and general inattention towards sanitary issues which reflects in the poor state of the sanitary infrastructure inherited by the CUs in 2000.

Nonetheless, when examining the impact of commercialisation on the general state of sanitation across the Copperbelt, the contrast between the ‘haves’ and the ‘have-nots’ is seen in their most polarised form: improvements have been made in the high and medium cost townships whilst the low cost townships have experienced a negligible positive

⁹¹ Waterborne sanitation refers to flush toilets connected to a sewerage network that remove human liquid and solid waste to a wastewater treatment plant

⁹² The mines also built some communal ablution blocks for some of the mining townships such as those found at Wusakili Township in the town of Kitwe.

⁹³ Interview with MLGH, June 2005

impact since commercialisation. Other than the peri-urban, most formal settlements rely on waterborne sanitation. This technology relies on the regular supply of water to flush human faeces and urine from the toilet into the sewer network and onwards to the wastewater treatment works. The perpetual water scarcity in the low cost townships has a significant impact on sanitation activities because it means there is not always water available for flushing purposes. As a consequence, faeces and urine often remain in the toilet for hours – sometimes many days – before being flushed into the sewer network.

Significantly, the lack of available water for sanitary purposes creates socially difficult scenarios for women who often feel embarrassed to defecate without flushing, especially during the menstruation cycle. Instead, some women are known to wait until night in order to find a more isolated location to defecate which, as well as being a potential risk to their personal safety, is not the most appropriate sanitation method in terms of hygiene. Some women even resort to burying their own faeces in their yards at night if there is no other suitable toilet method. Unsurprisingly, the relative abundance of water in the high cost townships means there is not the compromise to human health and dignity as experienced in the low cost townships.

Waterborne sanitation also relies on the regular flushing of water to prevent sewage blockages. Predictably, there are far fewer sewage blockages in the high and medium cost townships due to the constant availability of water to flush waste through the sewers. Conversely, the low cost townships are far more prone to blockages due to the relative water scarcity. Blockages can be caused by the build up of faeces as well as debris (including rags, branches, dead animals and occasionally unborn foetuses) that have been thrown into the sewer system. For reasons examined later in the chapter (see 7.3.2: Bias towards high cost townships), the CUs are also far more inclined to attend to a sewage blockage in the high and medium cost townships as compared to those in the low cost townships. Therefore, it is a common sight to see pools of raw sewage or an overflowing sewer in low cost townships as compared to high and medium cost townships. Figure 7.8 below shows the aftermath of a blocked sewer in a low cost township in the town of Chingola.



Figure 7.8: Sewage flowing from a blocked sewer in a low cost township in Chingola.

Finally, the contrast in the quality of sanitation services between high and low cost townships not only reflects the way in which commercialisation has further polarised the historically water rich and water stressed environments but demonstrates once again the embedded legacy of colonial urban planning. The planning of the high cost townships has created more sustainable management conditions of the urban infrastructures; fewer numbers of people over a larger area of land which leads to a manageable population size impacting upon the sewerage infrastructure. Conversely, the low cost townships were built for large numbers of people over a small area of land and over time the sewer network has become far more susceptible to breakages and blockages. Thus, the vast contrast between the quality of sanitation in the high and medium cost and the low cost townships is not just related to the impacts of the commercialisation policy but is closely

linked to the colonial urban planning policies of an earlier period in the Copperbelt's history.

7.2.5. Green lawns vs. dry taps: polarising watsan geographies

Whilst recognising the uneven water landscape inherited by the CUs in 2000, the above has demonstrated that the water commercialisation policy has led to a polarising geography in the quality of watsan services between the historically water rich and the historically water stressed townships of the Copperbelt; hence, the green lawns vs. dry taps analogy. After five years of the commercialisation policy, grounded experiences of watsan conditions reveal fundamental gains in the high cost townships compared to marginal improvements in the low cost townships. The high cost townships have experienced improvements in piped water services related to the quality and quantity of water received by high cost consumers. Conversely, closely tied to the increasing watsan tariffs and the poor existing services, the low cost townships have experienced limited gains in piped water supply which has led to a growing trend towards alternative sources of water. This has created some problematic water quality issues related to the use of hand-dug wells and illegal water connections. In addition, this analysis has also considered the effects of commercialisation on sanitation services across the towns. The polarising trend between the high and low cost townships is seen in its most extreme form in sanitation provision, where high cost townships have experienced noticeable gains whilst in most low cost townships, the severely inadequate state of sanitation remains the same.

Reflecting this overall trend are the responses from a survey of consumer perceptions of the impacts of water commercialisation carried out in the towns of Kitwe and Chingola in July and August 2005 (see Appendix B for consumer questionnaire). Consumers from mining and non-mining townships in these towns were asked how their watsan service had been affected since commercialisation in 2000. As illustrated in Figure 7.9 and Figure 7.10 below, there was a general feeling of improvement in the high cost townships

as compared with a perception of services staying the same or getting worse in the low cost townships.

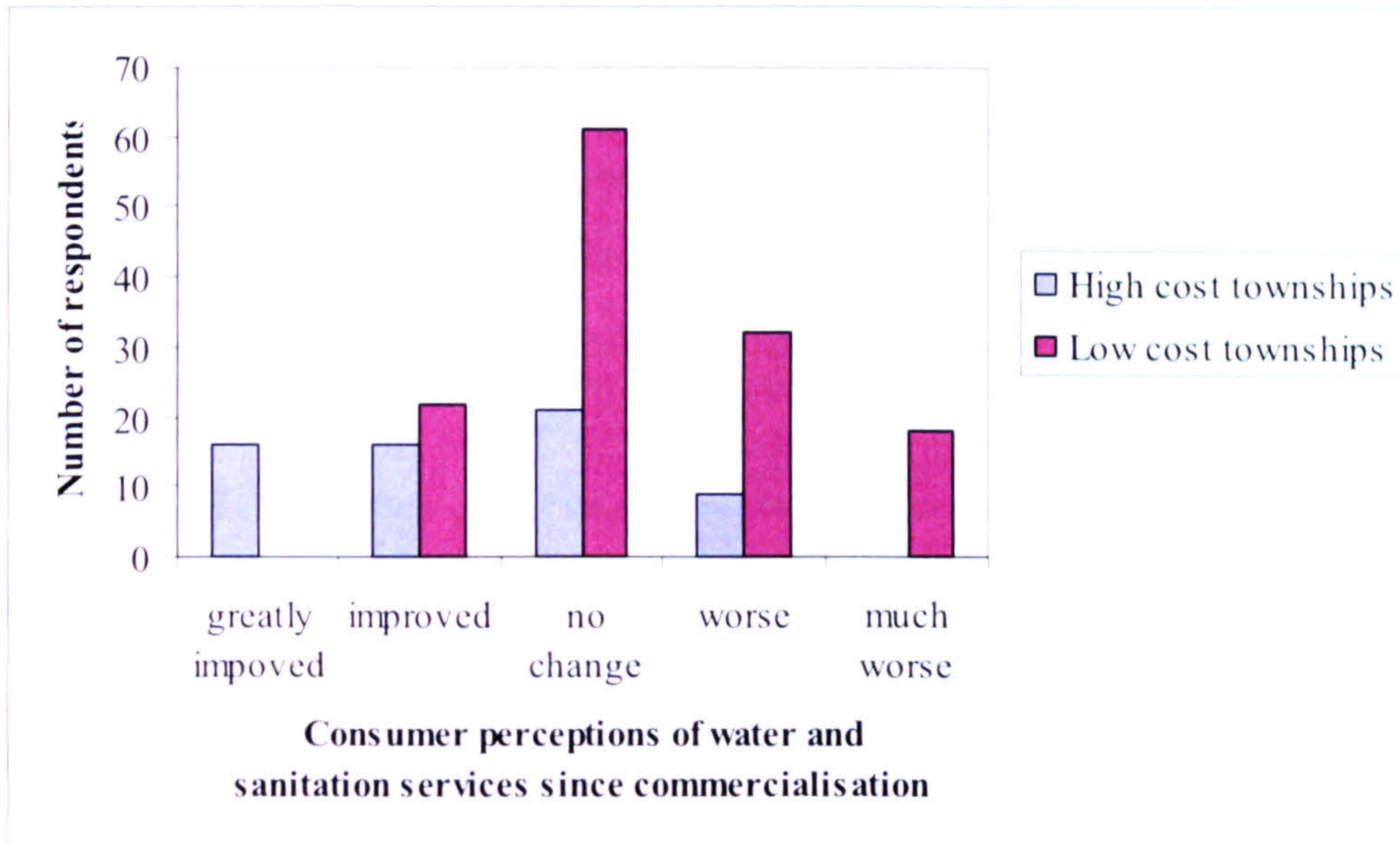


Figure 7.9: Consumer perceptions of the effects of commercialisation on watsan services in non-mining townships in Kitwe and Chingola.

Source: Author's research

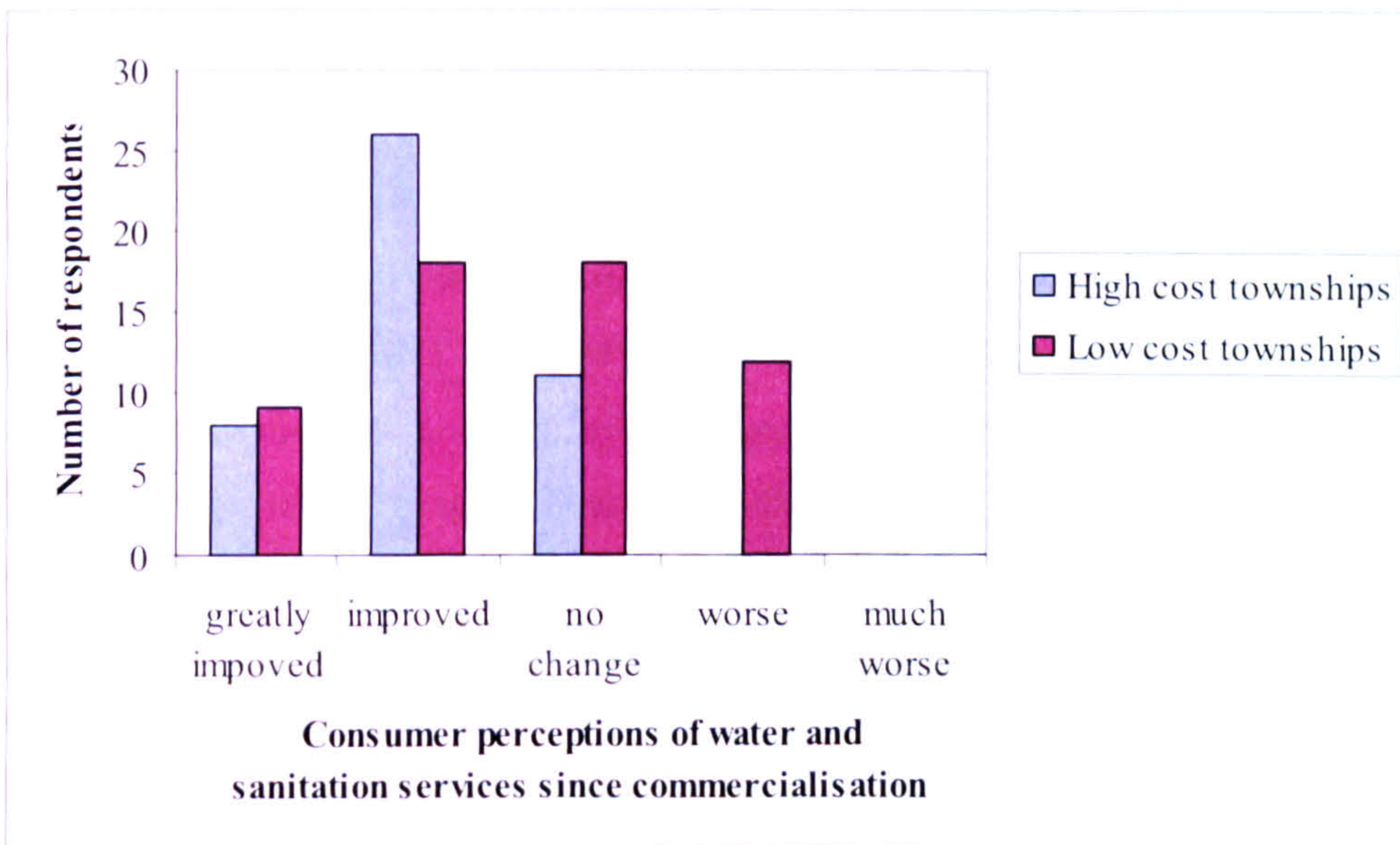


Figure 7.10: Consumer perceptions of the effects of commercialisation on watsan services in mining townships in Kitwe and Chingola.

Source: Author's research

Figure 7.9 illustrates the response to commercialisation in the non-mining townships. In these townships, there appears to be a clear trend of high cost consumers perceiving commercialisation to have benefited their watsan services. Indeed, 75% of high cost respondents felt that commercialisation had either improved or greatly improved their services. This compares with a much lower figure in the low cost townships where the majority perceived commercialisation to have made no difference at all and many (41%) perceiving services to have worsened.

Figure 7.10 illustrates the responses from the mining townships where a trend of polarising watsan geographies between the high and low cost townships is similar but less distinct. A marginally higher percentage perceived an improvement in services in the low cost mining townships as compared with the non-mining townships and is likely to be related to the impact of the World Bank development project. As discussed in Chapter Six, certain mining township watsan infrastructures were singled out for repair and rehabilitation from the World Bank in 2000 which led to an improvement in the quality of watsan services in these specific areas. The survey was carried out in mining townships affected by these repairs and rehabilitation and, therefore, may contribute towards the comparatively higher percentage (41%) of low cost consumers who perceived watsan to have improved after commercialisation, even if the main reason for improvement was not a direct result of commercialisation. Nonetheless, the responses from the survey reflect the overall trend of improved watsan services in the high cost townships as compared with limited improvements in the low cost townships.

7.3. Transformations in water governance

This section of the chapter relates explicitly to the theme of governance in order to investigate the impacts of the neoliberal inspired water commercialisation policy on the day-to-day operations of the newly created CUs. Drawing on data collected from interviews and the institutional ethnographies carried out at the four CUs, it is

demonstrated how the transformations in water governance has led to far greater emphasis on the economics of watsan provision. As a consequence, the research reveals how priority is placed on the commercial aspects of operations and so explains why the CUs follow profit-making opportunities in the high cost townships as opposed to allocating greater time and resources in the low cost townships where there is far less of a commercial incentive. It is argued that this trend is a major contributing factor in the Copperbelt's polarising watsan geography as identified and discussed in the first section of the chapter. Overall, the transformations in Copperbelt water governance highlight some contradictory and concerning issues regarding the competing social and economic rationales of the water commercialisation policy.

7.3.1. The centrality of commercialism

As discussed at length in Chapter Six, water commercialisation was driven by a desire by policy makers in the Zambian government to transform the overall governance of the water sector. Consistent with Zambia's engagement with the neoliberal agenda of the World Bank and IMF and the growing international pressure to improve the management of water resources in the developing world, commercialisation was perceived as a way of creating conditions for a more efficient use of water (Winpenny, 1994: 32). The creation of unelected, financially independent water providers fulfilled the policy makers' ambitions of a sector that was no longer tied to local or national politics but instead treated water as a profitable commodity. The drive towards full cost recovery and the subsequent recognition of water as an economic good, as articulated in the 1994 national water policy, set a legal and political precedent for the operations of the CUs. Commercialisation was a means to transform the overall governance of the urban water sector which, in placing a central emphasis on the commercial aspects of watsan provision, would invite investment from international water companies.

In terms of Copperbelt water governance, the most significant effect with regard to the adoption of a commercial rationale has been the profound change in the working culture

of the watsan providers. The CUs treat water in a fashion mimicking the behaviour of a private water company; water has become the business of the CUs and thus water is treated as a business. The offices of the CUs are located away from the local authority buildings which serve as a symbolic gesture of the new distance – both political and geographical – between the two organisations. Despite the fact the local authorities still have a minimum of a fifty-one percent stake in the ownership of the CUs, the local politicians can no longer interfere because overall jurisdiction lies in the hands of the CUs. Likewise, the CUs are unelected bodies, meaning that they are only accountable to the regulator and are, therefore, not obliged to respond to political pressure from local politicians or civil groups. This has been clearly demonstrated by the disconnection of water services of local politicians and dignitaries by each of the CUs since 2000⁹⁴. Under the previous governance regime local officials were never expected to pay for water, but since commercialisation the CUs have had no hesitation in disconnecting these officials if they fail to pay.

Also, the organisational structure of the CUs reflects the change in the working culture of watsan operations. Marking a considerable shift in organisation under the local authority, the CUs now have four main departments: finance, commercial, technical and human resources. This organisational structure not only reflects a division of labour common to a private water company but implies a movement away from a pure focus on the technical aspects of watsan operations. This change in management culture is most clearly seen at AHC where there has been a noted ‘transfer of knowledge’ from Saur International. The managing director at AHC referred to the benefits brought to the operations of the CU from Saur International, particularly in terms of commercial expertise. He argued that the experience of the Saur International staff in the commercial side of watsan operations was invaluable to the successful running of the company and was also indicative of the transformation towards a commercial rationale in the Copperbelt water sector⁹⁵.

⁹⁴ Interview with CU employee, June 2005

⁹⁵ Interview with CU Managing Director, August 2005

Despite the fact that only one CU directly benefited from Saur International's presence on the Copperbelt, the adoption of a commercial rationale was common to each of the four CUs. A move towards fiscal sustainability has been a key driver for each of the CUs due to the limited financial assistance from central government. Recalling Gerry Stoker's apt observation that governance is the acceptable face of spending cuts (1995: 6), the CUs have received scarce monetary support from the central government since 2000, including minimal funds to operationalize the CUs and limited funds for redundancy packages of local authority staff in 2000⁹⁶. Indeed, as one CU manager argues, the commercial status of the CUs corresponded with a lack of funds from government⁹⁷. In effect, the CUs have become wholly reliant on the income generated from the day-to-day operations in order to meet the necessary monthly expenditures such as the buying of chemicals for water treatment purposes, electricity costs and staff salaries. These income generating activities range from water payment, re-connection fees to the unblocking of sewers.

Consistent with the water demand management approach, the installation of water meters and a strict disconnection policy have important financial implications because they help in the CU's ambition of reducing unaccounted for water (UfW). UfW refers to the amount of treated water that cannot be accounted for by the CUs, either in terms of water distributed to homes without meters and/or water lost through leaking pipes. By implementing a strict disconnection policy and a water-metering programme, the CUs can reduce the overall levels of UfW (see Figure 7.11 below). Moreover, reducing UfW is especially important in the overall financial running of the CUs, as it is one of the most

⁹⁶ An example of the lack of government funding of the Copperbelt CUs was clearly demonstrated in June 2005 when the Minister for Local Government and Housing (responsible for domestic water supply and sanitation in Zambia) visited the water treatment facilities in the town of Ndola. An employee from the CU took the Minister to see a leaking water tank which was causing considerable problems in relation to storing and distributing water. The employee explained how the CU could not afford to repair the leaking tank from the revenues generated from water charges and financial assistance was required from government to cover the cost. The Minister retorted by stating that it was not the job of government to provide funds for such projects and suggested the CU search for funds from commercial banks. This response reflects a marked change to the previous water governance regime. Prior to commercialisation it would have been more likely that the government would have financed such a repair in the knowledge that the local authority would not have the means to afford such an expense (Interview, CU Managing Director, August 2005).

⁹⁷ Interview with CU Managing Director, June 2005

expensive aspects of operations is the treatment and distribution of water. A breakdown of company expenditures at one CU in 2005 reveals that over ninety percent of expenditure was on chemicals for water treatment and electricity costs for the treatment and pumping of water to the townships⁹⁸. Hence, reducing the overall water consumption via practices of metering and disconnecting is a central feature in working towards financial sustainability.

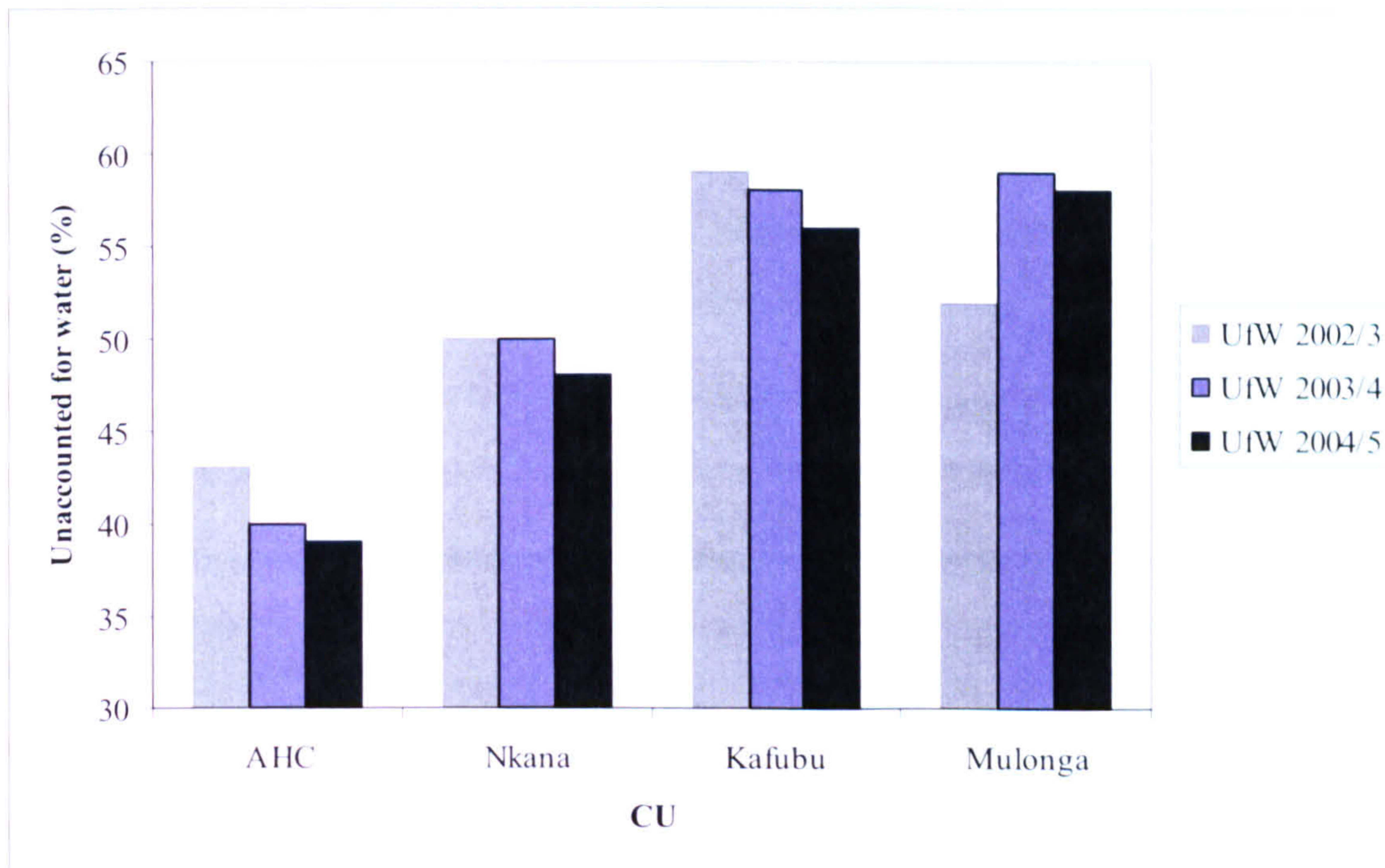


Figure 7.11: Unaccounted for water (%) for the four CUs between 2002 and 2005

Source: NWASCO annual reports

The working cultures of the CUs are so reliant on the commercial aspects of daily watsan operations that the financial managers and commercial staff have become central agents in the overall survival of the companies. As one CU employee observed:

‘...the accountant has become the heart beat of the company [commercial utility]’

[#3]

⁹⁸ Mulonga Water and Sewerage Company annual financial report (2005)

The centrality of the financial managers and commercial staff in the operations of the CUs is clearly demonstrated in the comparison of commercial aspects of the company in relation to non-commercial functions. On the one hand, various indicators over the period 2000 to 2005 demonstrate how the CUs have made progress on issues of a commercial nature. For example, Figure 7.12 below illustrates the improvements in collection efficiency which reflects in the way the company collects water revenues from the respective consumers⁹⁹. As the CUs educate and accustomise consumers to pay their water bills through a number of commercial strategies such as metering and disconnection so the amount of collected revenue increases as a percentage of the billing. Other than a reduction in collection efficiency for AHC in 2003/4, all the CUs have consistently improved this figure which reflects positively on the commercial operations of the CUs.

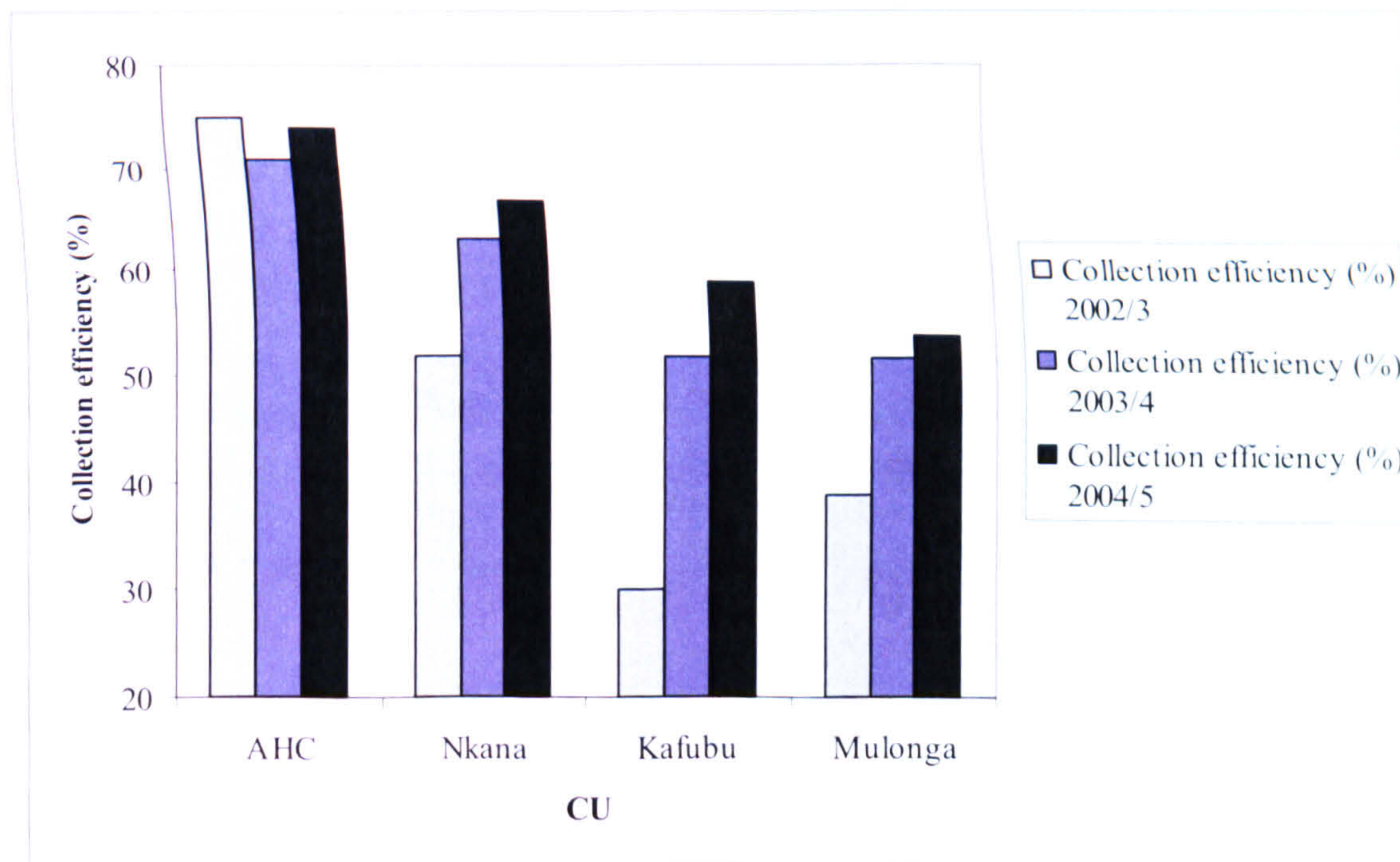


Figure 7.12: Revenue collection efficiency (%) for the four CUs between 2002 and 2005

Source: NWASCO annual reports

⁹⁹ Collection efficiency is the percentage of collected water revenues of the total amount billed.

On the other hand, those working within technical departments, such as water production, wastewater treatment and water distribution, have expressed concerns over the partial bypassing of engineering problems. They argue this is leading to the neglect of important technical issues such as the maintenance and repair of vital engineering functions. An accountant at one of the CUs admitted that the emphasis on the commercial side of the business had led to a degree of exclusion of the engineers in the decisions made within the company¹⁰⁰. Likewise, a water production engineer argued that the commercial logic had become so central to the workings of the company that accountants were now making technical decisions on behalf of engineers which he argued was to the detriment of the company¹⁰¹. Figures 7.13 below illustrates a major defect at the water treatment plant (WTP) at Chingola – the accumulation of algae in water settling ponds – linked to the neglect of the technical aspects of watsan operations¹⁰².

¹⁰⁰ Interview with CU employee, June 2005

¹⁰¹ Interview with CU employee, May 2005

¹⁰² Interview with CU employee, May 2005



Figure 7.13: The accumulation of algae at the Chingola water treatment plant in May 2005

The engineer admitted that whilst there have been gains in the commercial aspects of company operations since commercialisation, there were fewer resources made available for technical operations such as repair of the WTP than compared with the previous water governance regime. He argued that due to the central positioning of engineers in the management of the local authority water department, funding would have been allocated sooner for the types of water treatment defect¹⁰³ as shown in Figures 7.13. However, since commercialisation, engineers have become marginalised in the overall running of the CUs and as a consequence, expenditures of a commercial nature have tended to rank higher than technical ones. The engineer argued that this was an oversight on the part of the CU because without fully functioning water and wastewater treatment, the overall

¹⁰³ Interview with CU employee, June 2005

quality of the watsan services would decline and thus the company would fail in its overall objectives¹⁰⁴.

Having established the relative rise of the accountants and commercial staff in relation to watsan operations, the next section examines how this has impacted upon the provision of services. In particular, it explores how the emphasis on the commercial aspect of operations has led to a concentration of CU time and resources towards the more profitable townships.

7.3.2. The bias towards the high cost townships

Whilst the implementation of a commercial water policy has placed far greater emphasis on the economics of watsan operations, the CUs have continued to remain severely under-funded enterprises¹⁰⁵. Despite improvements in commercial aspects of operations as shown in Figure 7.13 above, the limited financial assistance from government, the inheritance of dilapidated watsan infrastructure – particularly in the low cost townships – and the high levels of poverty has not been conducive to the generation of water revenues. Instead, the CUs have looked to maximise their energies and resources, in the manner of any commercially orientated company aspiring for profit, by prioritizing their operations to bring about the best economic returns. Alarming, it is this commercially driven strategy that has contributed towards the polarising of Copperbelt water geographies.

The high cost townships (referring specifically to the commercial, high cost and medium cost townships) present the CUs with the greatest revenue generating opportunities for three main reasons: firstly, residents in the high cost townships are far more able to pay the watsan charges; secondly, there is willingness to pay due to the existing standards of

¹⁰⁴ Interview with CU employee, June 2005

¹⁰⁵ Although AHC was financially supported by the World Bank, this funding was for repair of infrastructure only and could not be used for daily operating and maintenance expenditures. Thus, common to the other three CUs, AHC was expected to cover these costs from income generated from water revenues.

watsan; and thirdly, these populations pay the highest tariff and consume the largest volumes of water. Conversely, the low cost and peri-urban townships present far greater difficulty for the CUs; not only are these populations poorer and therefore less able to pay, they are also much less willing to pay because of the overall poor quality of watsan. Likewise, the low cost townships and peri-urban pay the lowest tariff and also consume far less water per capita than the high cost townships. The highly stressed and failing watsan networks, combined with the proliferation of leaks and illegal connections, make it an expensive and difficult technical operation to make tangible improvements in the quality of watsan in these townships. In contrast, improving watsan services in the high cost townships is less expensive because the infrastructure is generally more accessible and relatively well-maintained. From a commercial perspective, therefore, the high cost townships have obvious appeal to the CUs as compared with the low cost and peri-urban townships.

Once apparent that there was limited financial support from other sources of funding (central government, donors, commercial banks), the commercial working culture and emphasis around the economics of watsan operations has drawn the CUs towards the profit making potential of the high cost townships. Despite constituting approximately twenty percent of the population in each copper town, the CUs have looked to maintain customer satisfaction in these historically well served townships in order to guarantee a reliable monthly income so as to meet the necessary operating expenditures. An example of the dependence on the water revenues from high cost townships is reflected in Figure 7.14 below.

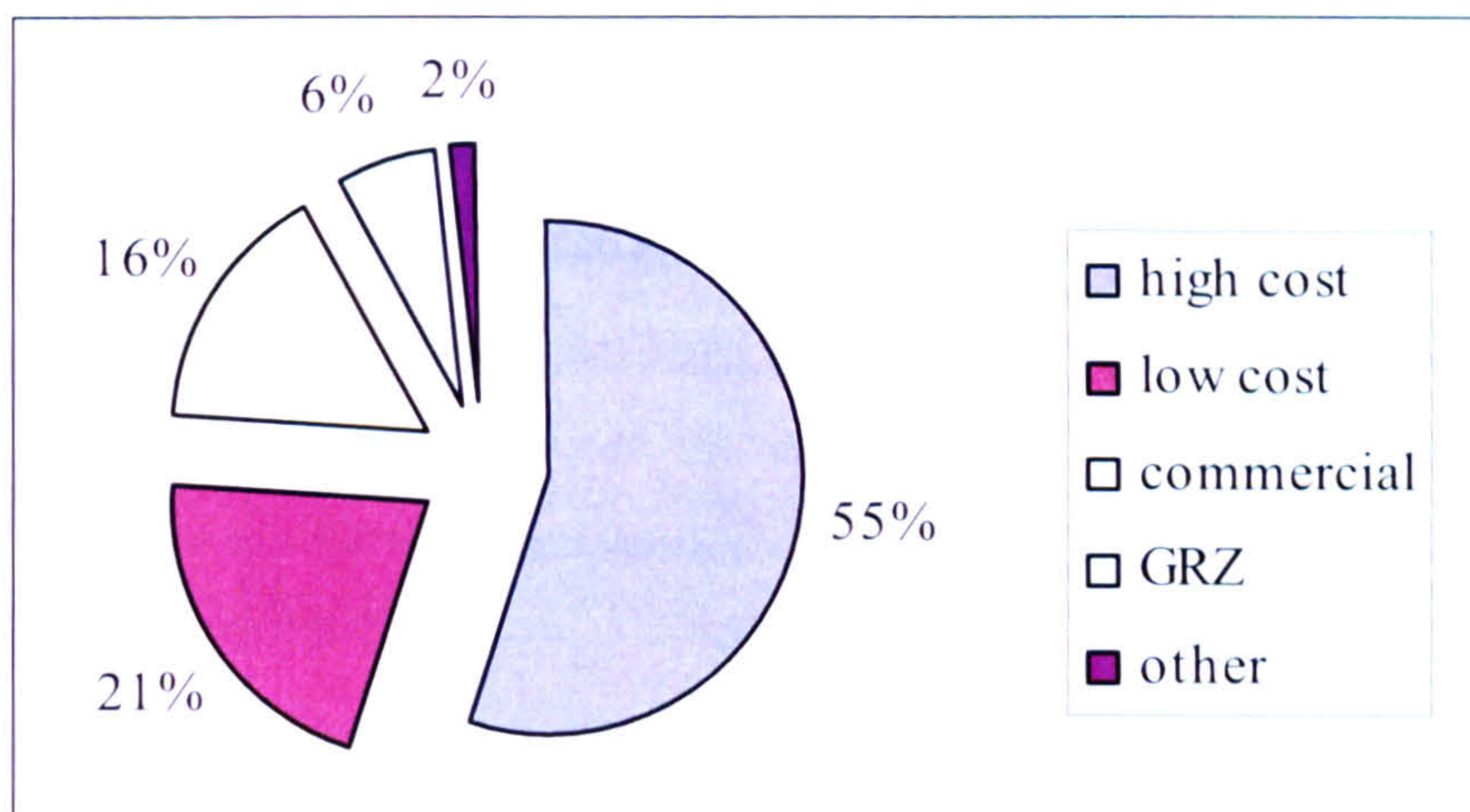


Figure 7.14: Revenue collection breakdown as a percentage of the different water consumers in the local authority townships of Kitwe in 2005.

Source: Nkana Water and Sewerage Company, July 2005

One managing director openly admitted to the CU's bias towards the high and medium cost townships referring to this unofficial commercial strategy as the '80:20' ratio: eighty percent of the company's time, energies and resources are spent in twenty per cent (commercial, high and medium cost) of the town¹⁰⁶. He argued that the CUs have concentrated company resources in these townships by implementing various practices of water demand management: namely, the installation of water meters and a strict disconnection policy. In addition to the raising of water tariffs, as shown earlier, the introduction of meters has been particularly effective in raising revenue because water meters usually result in higher water bills when compared with a fixed charge due to the culture of high water consumption in the high cost townships. Implementing a strict disconnection policy in these townships also helps to prevent payment defaulting which is economically beneficial to the CU.

The managing director added that it was important for the CUs to be visible in the high cost townships and to attend quickly to water leakages and blocked sewers. Conversely, while the CUs do attend to the same problems in the low cost townships, there is certainly less urgency to overcome these problems. This is particularly noticeable with

¹⁰⁶ Interview with CU managing director, July 2005

blocked sewers in the low cost townships. Due to the high ratio of permanently disconnected or unconnected customers in the low cost townships, there are fewer paying consumers and, as a consequence, a general lack of motivation on the part of the CU to fix blocked sewers. Inevitably, this contributes towards the vast gulf in the quality of sanitation services between the high and low cost townships. One CU managing director summed up the attitude towards sanitation problems across the town:

CU managing director:

“If there’s a blocked sewer in the high cost [townships] and one in the low cost [townships], of course, I will send my guys down to the high cost first”.

[#4]

The managing director at AHC also made a similar comment in relation to the operations of Saur International. He argued that there was an inclination by Saur International to concentrate on the high cost townships and ignore the low cost townships because there was less value in the investment in the latter townships¹⁰⁷. However, because there was no financial risk in Saur International’s ‘management contract’ in the Copperbelt, there was less of an incentive to ignore the low cost townships. As an employee at AHC argued, the installation of meters may have been positive in reducing water consumption levels in the high cost townships but he felt it was a strategy to ‘milk the ones who could pay’¹⁰⁸.

The point is further exemplified by the operations of the CU during times of water scarcity. High domestic water demand during the dry winter months of July, August and September can lead to water rationing if levels in the reservoirs exceed the critical amount. A water engineer from the CU operating in the town of Chingola described how during these water scarce times, water is rationed to specific townships in order to limit

¹⁰⁷ Interview with AHC management, June 2005

¹⁰⁸ Interview with AHC management, June 2005

consumption¹⁰⁹. Instead of rationing water equally across all townships, he stated that water is predominantly shut off to a low cost township located on the edge of Chingola, called Kasompe, in order to maintain a constant supply to the high cost townships in the town centre. These high cost townships contain a number of domestic customers, government institutions, hotels and commercial customers. Although he suggested that this was a tactic used by the local authority prior to commercialisation, this policy becomes all the more important during the commercial era. The CU needs to maintain a good quality of service in the high cost townships throughout all periods of the year because they rely on the income generated from these customers, even if this means rationing the water to low cost townships, such as Kasompe, which are perceived as less profitable and thus more expendable.

7.4. Conclusion: contradictions in development

Eradicating water poverty is a fundamental goal of the World Bank's mission for global development. As clearly stated in the opening paragraph of the World Bank's water and sanitation webpage: 'improving water supply and sanitation is key to the attainment of the Millennium Development Goals. It is at the core of the World Bank's mission to reduce poverty' (World Bank, no date). Indeed, Zambia's 2004 poverty reduction strategy states the need to manage water resources effectively in order to contribute to poverty reduction (World Bank, 2004). Across vast parts of the developing world this ambitious goal has been backed up by millions of US dollars directed into watsan projects since the end of the Second World War, including funding for highly capital intensive infrastructural projects and considerable amounts directed towards watsan related research. As demonstrated in Chapter Three, the World Bank has become a leading force in advocating and implementing a neoliberal doctrine to watsan policy after the problems with declining standards of watsan in the years following independence in many former African colonies. Related to the conditions of structural adjustment and

¹⁰⁹ Interview with CU water engineer, May 2005

poverty reduction strategy programmes, commercialisation and privatisation are common to the World Bank's vision of African water governance in the twenty-first century.

Since the implementation of water commercialisation in the Copperbelt, the water sector as a whole now manages the available water resources with far greater self-scrutiny than ever before. From the water providers – the four CUs – to the consumers, the emphasis on the economics of watsan services has helped reduce the profligate use of water that has plagued the second half of the twentieth century in urban Zambia. This has contributed towards a culture of water conservation which assists the CUs during periods of the year when water resources become scarce. There is far less interference from local politicians and thus revenues generated from watsan operations tend to remain in the sector and, whilst the suggestion of water privatisation in the Copperbelt is met with little enthusiasm at government level after the associated problems with mine privatisation, advocates of the policy insist that the commercially orientated approach allows for an opportunity for funding from commercial banks and donors¹¹⁰. For supporters of the commercialisation policy, water governance in the Copperbelt is in a far better position than under the previous regime. However, whilst there is reason for optimism regarding Copperbelt water governance, looking specifically at commercialisation in relation to the broader goals of development reveals a very different story.

In contrast, this chapter has revealed the limited impact of water commercialisation towards the alleviation of urban water poverty in the Zambian Copperbelt. In fact, the research has demonstrated that commercialisation has contributed towards a polarising of watsan services between the historically water rich townships and the historically water stressed townships. Watsan services for the minority of rich populations living in the former European townships have been shown to prosper since commercialisation whilst the gains in the former African townships, where the majority of urban residents live, have been minimal by comparison. Of equal concern is the state of sanitation where it has been demonstrated that the gap between the 'haves' and 'have-nots' has become even more pronounced since commercialisation. On the one hand, the former European

¹¹⁰ Interview with employee at GTZ, July 2005

townships continue to enjoy the luxury of waterborne sanitation due to good access to water and the well-maintained infrastructure required for this type of sanitary facility. On the other hand, the lack of water in the former African townships means there is insufficient water to flush away faeces creating severe health implications as a result of blocked toilets and overflowing sewers. Moreover, the relatively high numbers of people not paying their water bills in these townships has been shown to result in a lack of motivation on the part of the CUs to overcome these sewage related problems. On the whole, there is very limited attention towards the watsan needs of the low cost townships other than a small amount of funding from central government¹¹¹.

Indeed, the minimal impact of commercialisation on the watsan services of the urban poor is recognised by some of the key actors in the Zambian water sector. A World Bank official based in Zambia hinted at the neglect of the urban poor and those living in the low cost townships¹¹². The official argued that, with improved financial sustainability, the CUs would soon be looking to make substantial improvements in the low cost townships although it was admitted that there was limited progress to date. Likewise, the German development agency (GTZ) acknowledged that the urban poor were not benefiting in the same way as other groups of consumers. As the director of GTZ admits:

‘...the benefits [of commercialisation] are not yet visible to the urban poor...’

[#5]

The chapter began by stating how water commercialisation was part of broad based public sector reforms linked to World Bank structural adjustment of the early 1990s. These reforms have been shown to contribute towards a fundamental transformation in Copperbelt water governance involving the adoption of a commercial management culture and the recognition of water as an economic good. Yet, while commercialisation has been shown to promote improved watsan conditions for those with existing services,

¹¹¹ The Devolution Trust Fund (DTF) supports improving water supply in the peri-urban

¹¹² Interview with World Bank employee, June 2005

it neglects those who fundamentally lack an adequate service, more often the urban poor. Ultimately this policy is harmful to the urban poor and contradicts with the stated development goals of the World Bank.

Having discussed the main empirical findings from the fieldwork in Chapters Five, Six and Seven, the next chapter (Chapter Eight) discusses these findings in relation to the theoretical arguments and previous literature on African water development raised earlier in the thesis. This chapter considers the persistence of uneven development in the Copperbelt water sector around three key arguments before leading into the concluding chapter of the thesis.

8. The persistence of uneven development

8.1. Introduction

The purpose of this chapter is to develop further and discuss the main primary and secondary empirical findings of this thesis in relation to the theoretical points covered in Chapter Two and existing literature on African water and sanitation (watsan) development elaborated in Chapter Three. Drawing inspiration from a number of seminal critiques of development discourse important to postcolonial perspectives (Ferguson, 1990; Escobar, 1995; Mitchell, 2002) and recent postcolonial geography research (Mercer et al., 2003; Power, 2004; Myers, 2006), the chapter is divided into three main sections and makes three specific arguments in relation to the findings from this research. The first relates to the neoliberal inspired policy of water commercialisation, as explored in Chapter Seven, and makes two main points. Firstly, it argues that the policy fails to recognise the embedded material and spatial inequalities that characterise the urban water landscape in the Copperbelt. The policy of water commercialisation is shown to treat water deficiency in the copper towns as predominantly a technical problem that can be overcome with technically orientated solutions as opposed to addressing fundamental questions of embedded inequality. The outcome is a policy that suits those with adequate existing services as opposed to those without, which is shown to be harmful to urban poor populations. Secondly, examining water commercialisation in relation to the new water governance regime reveals the power of the commercial over the political. The political channels in which consumers can challenge their new commercial provider have been removed which is argued to be detrimental to the urban poor. Overall, these two arguments are brought together to argue that water commercialisation does not present a positive policy option for countries with a distinctly uneven water geography and a reinforcement of the historical marginalisation of urban poor populations.

The second section of the chapter discusses the power relations between the Zambian government and non-state actors involved in the Copperbelt water sector from the late 1990s. Drawing upon several examples of watsan negotiations between the key development actors in the sector, as discussed in Chapter Six, it is argued that these uneven power relations act as a form of control over the way in which Zambia carries out its development. In particular, the uneven power relations are shown to lead to further dependence upon and participation by non-state actors whilst marginalising local Zambian development actors.

The third section of the chapter relates to the central theme of the chapter – the persistence of uneven development. Reflecting upon the first two sections and the history of watsan development, as discussed in Chapter Five, this section argues for greater understanding of the material and discursive legacies of colonialism. It questions the extent to which Zambia has really moved away from its colonial roots, arguing that the persistence of uneven development has its origins in the conditions created under colonialism. This is followed by some brief conclusions before leading into the final chapter of the thesis.

8.2. Unpacking the policy of water commercialisation

Drawing comparison with two critiques of development discourse, as discussed in Chapter Two, this section examines water commercialisation in relation to persisting watsan inequalities. The first critique draws on Mitchell (2002) to examine the absence of questions of inequality in the commercialisation discourse. In particular, it examines the ahistorical nature of the discourse exploring the way in which the policy neglects the inequality that characterises the Copperbelt's urban water landscape. The second critique draws on Ferguson (1990) to explore the political dimensions of water commercialisation. Examining the outcomes of the policy reveals the power of the commercial over the political and how this serves to maintain the marginal position of the urban poor in formalised water governance regimes. Finally, the findings from the

experience of Copperbelt commercialisation are related to the broader complex of uneven watsan development in urban Africa and the developing world.

8.2.1. The ahistorical critique: the neglect of embedded inequalities

Chapter Seven discussed how water commercialisation in the Copperbelt led to the introduction of cost recovery measures by the commercial utilities (CUs). This involved the setting of a tariff more in line with the true cost of the production of potable water, water-metering and the implementation of a strict disconnection policy. However, as in Smith's (2004) research on water commercialisation in Cape Town, the implementation of cost recovery practices has failed to sufficiently consider those consumers living in the poorest townships where the existing watsan services are predominantly inadequate and levels of poverty are highest. Despite the setting of a lower tariff in the poorest townships (formal and informal townships) in order to reflect the low economic means of these populations, the poor have become disillusioned with the commercial service because of the negligible positive impact on their service. In particular, an increase in watsan tariffs has rarely corresponded with a tangible improvement in the quality of their service which is linked directly to the persisting inadequacy of watsan services in these poor townships. Without sufficient funds to improve access to watsan for the poor, the CUs are poorly placed to make any noticeable change in the state of the existing watsan service and, as a result, the majority of the urban poor remain unsatisfied and unwilling to pay more towards their poor watsan service. Alarming, the outcome has been the implementation of a wide scale disconnection programme by the CU which deepens the problems of finding clean and safe water in these townships.

Crucially, commercialisation fails to consider the complexity of watsan access in the poorest townships. As argued by Marvin and Laurie (1999), water management in urban areas in the developing world is often characterised by dual circuits of water supply: a primary circuit for the predominantly wealthy populations and a secondary circuit for the poorest. The primary circuit is served by an official water provider and supplies a

reticulated water service to connected consumers whilst the secondary circuit is served by (often unofficial) vendors for the unconnected consumers (Marvin and Laurie, 1999). Water provision in the Copperbelt can be usefully analysed using the dual circuit notion. In the wealthier townships the majority of consumers are connected to the water network which allows access to clean water for consumption and sanitation purposes. However, due to the enduring poverty and the widely held belief perception in the Copperbelt of 'free water for all' (Robinson, 2002), watsan access in the poorest townships has developed into a diverse, complex and more often troublesome ritual.

Examples of the complexity of watsan access in the poorest townships are abundant and ubiquitous. As detailed in Chapter Seven, water sources in the poorest townships are varied and can range from piped water (both legal and illegal), reliance on a neighbour's connection, or alternative sources such as wells, streams and local springs, to travelling into an adjacent township to find a water source. Relying on alternative sources of water is especially important for the poorest populations who often prioritise paying for food above water charges. Equally, sanitation can range from the use of a waterborne toilet (often without a flush mechanism), pit latrine, open defecation or relying on public toilets. The point is that whilst there is a degree of predictability in the watsan behaviour of the consumers in the wealthy townships, mainly due to their economic means and their access to a piped water supply, the behaviour towards watsan by the poorest is distinctly unpredictable. The random and at times, chaotic way in which water is obtained – linked intimately to the history of inadequate watsan access in these townships – has become a culture of townships life, socially engrained in the habitual processes of finding a water source and a toilet facility.

The unpredictability of low-income watsan is not sufficiently accounted for by the policy of water commercialisation. Other than an allowance of a lower tariff for the poor townships, the policy tends to assume the entire urban population has access to piped water and, crucially, is prepared to pay for a piped water supply. Furthermore, it is assumed that, if disconnected by the CUs, consumers will actively look to pay the reconnection fee in order to continue receiving piped water. However, the policy fails to

seriously consider the reliance on alternative sources of water which, as elaborated above, have played a considerable part in the culture of township life for some time. As a consequence, rather than accept the terms of paying a one-off reconnection fee followed by the subsequent monthly charges, permanent disconnection from the network becomes a realistic outcome for many.

The neglect of the material and spatial watsan inequalities has been further compounded by the lack of financial support for the CUs from central government. Contradicting the pledges made in the national water policy of 1994 (GRZ, 1994), there has been minimal allocation of funds to the urban water sector. Indeed, commercialisation has led to a considerable reduction of central government funds to the Copperbelt and instead, the CUs have been encouraged to source funds from commercial banks and donors. This has been especially problematic for the CUs serving in towns where the watsan infrastructure is in a particularly dilapidated state and where there are high levels of poverty – linked to the lack of formal employment opportunities in these towns. As discussed in Chapter Seven, the consequence has been a disproportionate concentration of CU resources in the wealthier townships where the adequate existing watsan services and the ability to meet the increasing water tariffs by consumers allows the CUs to achieve a degree of financial security. This outcome perpetuates the persistent uneven water geographies in the region as the historically water deficient townships continue to experience inadequate services whilst good quality services are maintained in the historically water rich townships. Thus, the lack of financial support for the CUs accentuates the neglect of the poorest townships and contributes towards the polarising water geographies in the Copperbelt since 2000.

Drawing parallels with Mitchell's (2002) critique of western initiated development projects in Egypt, this leads one to ask, where are questions of inequality in the implementation of commercial water reforms in the Copperbelt? Mitchell (2002: 211) argues that development discourse 'stands outside the objects it describes', imposing a vision of development on recipient countries which is often inappropriate and misguided. Mitchell goes on to state that:

‘Questions of power and inequality whether on a global level...or local level...will nowhere be discussed. To remain silent on such questions, in which its own existence is involved, development discourses needed an objective that appeared to stand outside itself’. (2002: 242)

The case of water commercialisation demonstrates the problems of imposing a western vision for water development without specific attention to the inequalities that characterise the Copperbelt’s watsan sector. It is as if the policy has been imposed without any prior thought or consideration of the specific, localised conditions. By emphasising the economics of watsan provision, as inspired by the western development discourse for urban watsan management, through a series of cost recovery measures – yet with scant regard for the complexity of low cost watsan access – commercialisation is shown to expose and further entrench watsan inequalities in the region. Despite efforts by the CUs to consider the needs of the poor in the form of a lower tariff and a modest allocation of funds for the development of water supplies in the peri-urban, these measures have made little difference to the overall inadequacy of existing watsan services of the urban poor. Added to the fact that the CUs have minimal financial support from central government, and consequently follow the profit motives into the wealthier townships, the policy has hindered any possible equitable allocation of CU time and resources.

In short, water commercialisation does not sufficiently address the spatially inscribed material inequalities that characterise the urban water landscape of the Copperbelt. The ahistorical nature of the commercial discourse is shown to be highly detrimental to the needs of the urban poor living in the water stressed townships. The complexity and unpredictability of low income watsan culture, predominantly linked to the historical development of Copperbelt watsan provision, is overlooked and, despite all the good intentions of commercialisation, the uneven water geographies are shown to persist and deepen in the urban water landscape. Importantly in relation to postcolonial perspectives, this example demonstrates the need to understand the material legacies of colonialism and this issue is discussed in more detail later in the chapter.

8.2.2. The apolitical critique: the power of the commercial over the political

In the *Anti-Politics Machine*, Ferguson (1990) analyses the political dimensions of a western development project in Lesotho. As discussed in Chapter Two, Ferguson argues that the development discourse presents itself as apolitical and, in so doing, reduces poverty in rural Lesotho to a technical problem requiring technical solutions. Recalling the analogy of the ‘anti-politics machine’, he argues that at the flick of a metaphorical switch, the issue of poverty in Lesotho is successfully depoliticised. The issue becomes further complicated as this apolitical approach is shown to have political side-effects – or ‘instrument-effects’ (Foucault, 1979). In this way, Ferguson argues that development can ‘perform sensitive political operations, such as the expansion or retrenchment of state power under cover of a neutral, technical mission to which no one can object’ (1990: 256). He draws on the example of an ‘instrument-effect’ in Lesotho to make his point: the resulting expansion of state power after the World Bank’s rural development project.

Parallels are drawn between Ferguson’s analysis of the politics of development in Lesotho and water commercialisation in the Copperbelt. Under the guise of the rhetoric of ‘good governance’, water commercialisation appears as a politically neutral development policy designed to improve the management of water resources and the water sector as a whole. For example, examination of the World Bank’s poverty reduction strategy paper (PRSP) for water sector reform in Zambia (World Bank, 2004) reveals heavy emphasis on the use of technocratic language. Indeed, terms such as ‘institutional strengthening’ and ‘infrastructural development’ give limited indication of any underlying political reform. However, through an analysis of the impacts of commercialisation on Copperbelt water governance as demonstrated below, a number of important political ‘instrument-effects’ are revealed which have important impacts on the ways the subaltern can participate in the new commercial governance regime.

The nature of Copperbelt water governance changed significantly after the implementation of water commercialisation in 2000. A major part of the reform involved the creation of commercial water providers (CU) operating independently of the local authorities. By detaching watsan operations from the responsibility of the local authority, the CUs were in essence working outside the realm of local water politics. This allowed the CUs the economic and political freedom to increase water tariffs which is one of the major requirements of a commercial water provider¹¹³. Therefore, whilst appearing as a politically neutral policy, the creation of the CUs thus performs an important political operation – the depoliticization of watsan provision.

However, the successful depoliticization of watsan provision is shown to be intrinsically problematic. Whilst the previous water governance regime was highly politicised and, therefore, not without its problems, there was at least a political channel in which the urban populations could participate in local water politics. For example, if there was a problem regarding the quality of watsan services in a township, consumers could challenge their local politician who, as a representative of the local people, was duty bound to respond to their concerns¹¹⁴. Although it has been argued above that this governance regime did not provide any tangible long-term improvements considering the lasting uneven water geographies, the political structure did allow a degree of democratic accountability of the local authority.

Conversely, transferring the jurisdiction of watsan provision into hands of private commercial watsan providers has removed the political mechanisms in which consumers can raise concerns regarding their service. The CUs operate independently of the local political structures and, therefore, are not bound to meet any formal political or social obligations other than those set by the water regulator. As argued in Chapter Seven, these requirements are loosely based around a set of technical and commercial indicators that demonstrate the ‘efficiency’ of operations but do not specifically identify improvements in watsan conditions for water deficient townships. By working in a virtual political

¹¹³ Increments in the water tariffs need to be approved by the regulator (NWASCO) before implementation.

¹¹⁴ Interview with CU manager, June 2005

vacuum, the CUs operate without the same the degree of accountability that was provided to consumers by the previous regime. This raises questions over how consumers can voice their concerns in relation to their watsan provision under commercial water governance regimes.

Furthermore, Chapter Seven demonstrated that the emphasis towards the economics of watsan provision after the implementation of the water commercialisation policy resulted in the accountant and the commercial staff becoming the principal agents in determining watsan operations. Drawing parallels with Smith's research of commercialisation in Cape Town (2004), it is apparent that whilst the accountants and commercial staff play a central part in the day-to-day financial survival of the CUs, they are not trained to consider the politics of urban poverty and the social consequences of denying poorest urban consumers access to watsan. As discussed in Chapter Seven, the CUs need to maintain customer satisfaction in the high cost townships because they provide the majority share of their watsan revenues. As a consequence, acting upon the watsan demands of the urban poor presents far less of a commercial incentive as compared to meeting the demands of the high cost. By transferring the power from political to commercial agencies, the democratic rights of the consumer, especially the urban poor, are again compromised.

There is limited evidence to suggest that the water regulator, National Water and Sanitation Council (NWASCO), provides an adequate regulatory tool in which consumers can access in order to raise concerns over the state of their watsan. Created as part of the water reforms in the 1990s, NWASCO monitors the performance of the CUs in order to protect consumer interests over issues such as increasing water tariffs and quality of watsan service. Indeed, NWASCO created several consumer groups – Water Watch Groups – in a number of Copperbelt towns as a mechanism for consumers to raise concerns over the quality of their watsan. However, due to the limited powers held by the consumer groups in the water sector, it is difficult for these groups to directly influence the day-to-day watsan operations of the CUs unless the points are specifically taken up by

the NWASCO management in Lusaka¹¹⁵. Instead, it appears the consumer groups play more of an educational role than offering a rigorous forum in which disgruntled consumers can challenge the state of their watsan. As a consequence, the consumer groups created by NWASCO do not provide an appropriate political mechanism in which consumers can voice their concerns or through which they have a realistic chance of influencing the operations of the CUs.

The political outcomes of Copperbelt water commercialisation as described above are thus shown to contradict the World Bank's development rhetoric. As discussed in Chapter Three, the World Development Report *Making Services Work for the Urban Poor* (World Bank, 2004b) stresses the importance of improving the mechanisms in which the urban poor can voice their concerns in relation to basic services such as watsan. In particular, the report argues that services can be improved by putting poor people at the centre of service provision, by enabling the poor to monitor and discipline service providers and by amplifying the voice of the poor in policymaking (World Bank, 2004). However, commercialisation in the Copperbelt offers a counter example to the World Bank view. The depoliticization of watsan compromises the abilities of the water consumer to participate in the water governance regime and, as a consequence, the consumers – particularly the urban poor – are rendered powerless. Rather than being placed at the centre of service provision, the urban poor are alienated from the decision making processes which also serves to illustrate the considerable disconnect between the rhetoric and reality of World Bank policy.

The implications of these reforms can be viewed in a variety of ways. On the one hand, relating to the profligate uses of water, the reforms have improved the way water is conserved and managed. From the water providers to the consumer, there is far greater emphasis on the conservation of water. This involves an improved use of water through more realistic pricing which ultimately leads to reduced levels of consumption. On the other hand, given the poverty and social hardship in urban communities in the Copperbelt, is it right that the emphasis is now on the consumer to pay for water? As

¹¹⁵ Interview with CU manager, June 2005

shown in Chapter Seven and above, the complexity and unpredictability of low cost water use is such that assuming the low cost will pay is unreasonable. The consequence is that many turn to unsafe sources which is potentially harmful to human health. This discussion is part of a much wider debate about whether water should be regarded as an economic good or a social good (see Bakker, 2002; Bayliss, 2005). However, the point here is that the water reforms, whilst improving certain aspects of the water sector, perform a sensitive political operation with regard to sector financing, with a significant 'instrument-effect' being the transfer of the burden of water sector financing from the state onto the water consumer.

Finally, the political implications of water commercialisation are not something unique to the Copperbelt. Parallels can also be drawn with the experience of public service provision in North America and Western Europe. As discussed in Chapter Three, Crouch (2004) refers to the way in which the rule of the market has become the dominant force in the West as governments have adopted the logic of neoliberalism for the provision of social services such as health care, education and watsan. He refers to the erosion of citizen's rights as the 'commercialisation of citizenship' (2004: 78), which is argued to be most harmful to the disadvantaged and politically marginalised groups in society. Although it has been argued that there were limited watsan rights for the citizen in the Copperbelt prior to commercialisation, this demonstrates the worrying global trend of this neoliberal logic.

8.2.3. Water commercialisation: the way forward for post-independent Africa?

Having analysed the impact of water commercialisation in the Copperbelt, this section considers the following question: what is the broader significance of these findings in relation to watsan development in Africa and, indeed, across the developing world? Considering the extent of colonialism across Africa and the corresponding creation of uneven water geographies, as discussed in Chapter Three, the next section questions whether water commercialisation offers an appropriate policy option for the provision of

watsan for African urban water landscapes. The following draws on the empirical findings from this research in relation to the existing literature to consider the implications for watsan development in urban Africa.

From one perspective, water commercialisation in the Copperbelt could be regarded as a developmental success story. As discussed towards the end of Chapter Seven, in implementing a discourse of water efficiency, commercialisation has led to far greater scrutiny of the available water resources, especially important in a country with a culture of profligate uses of water and depleting water resources during the dry summer months. From the water providers to the consumer, there is a more frugal and conservational attitude towards water across the region. The increasing water tariffs and disconnection policies, albeit not a popular policy for most consumers, have also introduced a financial incentive to conserve water. This new attitude towards water conservation is neatly reflected in the catchphrase heard across the Copperbelt radio airwaves on a daily basis – *water is life*. Given the varying levels of water scarcity across Africa, policies aimed at conserving water are certainly to be recommended.

In spite of the overall improvements in the management of water resources, this research has highlighted how the neoliberal inspired commercial discourse does very little to address the historically embedded problems of uneven development in the Copperbelt's urban water sector. Therefore, in terms of the implications of these research findings for Africa – and the developing world as whole – there is cause for concern. As discussed in Chapter Three, colonialism created the foundations for uneven water geographies across large parts of urban Africa. Examples were drawn from across the continent of Africa: Southern Africa was represented by Zambia, Zimbabwe and South Africa, West Africa was represented by Cameroon and countries in North Africa were represented by ones such as Algeria and Morocco. Although one could question to what extent the urban water landscape in the Copperbelt is a microcosm of urban Africa¹¹⁶, the above examples all

¹¹⁶ The Copperbelt is one of the most densely populated urban regions in southern Africa as a consequence of the history of intense copper mining. The high number of towns (seven) across a relatively short distance (approximately 150 km) is unusual when compared to other urban regions in Zambia and southern Africa

demonstrate a characteristic common to the Copperbelt: namely, a distinctly uneven urban watsan landscape. In particular, it demonstrates high quality watsan provision for the elite European populations and inferior watsan provision for the majority African populations. In addition, there is no clear distinction between the colonizers – whether English, French or other – in the above examples: the same pattern of embedded uneven water geographies is found.

Since the decline of water privatisation commercialisation has become the dominant policy option. Chapter Three discussed how commercialisation is being rapidly adopted across the continent (see Appendix A for a list of African water utilities) and is often linked to World Bank development reforms such as the poverty reduction strategy programmes (PRSPs). The PRSPs allow little room for manoeuvre from the recipient country, with development aid and assistance often tied to the successful completion of the reforms. Therefore, considering the extent of the uneven urban water landscapes across the continent, the harmful effects of commercialisation – as experienced in the Copperbelt – and the wide geographic adoption of the policy, water commercialisation could lead to further uneven watsan development across Africa.

Overall, whilst there are certainly some tangible gains from water commercialisation in relation to improved management of water by water providers and consumers alike, ultimately the lack of consideration of the embedded watsan inequalities and the removal of political channels is a major drawback for equitable watsan development. The extent of uneven development in urban Africa, albeit difficult to quantify but in large part related to colonial water development, suggests that commercialisation could well be further polarising urban water landscapes across the continent of Africa and other parts of the developing world.

as a whole. However, the creation of uneven water geographies is not unique to the Copperbelt, but a common characteristic of many former colonies (see Chapter Three for more details).

8.3. Uneven power relations and the Copperbelt's development industry

This section of the chapter moves away from discussions of water commercialisation to focus upon the broader politics of Copperbelt watsan development. Drawing inspiration from a number of influential development critiques (Escobar, 1995; Ferguson, 1990) and recent research of Zambian development politics (Ferguson and Gupta, 2002), this section discusses the power relations between the Zambian government and non-state actors involved in the Copperbelt water sector from the late 1990s. Examining examples of the visible and less visible forces at work involved in development, as described in Chapter Six, it is argued that there is a reinforcement of the neoliberal development doctrine which, in turn, contributes towards the continued influence and participation of non-state actors in Zambia's development.

8.3.1. Development negotiations: a distinctly uneven playing field

As discussed in Chapter Six, a key feature in the Copperbelt's recent watsan development has been the central role of non-state actors, most notably the World Bank, PricewaterhouseCoopers (PwC) and the international mining company Anglo American Corporation (AAC). The centrality of these international development actors is shown to reflect the lack of genuine power held by the Zambian government in decisions regarding its own watsan development, as well as the distinctly uneven power relations in Zambian development as a whole. The following draws on two separate examples from research into Copperbelt watsan development to explore this issue in more detail.

The first example is drawn from the negotiations surrounding the privatisation of Zambia's copper mines in 2000. Chapter Six examined in detail the close links between the privatisation of the copper mines and Copperbelt water governance. The chapter revealed how, after several years of drawn out negotiations between the Zambian government, the World Bank and prospective mining companies (Craig, 2001), a key factor in the successful implementation of privatisation was watsan provision in the

mining townships. The prospective buyers, AAC, refused to take on the responsibility of watsan arguing that they wanted to concentrate on the business of copper mining only. Recognizing the importance of this issue to the completion of the deal as a whole, the World Bank moved fast to provide funds to cover the repair and rehabilitation of the mining township infrastructure and, crucially, enough funds for an operator (AHC) and international private water company (Saur International). Importantly, the actions of the World Bank successfully facilitated the deal and allowed privatisation to proceed.

The second example is drawn from the negotiations surrounding the exit strategy of AHC. As discussed at length in Chapter Six, these discussions were characterised by a tense and fractious relationship between the World Bank and the Zambian government. As early as 1996, the Zambian government had rejected the recommendations of the World Bank regarding the formation of one large CU for the Copperbelt. Instead, the government created three CUs, mainly to appease the local authorities, but also to illustrate how the government were not to be dictated to. However, despite this defiance, the nature of the discussions quickly turned in favour of the World Bank after they threatened to leave the Zambian water sector for neighbouring Botswana and Namibia. Inevitably, very little time elapsed before the government formally announced the planned exit strategy for AHC which involved the transfer of assets to one of the CUs. This decision suited the World Bank because it created one large CU alongside the two remaining smaller CUs and thus opened up the opportunity for future water privatisation. Whilst on this occasion the government demonstrated far greater power and assertiveness in the negotiations, ultimately the World Bank had the final say as the government had to cooperate or risk losing the significant aid offered by their 'development teachers'.

The two examples serve to demonstrate how Zambia's recent development has been dominated and shaped by external forces (Young, 1991; Craig, 2001). The privatisation of the copper mines was tied to the conditionalities of structural adjustment and subsequently received high levels of criticism within the Zambian government because it involved the selling off of Zambia's most prized and economically significant asset – copper – to foreign owners (Craig, 2001). In spite of these concerns, the nature of

structural adjustment meant the government had to go ahead or jeopardize future development assistance. The same trend is shown to occur in the negotiations regarding the Exit Strategy of AHC. Despite challenging the World Bank's position over the Exit Strategy, the government eventually succumbed to the demands of the World Bank and opted for an outcome that opens up the opportunity for future water privatisation. In spite of the rhetoric of 'partnership' and 'collaboration' in the World Bank's 2002 poverty reduction strategies for Zambia, these examples demonstrate the powerful, and at times uncompromising, role played by external forces in recent development policy and practice in Zambia.

Furthermore, the two examples serve to demonstrate the power of the World Bank's discourse for neoliberal development. In both cases – the privatisation of the copper mines and the formation of appropriate commercial conditions to enable future privatisation of the Copperbelt's water sector – the World Bank used their considerable power to prescribe their desired development outcome. In particular, the World Bank is shown to have taken a hard-line and ruthless approach when it appears as though negotiations were moving away from them. Inevitably, there is much at stake for both the recipient of development as well as the World Bank but, as shown above, it is the latter that drives forward and succeeds when there is conflict in negotiations. Therefore, in demonstrating the power of the World Bank in development negotiations, the examples serve to illustrate the way in which it can engineer an outcome that corresponds to its neoliberal vision for development.

8.3.2. The hidden power of the development industry

Whilst the above demonstrated the uneven power relations in the Copperbelt water sector as reflected in the more visible displays of power by two international development actors – the World Bank and the mining company AAC – these examples are not the only illustrations of uneven power relations. Power is also exercised in more concealed and less visible ways, in ways that are far more difficult to recognise but have equally

important implications for development. The following draws on three examples from the research to examine the hidden exercise of power in the Copperbelt's water sector and to show how these reinforce the neoliberal doctrine of development. The reinforcement of the neoliberal doctrine is shown to illustrate the power of the development industry which further demonstrates the uneven power relations existing between Zambian and non-state actors in Copperbelt watsan development.

The first example is drawn from the World Bank's Mine Service Township Project (MSTP) and the involvement of the international water company Saur International. As discussed in Chapter Six, the World Bank allocated \$37.7 million to the MTSP, with the major objective being the repair and rehabilitation of mining townships' watsan infrastructure in the Copperbelt. These funds were desperately needed considering much of the watsan infrastructure in these townships was originally built in the 1940s and 1950s and there had been minimal replacement of the major pipelines and sewer lines after independence in 1964. Furthermore, the World Bank enticed the services of Saur International who under a 'management contract' oversaw the management of the newly formed CU (AHC) as well as the procurement of goods and works from the MSTP funds.

On the surface, Saur International's presence in the Copperbelt appears purely technical. As the management contract stipulated, Saur International transferred important technical and commercial expertise to the employees at AHC. This involved overseeing all aspects of watsan operations with 'in-house consultants' working alongside the AHC staff. However, on closer inspection their presence in the Copperbelt can be seen in a more calculating light, a light that has a far more significant development implications for the future of watsan in the region. Importantly, the management contract provided Saur International with an intimate insight into the Copperbelt water sector which thus served to open up opportunities for further private sector participation (PSP). Their presence at the heart of the water sector for five years allowed them to assess the problems, pitfalls and potentials for future investment (i.e. a 'concession contract' as discussed in Chapter Three), which ultimately had been the World Bank's most desired option for Copperbelt watsan governance since the early 1990s. Although Saur International admitted that it

was unlikely that privatisation would occur in the near future, the management contract gave them the experience and opportunity to make the judgement. Therefore, the participation of Saur International in the MTSP demonstrates the hidden power in Zambia's development industry. By attracting an international water company to the Copperbelt to manage the spending of a sizeable development loan, the World Bank was not only providing technical and commercial expertise to the sector, but was facilitating the discursive implementation of the neoliberal doctrine for development.

The second example follows in a similar vein and demonstrates the hidden power of another key agent in Zambia's development industry. As discussed in Chapter Six, during the mid-1990s the World Bank researched the possible options for Copperbelt water sector reform. An aspect of this research involved the British financial auditor, PwC, who were employed to assess the options of water commercialisation. On the basis that a large CU would be the most economically efficient option, as opposed to a number of smaller CUs, PwC recommended one CU for Copperbelt commercialisation. For the next decade the World Bank based their policy recommendations and their position on water sector reforms on PwC's recommendation; that one CU would be created and this could provide a relatively straightforward transfer of assets to a private water company in the case of water privatisation. However, as has been shown in Chapter Six, there was tremendous political tension between the World Bank and the Zambian government over the prospect of one CU in the Copperbelt, especially in relation to the AHC exit strategy. The fundamental stumbling block as far as the government were concerned was that one CU would inevitably lead to water privatisation which they were adamantly against.

The point here is that PwC performed a very powerful development function, but in a way that is not immediately obvious. The tension and disagreement created between the World Bank and the Zambian government was in part created by the World Bank's position of one CU for the Copperbelt, a recommendation stemming directly from the study carried out by PwC. Once again a non-state actor – in this case a British auditing company – is shown to have a considerable input into the way development is carried out in the Copperbelt. Moreover, the non-state actor in question is also shown to be a

concealed facilitator of the neoliberal doctrine for development. The recommendation of PwC fits comfortably with the World Bank who perceived one CU as the appropriate policy option before any potential water privatisation. Therefore, as with the previous example above, the development industry perpetuates the need for further international involvement which serves to demonstrate the continuing influence of non-state actors in Zambia's development.

The third and final example discusses the participation of international companies in relation to Zambia's development. Chapter Six argued that the World Bank's neoliberal development doctrine has led to an 'internationalisation of development' – a proliferation of international private companies participating in Copperbelt development. This was clearly demonstrated in the World Bank's MTSP which allocated \$37.7 million to the repair and rehabilitation of watsan infrastructures in the mining township. Of this amount, \$6 million was paid to Saur International and over \$20 million paid out to foreign companies for works and goods contracts (see Table 6.3 for details). Conversely, a much smaller amount – approximately \$3 million – was paid out to Zambian companies from these funds. Chapter Six argued that this disparity has less to do with the lack of expertise of the Zambian companies but was more closely related to the stringency of the World Bank bidding regulations. While many Zambian companies have the necessary personnel such as qualified engineers, labourers and access to the appropriate technical equipment, few companies have professionally audited accounts and access to cheap bank loans in order to generate funds for bid guarantees. As a consequence, many of the local companies are ruled out of the more lucrative contracts and are left to compete for the smaller ones. In essence, the regulations favour the wealthier international companies who are familiar to international bidding processes as opposed to the majority of poorer and less well connected Zambian companies.

The example demonstrates once again the hidden power of the development industry. Whilst the World Bank may argue that the regulations are suitably strict in order to award the best operator, these regulations actually serve to marginalise Zambian companies, many whom have the ability to perform the task. Instead, the majority of the larger

contracts are awarded to western companies and thus the local Zambian companies are left to contest the smaller, less financially significant contracts. The regulations set by the World Bank inadvertently favour international companies and serve to illustrate yet another dimension of the uneven power relations in Zambia's development industry, in particular, a dependence on international companies and a marginalisation of local Zambian companies.

8.3.3. The power of development

So what is the wider significance of the uneven power relations between state and non-state actors as seen through the examination of the Copperbelt water sector? Chapter Two discussed the theme of power in relation to postcolonial approaches to the study of development. The chapter drew on the research of Escobar (1995) who unpacks the proliferation of uneven power relations in development since the end of the Second World War. In his account, Escobar argues that whilst prescribing technical and practical solutions to the problems of the so-called Third World, post-war development discourses have actually served to perpetuate western power and influence in the recipient countries. Development is not only a way to oversee the way in which countries develop, but as a way in which the West has a fundamental control over the developing world as a whole. Drawing on Ferguson (1990), the 'instrument-effect' of development can be seen to be far greater western control over the politics of development in the so-called Third World.

In light of Escobar's analysis of development discourse, comparisons can be drawn here with the way in which power is manifested in the Copperbelt water sector and the resulting implications for development. As elaborated above, through visible and less visible exercises of power, non-state actors are shown to dominate Copperbelt water development. In turn, this has added greater weight to the neoliberal development doctrine in Zambia as demonstrated by the numbers of international companies that have profited from development in the Copperbelt water sector since the late 1990s. Indeed, the internationalisation of development, as argued in Chapter Six, has opened up

considerable business opportunities for private water companies (e.g. Saur International), western financial auditors (e.g. PwC) and large numbers of international engineering and construction firms. As a consequence, Copperbelt water development is dominated by the ‘solutions’ offered by ‘experts’ from outside of Zambia. This argument resonates with Ferguson and Gupta (2002) who observe:

‘Today, Zambia (like most other African nations) continues to be ruled, in significant part, by transnational organizations that are not in themselves governments, but work together with powerful First World states within a global system of nation-states that Frederick Cooper has characterized as “internationalized imperialism”’.

Crucially, the larger point here, relating to the critique of development by Escobar (1995), is that the self-perpetuating nature of neoliberal development promotes continued international influence in the policies and practices of development in Zambia. Examining the Copperbelt water sector as a microcosm of Zambian development re-confirms the observations of Ferguson and Gupta (2002), whereby the practices of neoliberal development maintain the need for non-state actors, which, in turn, simultaneously promotes a dependence on the technical assistance offered by these actors. Therefore, water development in the Copperbelt can be understood as something having fundamentally political as well as technical implications. In this case, the ‘instrument-effect’ of water development is the sustained international influence and continued control over the policies and practices of water development in the Copperbelt.

8.4. Moving beyond colonialism? The persistence of uneven development in the Copperbelt

The third section of the chapter reflects upon the arguments discussed above in relation to the history of Copperbelt water development. Chapter Two examined and argued for the

use of postcolonial theory in addressing contemporary development issues in Africa. In particular, the chapter explored one of the underpinning conceptual approaches of postcolonial theory which pays close attention to material and discursive legacies of colonialism and how these impact upon the prospects for contemporary development in Africa. To make this point, the chapter drew on Mbembe (2001: 237) who questions whether ‘we can really talk about moving beyond colonialism?’. In spite of the formal end of colonialism at independence for many African and non-African colonies in the latter half of the twentieth century, he suggests the same theatre exists but with different actors and spectators (Mbembe, 2001: 237).

Chapter Two also explored a number of studies carried out in the sub-discipline of postcolonial geography which scrutinised the impacts of colonialism upon contemporary African development. One study in particular makes an important point with regard to my argument made below. In research of the political processes in Zambia’s capital city, Myers (2006) argues that the city is far from ‘postcolonial’¹¹⁷. He found that the colonial legacies of ‘exclusionary democracy’ and the ‘domestication of difference’ have continued to haunt Lusaka’s recent political and social development. This leads Myer to contemplate that the city is clearly ‘not over and done with its colonial legacies’ (2006: 305). By uncovering and examining the extent of the discourses of colonialism, we may further our understanding of contemporary development in Africa which, in turn, may allow us to firmly lay bare and hopefully lay to rest those conditions and legacies (Myers, 2006: 305).

Striking a similar chord with Mbembe (2001) and Myers (2006), the following section returns to the research findings of Copperbelt watsan development to argue that the legacies of British colonialism continue to shape the development of the water sector today. Building on arguments made earlier in the chapter, and arguments made by Kazimbaya-Senkwe (2005), this next section argues that there is a persistence of uneven development that originates in colonial water governance. Three dimensions of the

¹¹⁷ As explained in Chapter Two, throughout the thesis I have refrained from using the term postcolonial in reference to the period of time after independence because the term is contradictory to my understanding of the postcolonial condition. Instead, I refer to this period as ‘post-independence’.

persistence of uneven development are explored to make the point: firstly, watsan inequality; secondly, political marginalisation of the subaltern in the water governance regimes and thirdly, uneven power relations in the water sector. The three arguments all point towards the persistence of conditions created under colonialism which, in the style of Mbembe (2001), makes us question the extent to which the legacies of colonialism have truly passed. Furthermore, by laying bare these colonial legacies, we may be able to move forward in a way that contributes towards a better understanding of development policy and practice.

8.4.1. Persisting watsan inequality

The first dimension of the persistence of uneven development relates to the spatially inscribed watsan inequality that characterises the Copperbelt's urban water landscape. Chapter Five explored the origins of 'differential access' (Kazimbaya-Senkwe, 2005) arguing that colonial water governance created water rich townships for the elite and water stressed townships for the majority. Based upon a rationale of racism and economics, the colonizers¹¹⁸ constructed good quality watsan services, such as in-house water connections and waterborne sanitation, to satisfy the high consumptive patterns of the Europeans whilst constructing cheaper, more basic watsan facilities for the African populations. Colonial water governance is thus shown to set the foundations for the creation of a highly uneven urban water landscape.

Despite eventual parity in certain aspects of watsan services such as equality in terms of water quality after 1960 to all townships, the embedded and permanent nature of watsan facilities and infrastructure meant that independence passed with no change in the urban water landscape. Instead, large numbers of African political and business elite moved into the former European townships (now called high cost townships) whilst increasing

¹¹⁸ Colonizers refers to the British colonial authorities and the western mining companies (RST and RAAL). As discussed in Chapter Five, the mining companies took responsibility for the construction of watsan services in the mining townships from the 1940s and the colonial authorities built watsan infrastructure in the non-mining townships from the 1950s.

numbers of rural dwellers moved into the existing and newly built African townships (now low cost townships) as well as informal settlements (now called peri-urban). The problems of urbanisation and the poor economy, linked to the declining price of copper on global commodity markets, made it extremely difficult for the Zambian government to provide the same standard of watsan for all and so the low-income populations had to manage with relatively basic watsan facilities. As a consequence, this post-independence period was characterised by a consolidation of the watsan inequality. As discussed at length earlier in the chapter, the neoliberal inspired discourse of water commercialisation has not adequately addressed the embedded inequality which, in turn, has led to further polarisation of watsan geographies.

Forty years on from the formal end of colonialism, a similar pattern of unequal and uneven access still exists across the Copperbelt; a minority with a privileged access to high quality watsan as compared with irregular, inconvenient and, at times, unsafe watsan for the majority. Thus, locating the roots of today's material and spatial watsan inequalities draws one towards the original colonial construction of watsan facilities. Although various other factors are involved in the consolidation of the inequalities, colonial water governance has much to answer for in relation to the persisting watsan inequalities across the Copperbelt in the first decade of the twenty-first century (Kazimbaya-Senkwe, 2005). Therefore, examining the colonial roots of watsan inequality in the style of a postcolonial geography approach allows us to understand the uneven and historically embedded nature of the urban water landscape in the Copperbelt.

8.4.2. Persisting marginalisation of the subaltern

The second dimension of the persistence of uneven development relates to the political marginalisation of the subaltern. In this case, subaltern refers to the 'native African' during colonialism and the urban poor residing in the low cost and peri-urban townships after independence. As discussed in Chapter Five, the colonial era was characterised by elitist water governance whereby authority over the watsan needs for the whole region

was made by a minority of European colonialists. As a consequence, there was minimal participation by African populations in decisions regarding their watsan needs as reflected in the vastly inferior quality of watsan services in the African townships throughout the colonial era.

Whilst there were few, if any, formal rights for Africans under the colonial regime, independence initiated a new sense of citizenship as driven by the first President, Kenneth Kaunda. This included the introduction of local level democracy which allowed citizens greater political means to express their rights. Nevertheless, despite the new political channels in which citizens could challenge the local authority over issues regarding the quality of their watsan service, the uneven water geographies prevailed across the Copperbelt after independence which, to a large extent, reflected the lack of genuine participation of the urban populace in the water governance regimes. Instead, the post-independence elite are seen to prioritise their watsan needs above the needs of the majority urban poor as clearly demonstrated in the creation of the Zambian Design Standards (see Table 5.2). These standards maintained the disproportionately high volumes of water supplied to the former European townships whilst continuing the supply of an inferior volume to the former African townships. The scarce financial resources also meant it was difficult for the local authorities to provide equal services for all; instead, basic watsan was constructed for the new urban populations whilst the elite continued to live in areas with high quality watsan services.

The neoliberal inspired policy of commercialisation has been shown not to sufficiently address these political inequalities. As argued earlier in the chapter, commercialisation has successfully depoliticized watsan poverty in the Copperbelt which has led to the suffocation of the political space in which the water ‘customer’ can challenge the watsan providers. As a consequence, the majority urban poor continue to remain largely marginal figures in the water governance regime, thus exacerbating existing inequalities of power (Castro, 2007). Indeed, parallels can be drawn between the limited water rights for ‘natives’ under colonial water governance and the equally poor water rights for water ‘customers’ – especially urban poor ‘customers’ – as a consequence of

commercialisation. In both scenarios, the water governance regime is preferential towards elite populations and leaves limited opportunity for the subaltern to sufficiently challenge and contest the water providers over the quality of their watsan service.

Crucially, colonial water governance appears to have left a lasting impression on later water governance regimes. Referred to by Mbembe (2001: 23) as the 'colonial rationality', the colonial elitist exercise of power is shown to be mimicked by later governing elite who have prioritized their needs over the needs of the water poor. Even under commercial water governance where power is transferred into the hands of the commercial water providers from the urban elite, there has been muted negative response from the urban elite and wealthy populations who continue to receive high quality existing services. As Myers (2006) found in relation to urban governance in Lusaka in the early 2000s, the governing elite wish to maintain the status quo and consolidate their comfortable living at the expense of the majority poor.

Therefore, examining the involvement of the subaltern in the formal water governance regimes over the last sixty years reveals a reoccurring theme of marginalisation. From the elitist water governance during colonialism and the post-independence era to the more recent suffocation of political space under commercial water governance, the subaltern has remained a largely marginal figure throughout. Following the previous example above, adopting a postcolonial geography approach casts light on why certain populations gain access to good quality watsan and why certain populations do not. Laying bare the political dimensions of the history of Copperbelt water governance regimes helps to explain which populations are being heard and, as a consequence, which populations are receiving an adequate watsan service as opposed to those who are not.

8.4.3. Persisting uneven power relations

The third dimension of the persistence of uneven development relates to the power relations between Zambian and non-Zambian actors in the Copperbelt water sector. As

discussed in Chapter Five, from the first discovery of copper deposits in the early 1920s, early Copperbelt development – including watsan development – was dominated by the British colonial authorities and two international mining companies. The mining companies – RST and RAAL – were shown to have constructed the first watsan infrastructures in the mining townships and the British colonial authorities followed suit in the non-mining townships. Watsan development was dominated by these two actors and, relating back to the point made above, there was very minimal participation by native Africans in the water governance regimes during this period.

After independence in 1964, the Zambian government took on far greater responsibility for the Copperbelt water sector, particularly in the areas previously managed by the colonial authorities. However, as western demand for copper declined from the early 1970s and the Zambian economy deteriorated, so external participation became a more common characteristic of watsan development. As discussed earlier in the chapter, from the 1990s the Copperbelt's development industry has exercised power over watsan development. In particular, the World Bank emerged as a key actor in the Copperbelt's development and they have dominated negotiations regarding Zambia's overall development prospects. Other development actors have also been shown to exercise their power in far more implicit and subtle ways. As discussed earlier in the chapter, the British auditors, PwC, played a decisive role in the implementation of water commercialisation on the Copperbelt whilst remaining inconspicuous throughout the negotiations between the key development actors in the water sector.

This trend of persisting uneven power relations leads one to question, to what extent have the politics of Copperbelt watsan development fundamentally changed? Once it was the British colonial authorities in charge of watsan development, now another powerful western actor – notably the World Bank – dominates these issues. As demonstrated above, the World Bank is shown to exercise considerable power and a degree of ruthlessness as it dictates and controls most high-level negotiations in the water sector. This exercise of power is on a par with the way in which the British colonial authorities dominated watsan governance prior to independence. Furthermore, international copper

mining companies continue to play a key role as demonstrated by the privatisation of the copper mines in 2000. As discussed in Chapter Six, the World Bank rescued the negotiations when the international mining company, AAC, refused to carry out watsan responsibilities in the mining townships. This prompted the World Bank to carry out a makeshift deal to cover watsan responsibilities in order to complete the privatisation of the mines. Once again, the terms of the negotiations favoured the powerful mining company and the result had important implications for watsan development. Although marginally problematic to argue that the dominance of western development actors existing in today's water sector is a direct legacy of British colonialism, certainly the powerful position of international mining companies in Zambia stems from the way in which colonialism opened up the country to foreign business interests.

8.5. Conclusion

This chapter has sought to bring together the key empirical findings and to discuss them in relation to the existing literature on watsan development in Africa, covered in Chapter Three and the main conceptual arguments in Chapter Two. The chapter was divided into three sections and made three clear arguments. The first argument focused specifically upon the neoliberal inspired discourse of water commercialisation and argued that there is a widening gap in the quality watsan services between the water rich and the water stressed townships. This finding was linked to water commercialisation's neglect of the embedded inequality and the political marginalisation of urban poor populations. This section concluded by arguing that the experience of water commercialisation in the Copperbelt does not bode well for other former colonial countries in Africa and the developing world where there are similar histories of uneven watsan development.

The second section discussed the power relations between the Zambian government and non-state actors involved in the Copperbelt water sector from the late 1990s. Examining examples of the visible and less visible forces at work involved in development, it was argued that there is a reinforcement of the neoliberal development doctrine which, in

turn, contributes towards the continued influence and participation of non-state actors in Zambia's development. Examples included the uncompromising stance of the World Bank in watsan negotiations as well as the important role of the British auditors, PwC, in the World Bank's position over Copperbelt watsan governance.

Finally, the third section reflected upon the findings from the first two parts of the chapter and related them to the history of watsan development. Drawing particular inspiration from postcolonial critiques which emphasize the need to recognize the lasting material and discursive legacies of colonialism (Mbembe, 2001; Myers, 2006), this section argued how British colonialism set the foundations for uneven development in the Copperbelt. Focusing specifically on three dimensions of watsan development – material and spatial watsan provision, political participation of the subaltern and power relations in the water sector – it has demonstrated how the approach of postcolonial geography can address important material issues such as the provision of watsan in the context of Africa. By laying bare the legacies of colonialism we have a better understanding of why there is an uneven watsan geography in the Copperbelt which, in turn, makes us re-think how development policy should be re-constructed to take into account these localised conditions. The following chapter now concludes the main arguments made in the thesis and details the wider implications of this research.

9. Conclusion

9.1. Introduction

This thesis began with the aim of investigating the impacts of the neoliberal development doctrine on water and sanitation (watsan) development in the Zambian Copperbelt. Drawing particular inspiration from postcolonial theory and interdisciplinary approaches, this thesis has developed and elaborated three key empirical themes. The first theme explored the impacts and manifestations of *neoliberal water governance*. With particular emphasis on subaltern populations (referred to as the urban poor), the thesis focused on the outcomes of the recently adopted water commercialisation policy and involved analysing the policy from the perspective of the ‘water consumer’ and the ‘water provider’. The second theme examined the *politics of development* in the Copperbelt water sector. This involved analysis of the power relations within the water sector, not only the power relations within the water governance regimes, but also between the various state and non-state actors – some more visible than others – involved in Copperbelt watsan development. The third theme analysed *uneven development* in the water sector. The thesis drew together the findings from the two aforementioned themes and related them to the broader history of uneven development in the Copperbelt. This concluding chapter draws together the main threads of the thesis in order to provide an overview of the research findings, to highlight how this work contributes to furthering academic knowledge and to consider possible directions for future research.

A point to emphasize before heading into the main body of the chapter relates to the appropriateness of postcolonial theory as a means to address important material issues. Chapter Two highlighted how postcolonial studies are often accused of being overly concerned with the historical, textual and cultural which are largely ignorant of the real problems characterising everyday life in the global South (Sharp and Briggs, 2006). As Sylvester (1999: 703) neatly sums up, ‘postcolonial studies does not tend to concern itself

with whether the subaltern is eating'. In spite of these criticisms, Chapter Two discussed the emerging scholarship of postcolonial geography and how it is opening up refreshing and critical ways in which to examine the relationships between power, knowledge and development in non-western, materially-poor spaces (Mercer et al., 2003: 432). Crucially, this chapter draws together the main arguments from the research to re-emphasize how postcolonial geography can offer an appropriate material-focused research agenda for the study of development in Africa.

9.2. Water commercialisation and widening watsan inequality

This thesis argued that the neoliberal inspired policy of water commercialisation has widened the spatially inscribed watsan inequality that characterises the urban water landscape of the Zambian Copperbelt. Focusing upon the manifestation of neoliberal water governance from the perspective of the 'consumer' and the newly created 'commercial utilities' (CUs), the research revealed how water commercialisation has prompted improvements to watsan services in the rich townships whilst services in the poor townships have continued to remain severely inadequate. The steady polarisation in the quality of watsan services between the 'haves' and the 'have-nots' in the Copperbelt presents an alarming portrait of a neoliberal inspired development policy currently being rolled out across vast parts of urban Africa and the developing world.

The thesis presented two critiques of the commercialisation policy to demonstrate how it has contributed towards widening watsan inequality. *Firstly*, drawing specific attention to the legacies of colonialism as discussed in Chapter Five, it was argued that the water commercialisation policy does not sufficiently account for the embedded spatially inscribed material inequality. Chapter Seven discussed the unprecedented transformation in Copperbelt water governance as a consequence of commercialisation which involved the adoption of commercial strategies such as increasing water tariffs, a strict disconnection programme and water metering. Whilst the implementation of these commercial strategies has generated income from the rich townships, the same cannot be

said in the poor townships. In the latter, reliance on alternative watsan has been a distinct feature of townships life. Linked intimately to the history of inadequate provision, relying on a neighbour's piped supply and toilet, hand-dug wells or other urban watercourses is socially engrained in the habitual processes of finding a water source and sanitation facility. Combined with limited financial assistance from central government, the CUs have concentrated their resources in the rich townships to generate revenue resulting in a growing divergence in the quality of watsan service across the urban water landscape. This demonstrated the problems of imposing a commercial vision for urban water management without specific attention to the spatially inscribed material inequalities and the processes that characterise these inequalities.

A further point relates to the growing reliance on alternative water sources in the poor townships. The research revealed an increase in one particular type of alternative water sources – hand-dug wells – as growing numbers of poor households become permanently disconnected from the reticulated water network. As discussed in the water quality research in Chapter Seven, this raised some health related concerns because a number of these wells were shown to express poor water quality and argued to be harmful to children and elderly people if consumed over a long period of time. A further point to note is the alarming neglect of sanitation by both consumers and the CUs. Water commercialisation has tended to focus on the provision of water with sanitation having been relegated to a secondary issue of concern. Considering the appalling state of sanitation infrastructures (toilet and sewer lines) in some of the poorest townships and the frequent outbreaks of water-related and waterborne diseases, the Copperbelt could yet be plagued by problems of poor sanitation in the future.

Secondly, it was argued that the widening watsan inequality is related to the marginalisation of the urban poor in the formalised water governance regimes of the Copperbelt. Chapter Seven discussed the creation of independent commercial water providers and the way in which they operate outside the realm of local political structures. This depoliticization of watsan provision was argued to be harmful to the urban poor because by working in a virtual political vacuum, the CUs operate without the

same degree of accountability that was provided to consumers by the previous regime. As a consequence, the CUs have pursued commercial orientated strategies, such as concentrating their efforts in the rich townships, rather than seeking to improve the inadequate watsan services in the poorest (and least commercially attractive) townships. Moreover, the water regulator, whose primary function is to protect the interests of the consumer, was argued to perform more of an educational role than providing a rigorous political forum in which consumers can challenge their watsan providers.

The above research findings contribute towards an emerging literature examining the impacts of neoliberal water policies in urban Africa (Bond, 1998; Bayliss, 2002; Smith, 2005) and Latin America (Laurie and Crespo, 1997; Castro, 2007). The findings concur with previous studies that identify the harmful outcomes of the neoliberal inspired water policies, particularly in relation to watsan provision for the urban poor (Hall and Lobina, 2006). My research strikes a particular chord with the only other documented study of water commercialisation in Africa. Laïla Smith (2004) found increasing water poverty in the South African city of Cape Town after the implementation of water commercialisation (see Chapter Three). She emphasised the neglect of the embedded inequality and the loss of democratic accountability as a consequence of the transformations towards neoliberal water governance and, therefore, it is important to note that these findings are reinforced by the case of the Copperbelt.

The similarities of the water commercialisation experience in Cape Town and the Copperbelt suggest the potential for an emerging trend of rising watsan inequality, especially in regions where there is a history of uneven water development. Chapter Three elaborated a number of studies examining the extent of watsan development in colonial Africa, drawing largely on examples of the legacies of British and French colonialism. Research by Radoki (1995), Graham and Marvin (2001), Njoh (2002) and Kazimbaya-Senkwe (2005) all highlight the construction of uneven urban water geographies: water rich townships for the minority juxtaposed with water stressed townships for the majority. Given the recent research findings from South Africa and the Copperbelt, and considering the extent of commercialisation across much of the

developing world, there is the possibility that other towns and cities will be affected in this way.

9.3. Uneven power relations and the politics of development

This thesis investigated the politics of Copperbelt watsan development from the late 1990s and argued that there are visible and less visible forces at work serving to reinforce the neoliberal ideology common to contemporary development policy and practice in Zambia. The reinforcement of the neoliberal development ideology perpetuates the influence of non-state actors in watsan development in the Copperbelt. In order to investigate this theme, the research focused upon the impassioned watsan negotiations regarding the future of Copperbelt water governance between 2000 and 2005 (Chapter Six). These negotiations revealed the uneven power relations between the World Bank and various national and local watsan related stakeholders. Amid the heated discussions between local, national and international actors over the most appropriate option for future Copperbelt water governance, the World Bank was shown to use its considerable influence in order to enable an environment for its preferred water policy option: the policy of water privatisation.

The research also examined the less visible forces at work supporting the World Bank's neoliberal ideology. It uncovered the fundamental role of the British financial auditors PricewaterhouseCoopers (PwC) in the World Bank's position over the future of Copperbelt water governance. PwC recommended a water policy option that supported future water privatisation and the World Bank based their decision entirely on these recommendations. Unbeknown to most of the local and national stakeholders, the uncompromising stance that the World Bank took in relation to the negotiations over future Copperbelt water governance was based upon PwC's recommendations. The research also analysed the allocation of funds from a multi-million dollar World Bank development project (Chapter Six) and demonstrated how this project served to reinforce neoliberal development ideology. My analysis of the politics of procurement regulations

revealed the favouring of international engineering and construction companies as opposed to local Zambian companies. This was referred to as the ‘internationalisation of development’ and reflected the proliferation of international companies benefiting from the World Bank development project. This example served to illustrate how a neoliberal inspired development project has supported the participation of international companies in watsan development in the Copperbelt.

The research findings demonstrate the way in which development is increasingly being dominated and performed by non-state, international development actors and how neoliberal development promotes continued external influence in the policies and practices of development in Zambia. These research findings resonate with the wider research of Ferguson and Gupta (2002) who reflect upon how neoliberal development discourses impinge upon the way less developed countries implement development policies. They argued that countries like Zambia are continually caught up in a web of uneven power relations whereby the policies and practices of development are increasingly dominated by non-state actors from the so-called ‘First World’. Ferguson and Gupta draw on Frederick Cooper in referring to this notion as ‘internationalised imperialism’ (2002: 991). The case of watsan development in the Copperbelt epitomizes the notion of ‘internationalised imperialism’ as demonstrated by the increasing influence and dominance of non-state, international actors in the politics of Zambian development.

The research findings from the Copperbelt water sector contribute towards the emerging theme of ‘postcolonial statehood’ in postcolonial geographies (Radcliffe, 2005). As discussed in Chapter Two, postcolonial geographers are increasingly concerned with development in relation to the ‘African state’ and how development policy and practices impacts upon the ability of the state to perform these development policies (Sidaway, 2002; Bilgin and Morton 2002; Mercer et al., 2004). An issue of concern related to this research is the way in which neoliberal development is seen to undermine the ability of African states to perform development. Rolling back and transforming the nature of the state’s involvement in development, as demonstrated in the Copperbelt water sector, has implications in relation to the way development is carried out. Manzo (2003) has

highlighted the contradiction faced by African countries in meeting the requirements of neoliberal development. African states are expected to remain accountable for development, through initiatives such as rights based development (RBD), and yet, simultaneously, neoliberal development expects states to relinquish their direct involvement through policies such as commercialisation and privatisation.

In light of this, the case of the Copperbelt water sector endorses some of the noted contradictions of neoliberalism. Chapter Three discussed the ‘commercialisation of citizenship’ (Crouch, 2004: 78) in relation to the experience of neoliberalism in Western Europe and North America. Crouch contends there is an erosion of citizen’s rights as public services are increasingly performed by unaccountable private and commercial companies. As argued in Chapter Eight, this is compared to neoliberal water governance in the Copperbelt where there has been a political marginalisation of consumers and inadequate regulation. Likewise, the ‘commercialisation of citizenship’ can be seen in relation to the participation of international development actors such as financial auditors (PwC), private water companies (Suez) and engineering and construction companies in Copperbelt watsan development. Unlike most public authorities that are accountable to its electorate, the activities of non-state actors tend to work outside the realm of the state’s political structures. Indeed, the research revealed how PwC played a central role in Copperbelt water governance and yet, was not answerable to the Copperbelt electorate.

A similar outcome was found in relation to the activities of the international construction companies involved in the World Bank funding of watsan infrastructures in the mining townships. Although adhering to strict procurement regulations to gain the initial World Bank contracts, the international companies were shown to flaunt their responsibility by subcontracting much of the work to local companies at a much cheaper rate. This created considerable conflict between the international and local companies and serves to illustrate the minimal accountability of the actions of the former. The case of the Copperbelt, therefore, presents a very distinct portrait of neoliberalism in a developing country context such as Zambia; a portrait that appears exploitative and highly unaccountable. Overall, this raises questions over how African states can be expected to

account for their own development when non-state actors are far less accountable for their actions.

9.4. The persistence of uneven development

The final conclusion relates to the centrally defining theme of the thesis – the persistence of uneven development. Building upon the two main arguments of the research, this thesis has argued that there is a persistence of uneven development that originates in British colonialism. By laying bare the legacies of colonialism in the style of recent postcolonial research (Mbembe, 2001; Mitchell, 2002; Myers, 2006), we may be able to move forward in a way that contributes towards a better understanding of contemporary development policy and practice. Three dimensions of the persistence of uneven development were identified and discussed.

The *first dimension* considered the persisting watsan inequality that characterise the urban water landscape of the Copperbelt. Watsan inequality is shown to originate in the water policies of the British colonialists who constructed highly uneven water geographies between European and African populations (Kazimbaya-Senkwe, 2005). Although post-independence factors such as rapid urbanisation and the declining state of the Zambian economy placed increasing strain on the ability of the government to provide equitable services for all, forty years on from the formal end of colonialism a similar pattern of unequal and uneven access still exists across the Copperbelt – a minority with a privileged access to high quality watsan as compared with irregular, inconvenient and at times, unsafe watsan for the majority. Locating the roots of today's spatially inscribed watsan inequality in the style of a postcolonial geography approach draws one towards the original colonial construction of watsan infrastructures.

The *second dimension* considered the persisting marginalisation of subaltern populations in the water governance regimes of the Copperbelt. Dominated by the demands of the European colonizers, the inferior status of the native African corresponded with virtually

no opportunities for African populations to participate in decisions regarding their own watsan provision. Moreover, the elitist form of water governance that characterised the colonial era was adopted by the new African political elite after independence. Referred to as the 'colonial rationality' (Mbembe, 2001) and drawing parallels with the politics of urban development in Zambia's capital city after independence (Myers, 2006), the new African political elite maintained 'differential access' across the copper towns in order to ensure high quality watsan services to the former European townships where the elite now lived. The research highlighted how the recent water commercialisation policy has not led to improved participation of the subaltern in the water governance regimes. On a par with the 'native African' during colonialism, 'water customers' – especially the poorest 'water customers' – remain marginal figures in the current neoliberal water governance regime. Therefore, understanding the history of watsan development – particularly the political history of Copperbelt water governance – provides important clues as to why certain populations have access to watsan and why other populations do not.

The *third dimension* of the persistence of uneven development relates to the uneven power relations between state and non-state actors in the Copperbelt water sector. The research demonstrated the uneven power relations established during colonialism whereby two mining companies and the British colonial authorities dominated decisions regarding watsan development in the region. Although the Zambian government took on a more prominent role in the Copperbelt after independence, the declining state of the economy during the last decades of the twentieth century contributed towards the reintroduction of non-state actors. The World Bank and a number of international mining companies are argued to have taken a leading role in the politics of Copperbelt watsan development, especially after the adoption of the neoliberal doctrine in the 1990s.

Unpacking contemporary power relations in the Zambian water sector uncovers a close resemblance to the power relations that existed in the first half of the twentieth century: international non-state actors continue to dominate, conditions are favourable for the involvement of international companies and the Zambian government still remains a

relatively marginal player in the politics of development in the Copperbelt. Therefore, consistent with the other two dimensions of uneven development, contemporary uneven power relations in the water sector are shown to have their roots in the colonial practices of the twentieth century.

Overall, this argument contributes towards an emerging postcolonial literature examining contemporary development issues through the lens of colonialism. Chapter Two elaborated various studies that have considered the impact colonialism and colonial discourse and includes a critique of the western notion of the 'economy' (Mitchell, 2002), a study examining the politics of urban development in Lusaka (Myers, 2006) and research exploring the impacts of the different kinds of colonial rule in Africa on the prospect for development (Lange, 2006). My research follows this approach and demonstrates how laying bare the impacts of colonialism – in this case the material and discursive legacies of British colonialism in the Copperbelt water sector – can help to locate the origins of uneven development.

Finally, by emphasising and focusing upon the legacies of colonialism and unpacking how they contribute towards uneven development, we may create development policies that seek to consider these persisting inequalities. As demonstrated in the first argument of the thesis, unpacking how colonial legacies helps in our understanding of why certain populations can gain access to watsan and why other populations cannot. This type of approach can be useful in investigating uneven development in sectors other than watsan and contribute in terms of constructing future development policy. As Myers (2006: 306) neatly sums up: 'Postcolonial geographies hold great potential for contributing to an understanding of the ongoing transformation of the politics of urban development in the world...because it is through deconstruction that we might arrive at reconstruction'.

9.5. A postcolonial conception of water and sanitation

Having concluded the main empirical outcomes from the research, this section reflects upon the conceptual tools developed in this thesis. It considers a postcolonial conception of water and sanitation and how this approach is useful in relation to the study of the state in Africa. It is carried out by examining these two issues through the four stated conceptual themes: colonialism, governance, power and the subaltern.

A postcolonial conception of water and sanitation development is one that places great emphasis on the legacies of colonialism in order to understand contemporary issues of watsan access and scarcity. It seeks to understand how legacies of colonial watsan policies and urban planning have influenced access to water and sanitation and how, in many cases, these legacies have left an indelible impression on today's urban water landscape. As demonstrated in this thesis, focusing on the material and discursive legacies of British colonial water governance illuminates the persistence of uneven watsan development in the contemporary Copperbelt.

The concept of governance plays an important role in a postcolonial conception of watsan development because it places emphasis on the management of watsan affairs and examines the involvement of different actors, whether state or non-state actors in watsan development. Paying close attention to the interaction of state and non-state actors is especially pertinent given the omnipresent involvement of private companies, IFIs, governments (African and non-African) and NGOs in the history of African watsan development. Focusing on governance also allows for an analysis of the politics of watsan development as demonstrated by the examination of World Bank procurement in Chapter Six. Unpacking the disbursement and distribution of World Bank water sector funding reveals how the technical rules of procurement had a fundamentally political outcome.

The concept of power is also important when considering a postcolonial conception of watsan because it places emphasis on issues of power and the power relations between

different actors in the water sector. Unpacking these power relations can reveal uneven power relations between different groups and how, in many cases, this leads to continuing water scarcity. This thesis drew particular inspiration from the research of Kazimbaya-Senkwe (2005) and Kazimbaya-Senkwe and Guy (2007) who demonstrated how post-independence water policies in Zambia have tended to support the needs of the African elite because they had the ability to control and dictate watsan policies. Emphasising power is therefore a key conceptual point in researching watsan development because it helps to shed light on the reasons for contemporary water scarcity and uneven water access.

Finally, drawing inspiration from the work of Spivak (1980) and the notion of the 'drawers of water' (Bradley et al., 1972), a postcolonial conception of watsan pays close attention to the concept of the subaltern in order to illuminate the experiences of marginalised populations in relation to the provision of watsan. Although the concept of the subaltern can refer to more specific groups such as women and children, this thesis has tended to look more broadly at the narrative of the 'water poor' in Copperbelt watsan development. Focusing on the water poor helps to cast light on the evolving water governance regimes and power in relation to these marginalised, poor populations. Investigating the subaltern within the Copperbelt has revealed how a predominantly urban poor population have experienced persisting uneven access to watsan whilst remaining politically marginalised within the water governance regimes throughout most of the twentieth and twenty-first centuries.

Drawing attention to the subaltern is also an important conceptual point considering the way international development has aligned itself to the plight of the water poor in recent years. Millions of development dollars have been spent since the 1990s on a variety of water projects, often with a core focus of improving watsan conditions for the urban poor. The creation of the MDGs in 2000 and the UN's International Decade for Action 'Water for Life' 2005 – 2015 are examples of recent initiatives designed to improve watsan conditions for the urban poor. Moreover, the problems associated with increasing and rapid urbanisation in Africa and other areas of the developing world adds greater

significance to focusing upon the subaltern. Therefore, despite criticism that postcolonial theory is overly concerned with discourse and not troubled with whether the subaltern is eating (Sylvester, 1999), this thesis has demonstrated how postcolonial theory can confront material issues and, crucially, is concerned with whether the subaltern is eating; or in this case, whether the subaltern is drinking.

Having considered a postcolonial conception of watsan, this next section asks: what does a postcolonial conceptual framework contribute in relation to the study of the 'state' in Africa? As with the above, this question is addressed through the four stated themes of the thesis.

Firstly, focusing on the theme of colonialism allows the researcher to question and investigate the extent to which aspects of the colonial state live on in the operations of the post-independent African state. For many former African colonies, the notion of the state was fully or partially conceived during colonialism. Practices, behaviours and attitudes put into place during this period were not always fully dismantled at independence and as a consequence, have continued in various guises after the formal end of colonialism. Mbembe (2001: 23) refers explicitly to the adopted practices and attitudes of the colonial elite by African leaders/elites as the 'colonial rationality'. Drawing examples from a range of West African countries, he argues that various aspects of the new independent state bear a close resemblance to those of the colonial state. A postcolonial conceptual framework is therefore useful in understanding how the modern state may or may not have been shaped by the colonial forces at work prior to independence.

Secondly, governance is a key conceptual theme because by focusing on how African governments look to manage and govern national development, from the utilisation of natural resources to the management of poverty, one can explore the politics of contemporary development in relation to the state. Examining how the state governs its resources is also useful when considered in relation to the legacies of colonialism. As demonstrated in the research, examining colonial water governance was central in casting light on the evolution of contemporary watsan policies and how ultimately, the state had

supported a policy that continued to meet the needs of the elite as opposed to the majority water poor. Exploring issues of governance is therefore critical in understanding how colonial practices and policies have affected the way the contemporary African state governs its own resources, economy and people.

Thirdly, examining African development through the conceptual theme of power is useful when studying the power relations between the various governing authorities of the state as well as between state and non-state actors. As argued in this thesis in relation to watsan development but can be applied more broadly, the rise of neoliberal policy and practice in Africa has created opportunities for increasing numbers of non-state actors in the arena of international development. Focusing on the power relations between these actors and the state opens up interesting research questions in relation to the politics of African development. These questions include exploring how powerful the African state really is in relation to the non-state actors and whether any uneven power relations between African states and non-state actors reflect relations from an earlier (colonial) historical period. As this thesis has shown, focusing on the involvement of non-state actors has cast light on the distinctly uneven and persisting relations in Zambian development.

Lastly, focusing on the subaltern is useful in understanding how well the state is managing development and whether the state is meeting the needs of the poorest and most marginalised in society. In a postcolonial study of water reforms in Ghana, Yeboah (2006) examined the way subaltern groups were resisting policies handed down to them from the state. Likewise, this research has demonstrated how subaltern groups have adapted to the commercial water reforms on the Copperbelt. Therefore, as opposed to focusing entirely on the policy makers and the key actors in development, examining the views, practices and cultures of the subaltern provides an indication of how well the state is managing its own development and how well development discourse is being received on the ground.

9.6. Further research, policy recommendations and limitations

The outcomes of this study suggest possibilities for further research into the potential impacts of neoliberal policy and practice on watsan development in a developing world context. Building on other empirical works examining the outcomes of neoliberal inspired water policies in various countries in Africa (Bayliss, 2002; Hall and Lobina, 2004; Smith, 2004), this research has demonstrated the geographically uneven outcome of the policies highlighting the particularly harmful outcomes to poor urban populations. International development interventions are currently structured around the Millennium Development Goals (MDGs), of which reducing the numbers of people without access to clean water and adequate sanitation is a central component. Considering the pervasive adoption of neoliberal water governance across Africa and the rest of the developing world, further research is required to investigate how these policies are going to help countries meet the MDGs. Current estimations are far from optimistic¹¹⁹, and so it would appear appropriate to initiate further research into this particular research topic.

In terms of policy recommendations, this research suggests a re-evaluation of the water commercialisation policy on two distinct fronts. Firstly, demonstrating how a focus on colonialism casts light on contemporary development issues, far greater consideration needs to be given to the embedded watsan inequalities characterising post-independent countries such as Zambia. Measures designed to consider the urban poor, such as lower water tariffs, do not go far enough in addressing the spatially inscribed material inequalities discussed in this research. Revised water policies need to take into account the specific cultures and processes (e.g. lack of payment culture, engrained habits of looking for alternative water sources) related to the historically inadequate watsan provision in these townships. Secondly, greater consideration must be given to the way consumers, especially the urban poor, can participate in the water governance regimes. The research found that current regulatory measures do not provide the appropriate

¹¹⁹ UNICEF (United Nations Children's Fund) (no date) and the WHO (2004) both state that meeting the MDGs for watsan is looking increasingly unlikely in sub-Saharan Africa. For more information see UNICEF [online] available at <http://www.unicef.org/wes/mdgreport/progress.php> and the WHO [online] available at <http://www.who.int/mediacentre/news/releases/2004/pr1/en/index.html>

political forum in which consumers can challenge their watsan provider, so further consideration must be given to improving the existing participatory mechanism in the water governance regime. How this is achieved is beyond the scope of this research but it suggested that following up these recommendations may contribute towards helping to achieve the MDGs for Africa.

A further point – outside the scope of this research but briefly worth making – is that of political will. Recent research of the Zambian water sector found that one of the main hindrances to watsan progress is the lack of political will (Gutierrez, 2007). Gutierrez argued that there was tendency for watsan to be increasingly deprioritised by the Zambian government (2007: 889). Although deprioritisation is related to sectoral inefficiencies and the redirection of funds to other sectors, the issue strikes a chord with the work of a postcolonial geographer also researching urban development in the Zambian capital of Lusaka. Myers (2006: 305) was struck by the way in which the political elite work towards maintaining the domestication of difference between ‘yard people’ (those occupying rich townships) and the ‘compound people’ (those occupying poor townships) in the politics of urban development. This attitude reflects the elitist behaviour of certain water sector officials in this research and so if watsan development is to make considerable progress then improved political will at government level is certainly required.

My research into the water commercialisation policy also raised some serious questions in relation to the water quality of urban water supplies. Chapter Seven argued that there is an increasing trend in the poorest townships of the Copperbelt to draw water from unsafe alternative water sources since the implementation of the commercialisation policy¹²⁰. Further research is required into how the urban poor gain access to watsan when conventional sources, such as a piped supply, are not available and how the poor quality of these alternative water sources affect the health of urban populations.

¹²⁰ As discussed in Chapter Seven, the commercial strategies of disconnection and increasing water tariffs led poor urban populations to seek alternative watsan sources such as hand-dug wells, a neighbour’s water supply and toilet facility, urban water courses and public toilets.

Another topic of research requiring further attention is the history of African water development. Chapter Three stated how there is an extensive literature exploring water development in the developed world (Goubert, 1986; Finer, 1997; Swyngedouw, 1999) and regions of the developing world such as Latin America (Marvin and Laurie, 1999; Barlow and Clarke, 2002; Castro, 2007), but far less covering sub-Saharan Africa (Njoh, 2002; Kazimbaya-Senkwe, 2005). This thesis emphasised the importance of understanding the origins of the urban water landscape in order to cast light on the interaction of contemporary water policies with any embedded spatial inequalities and related social processes (see Chapter Five for the colonial origins of the uneven water geography in the Copperbelt). The research also demonstrated the way in which current development practices reinforce the dominant neoliberal ideology common to development policy in the Copperbelt. Investigating the negotiations concerning the future of Copperbelt water governance revealed the uneven power relations between the World Bank and a number of important Zambian stakeholders involved in the discussions. I would like to expand my work on the politics of development into other scenarios, in order to highlight the extent to which these practices (re)occur in geographically distant locations.

Following in the tracks of the emerging scholarship of postcolonial geography (Bell, 2002; Myers, 2006; Yeboah, 2006), my research also illustrates the need for further study of uneven development in Africa. In spite of the varied criticisms of postcolonial theory (see Chapter Two), the themes of colonialism, power, governance and the subaltern allow an appropriately material-focused approach which could be readily employed in investigating other areas of the study of uneven development in Africa and the developing world. It is also worth emphasising that postcolonial geographies go beyond a singular fascination with colonialism and colonial discourse. As illustrated in the thesis, the research is focused around a range of themes that allow a critical insight into contemporary topics important to African development. This corresponds with recent postcolonial geography research examining African statehood and sovereignty (Sidaway, 2000; Bilgin and Morton, 2002), uneven power relations (Mitchell, 2002; Bell, 2002) and

those arguing that postcolonial geography can examine important contemporary subjects such as diaspora, transnationalism and migration (Mercer et al, 2004).

Elaborating a framework for interdisciplinary research is another area for further research. As discussed earlier in the thesis (Chapter One and Four), this research was jointly sponsored by the Economic and Social Research Council (ESRC) and Natural Environment Research Council (NERC) and reflects the rising interest in interdisciplinarity in British academia in the last decade. However, whilst there is literature addressing the complexities and challenges of interdisciplinary research between researchers from the social sciences and the natural sciences (Redcliffe, 1998), there is far less literature examining how individual researchers cross the disciplinary divide *within a specific research project*. With limited prior grounding on how to attempt interdisciplinary research, and only more recent events examining the issue of interdisciplinary research for guidance¹²¹, I found it a case of learning and making decisions in relation to the interdisciplinarity as the project unfolded. Therefore, I suggest further research into how researchers negotiate the interdisciplinary challenge within individual research projects.

Finally, two further research limitations have been identified. The first relates to the limits of my specific research of the World Bank. In spite of the fact that there is considerable discussion and analysis of the policies and actions of the World Bank in the thesis, the World Bank has a minimal voice throughout the narrative of my research. As discussed in Chapter Four, other than one interview with an official at the World Bank, my insight came from interviews and discussions with officials who had interacted first-hand with the World Bank. If I was to repeat this research, I would attempt to organise more than just one interview and to spend longer than two weeks at the World Bank sponsored Copperbelt CU (AHC). This would have offered the potential for a more

¹²¹ Since 2006 the ESRC and NERC have sponsored a series of seminars around the theme of interdisciplinary research referred to as the 'Interdependence' seminar series. These seminars have sought to discuss the possibilities for interdisciplinary research across the social and natural sciences. More information can be found at the Interdependence Day website (<http://www.open.ac.uk/socialsciences/interdependenceday/seminarseries.htm>)

balanced analysis of the World Bank's role in watsan development as well as providing a more intimate insight into their vision for Copperbelt – as well as African – urban water governance.

The second limitation relates to the time and scope of the research. As elaborated in Chapter Four, the social survey was carried out in two towns (Kitwe and Chingola) and the resulting findings were extrapolated to represent all seven towns of the Copperbelt. With further time and resources, including research assistants, I would have widened the scope of the survey in order to gain a broader perspective of the impacts of commercialisation upon the Copperbelt as a whole. This is also the case in relation to the focus groups where, due to constraints of time and scope, I focused on the town of Chingola. I would have preferred more time to organise focus groups with a variety of different socio-economic groups in other towns to better reflect the watsan conditions experienced in the region. In relation to the water quality research, sampling from hand-dug wells in towns across the Copperbelt – other than just one (Chingola) – would have provided a more representative sample of the water quality of this alternative water source. *The lack of a bacterial analysis of water from the hand-dug wells was also a limitation considering this analytical technique would have given an indication of the presence of water-related and waterborne diseases.*

9.7. Concluding remarks

This thesis extends our understanding of the manifestations of neoliberal development policy in a materially poor setting and makes an original contribution to knowledge in several ways. Firstly, the research demonstrated the uneven geographic impact of a neoliberal inspired water policy and how this widens the spatially inscribed material inequalities that characterise the urban water landscape of the Copperbelt. Secondly, the research examined how development practice reinforces the neoliberal ideology which in turn supports the continued influence of non-state actors in Zambia's watsan development. Thirdly, the research argued that despite Zambian independence over forty

years ago, contemporary society is still very much haunted by the material and discursive legacies of its colonial past. Focusing upon colonialism provided a mechanism for understanding the origins and some of the complexities of Zambia's persisting uneven development.

Against a backdrop of academic criticism (Darby, 1998; Rajan, 1997), this thesis further demonstrated that postcolonial geography approaches do offer a critical and refreshing insight into the study of (uneven) development in Africa. Examining development through a postcolonial lens allowed us to see a more nuanced, complex and historically relevant picture of African development; one that is focused towards important material issues as opposed to overly theoretical or abstract notions. As demonstrated in this thesis, a key concern of the research has been whether *the subaltern is drinking* which adds greater weight to those supporting the emerging scholarship of postcolonial geography (McEwan and Blunt, 2000; Mercer et al., 2004).

From a practical perspective, disseminating the research findings back to the research participants – water policy makers, government officials, CU managers and Copperbelt stakeholders – will allow my research to help inform current and future strategies for watsan reform in the region. Whilst the qualitative nature of this research cannot be easily replicated, the methodological and conceptual framework does present the possibility for these elements to be considered in relation to other scenarios of watsan development in the developing world.

Above all, this thesis presented a disconcerting portrait of neoliberal development at the beginning of the twenty-first century. Whilst highly indebted countries are expected to meet the requirements set by international financial institutions such as the World Bank and IMF, the policies being put in place appear oblivious to the uneven history that characterises many former colonized countries in Africa. These development policies promote conditions based on western visions of modernity which look to replicate commercialised water sectors common to countries in Europe and North America. The implementation of neoliberal water governance in the Copperbelt epitomizes such a

scenario. If countries like Zambia are to improve watsan for *all urban populations* and successfully meet the MDGs, watsan policies need to re-consider the complexities of the environment in which the policies are being imposed.

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Appendices

Appendix A: African water utilities and private water contracts

African water utilities (Water Utility Partnership, 2003)

Abbreviated Name	Utility name	Country	Year established
North Africa			
GCWWW	General Company for Water and Sanitation	Libya	2000
EPEAL	Etablissement Production Gestion et Distribution D'eau D'Alger	Algeria	2000
ADE	Algerienne Des Eaux	Algeria	2000
LYDEC	Lyonnaise Des Eaux De Casablanca	Morocco	2000
ONAS	Office National De L'assainissement	Tunisia	2000
SONEDE	Societe national D'exploitation Et De Distribution Des Eaux	Tunisia	2000
ONEP	Office National De L'eau Potable	Morocco	2000
RADEEC	Regie Autonome De Distribution D'eau et D'electricite de la Chaouia	Morocco	2000
STEE	Societe Tchadienne D'eau et D'electricite	Chad	1998
SONELEC	Societe Nationale D'eau et D'electricite	Mauritania	1999
East Africa			
AAWSA	Addis Ababa and Sewerage Authority	Ethiopia	1999
KWSAAR	Keren Town Water Supply Administration	Eritrea	1999
AUWSA	Arusha Urban Water Supply and Sewerage Authority	Tanzania	2001
DAWASA	Dar Es Salaam Water and Sewerage Authority	Tanzania	2000
DUWASA	Dodoma Urban Water and Sewerage Authority	Tanzania	2000
DWD	Department of Water Development	Tanzania	2000
IRUWASA	Iringa Urban Water Supply and Sewerage	Tanzania	2000
MWSA	Mwanza Water and Sewerage Authority	Tanzania	2001
NAQWASS	Nakuru Water Company	Kenya	2000

Abbreviated Name	Utility name	Country	Year established
NWCPC	National Water Conservation and Pipeline Corporation	Kenya	2000
NYEWASCO	Nyeri Water and Sewerage Company	Kenya	2000
NWSC	National Water and Sanitation Corporation	Uganda	2000
RDERDC	Regie de Distribution d'eau de la RDC	DR Congo	2000
REGIDESCO	Regie de Production et de distribution d'eau et d'electricite	Burundi	2000
Southern Africa			
AWB	Amatola Water Board	South Africa	2001
CoT	City of Tygerberg	South Africa	2001
BW	Bloem Water	South Africa	2000
DMWS	Durban Metro Water and Sanitation Sewerage	South Africa	2001
LNW	Lepelle Northern Water	South Africa	2001
MANGAUNG	Mangaung Local Municipality	South Africa	2001
MW	Mhlathuze Water	South Africa	2001
PA	Drakenstein Municipality	South Africa	2000
AHC-MMS	AHC-Mining Municipal Services Ltd	Zambia	2001
CWSC	Chipata Water and Sewerage Company	Zambia	1992
KWSC	Kafubu Water and Sewerage Company	Zambia	2000
LuWSC	Lusaka Water and Sewerage Company	Zambia	1992
NWSC	Nkana Water and Sewerage Company	Zambia	2000
MWSC	Mulonga Water and Sewerage Company	Zambia	2000
BWB	Blantyre Water Board	Malawi	2000
CRWB	Central Region Water Board	Malawi	2000
NRWB	Northern Region Water Board	Malawi	2000
LWB	Lilongwe Water Board	Malawi	1999
CoM	City of Mutare	Zimbabwe	2000
GCC	City of Gweru	Zimbabwe	1999
CoW	City of Windhoek	Namibia	2000
NW	Namibia Water Corporation Ltd	Namibia	2000
WBM	Municipality Walvis Bay	Namibia	2001
WUC	Water Utilities Corporation	Botswana	2000

Abbreviated Name	Utility name	Country	Year established
WASA	Water and Sewerage Authority – Lesotho	Lesotho	2000
West Africa			
AkSWC	Akwa Ibom State Water Corporation	Nigeria	1999
AnSWC	Anambra State Water Corporation	Nigeria	2000
BaSWB	Bauchi State Water Board	Nigeria	2000
BnSWB	Benue State Water Board	Nigeria	1999
BoSWC	Borno State Water Corporation	Nigeria	2000
CRSWB	Cross River State Water Board Ltd	Nigeria	2000
DtSUWB	Delta State Urban Water Board	Nigeria	2000
EbSWC	Ebonyi State Water Corporation	Nigeria	2000
EDSUWB	Edo State Urban Water Board	Nigeria	2000
EkSWC	Ekiti State Water Corporation	Nigeria	2000
EnSWC	Enugu State Water Corporation	Nigeria	2000
FCTWB	F.C.T. Water Board, Abuja	Nigeria	2000
GoSWC	Gombe State Water Corporation	Nigeria	2000
ImSWC	Imo State Water Corporation	Nigeria	2000
JgSWB	Jigawa State Water Board	Nigeria	1999
KbSWB	Kebbi State Water Board	Nigeria	1999
KdSWB	Kaduna State Water Board	Nigeria	2000
KnSWB	Kano State Water Board	Nigeria	1999
LiWSC	Liberia Water and Sewer Corporation	Liberia	2000
NAWEC	National Water and Electricity Company	The Gambia	1999
NCC-WSD	Nairobi City Council	Kenya	1998
RNET	Regie Nationale Des Eaux Du Togo	Togo	2000
SBEE	Societe Beninoise D'electricite et D'eau	Benin	2000
SEEG	Societe D'energie et d'eau du Gabon	Gabon	1999
GVWC	Guma Valley Water Company	Sierra Leone	1999
EDM	Energie Du Mali S.A.	Mali	1999
GWCL	Ghana Water Company Ltd	Ghana	2000
ONASdS	Office National De L'assainissement Du Senegal	Senegal	1999
SDE	Senegalaise Des Eaux	Senegal	1999

Abbreviated Name	Utility name	Country	Year established
ONEA	Office National De L'eau et De L'assainissement	Burkina Faso	2000
SODECI	Societe De Distribution D'eau De Cote D'ivoire	Ivory Coast	2000
ONED	Office National des Eaux de Djibouti	Djibouti	2000
Other			
CWA	Central Water Authority	Mauritius	2000
JIRAMA	Jiro Sy Rano Malagasy	Madagascar	1999
PEAS	Programa Energia Agua E Saneamento	Cape Verde	2000

Private water contracts in Africa (Hall and Lobina, 2006)

Type	Status	Level of investment in new connections	Country	Company	Location	Private water company involved
Concession and partial sale	Distressed	Shortfall from promised	Cape Verde	Electra	Nationwide	EdP
Concession	Distressed	Shortfall from promised	Gabon	SEEG	5 towns including Libreville	Veolia
Concession and partial sale	Terminated	Shortfall from promised	Mali	EDM	Bamako	Saur International
Concession	Distressed	Shortfall from promised	South Africa	Siza Water	Dolphin Coast	Saur International
Concession	Distressed	Shortfall from promised	South Africa	GNUC	Nelspruit	Biwater
Lease	Terminated	0	Central African Republic	SODECA	Bangui	Saur International
Lease	Ongoing	0	Côte d'Ivoire	SODECI	8 towns including Abidjan	Saur International
Lease	Terminated	0	Gambia	SOGEA	Nationwide	Veolia
Lease	Ended	0	Guinea	SEEG	Conakry	Saur International and EDF
Lease	Ongoing	0	Niger	SNE	Nationwide	Veolia
Lease	Ongoing	0	Senegal	SDE	Dakar	Saur International
Lease	Distressed	0	South Africa	WSSA	Queenstown	Suez
Lease	Distressed	0	South Africa	WSSA	Sutterheim	Suez
Lease	Terminated	0	South Africa	WSSA	Nkonkobe	Suez

Lease	Terminated	0	Tanzania	City Water	Dar es Salaam	Biwater and Gauff
Management	Ongoing	0	Burkina Faso		Ougadougou	Veolia
Management	Terminated	0	Chad	STEE	Nationwide	Veolia
Management	Distressed	0	Mozambique	Aguas de Mozambique	5 towns including Maputo	Saur International, Aguas de Portugal
Management	Distressed	0	Rwanda	Electrogaz	Rwanda	Lahmeyer
Management	Distressed	0	Sao Tome and Principe	Empresa de Agua e Electricidade Suez	Nationwide	Sinergie
Management	Distressed	0	South Africa	Johannesburg Water	Johannesburg	Suez
Management	Ended	0	Uganda	NWSC	Kampala	Suez

Appendix B: Additional information to research methods

1. Social survey questionnaire

Copperbelt Town:

Area:

A) Basics

1. Nos. in household:
2. How long lived in house (years):
3. Income: 0 – 100,000; 100 – 500; 500 – 1 million: > 1 million
4. Type of water supply (s): Individual connection, yard tap, kiosk or other? Fixed, metered and/or kiosk? How much per month?
5. How far to walk if not an in-house connection? Boil or chlorinate?
6. Type of sanitation: waterborne conventional, pit latrine, communal toilet or other? Perception of sanitation? If not happy, why?

B) Commercialisation

1. How has service changed since CU formed in 2000? Has it improved in terms of a) access b) quality c) quantity d) cost?
2. Service change: Improved a lot; Improved; Stayed the same; Worse or Much Worse?
3. Perception of CU performance: V. Poor; Poor; OK; Good; V. Good
4. How has sanitation been affected?
5. Do you feel you can interact with CU about water issues

C) Meter and/or Kiosks:

1. How long had meter? Did you chose meter? Did the CU impose a meter?
2. Would you return to fixed charge if possible?
3. Has the meter/kiosk reduced consumption? If so, has it reduced consumption for any domestic use? Washing, cleaning, drinking or toilet flushing reduced?
4. Are you tempted to reconnect illegally? Do you use hand-dug wells?

D) Water disconnection

- 1) Ever been disconnected? Did this reduce water consumption? How did you overcome?
- 2) If disconnected, what is your reaction? Do you seek help from neighbour?

E) Disease and preferences

- 1) Ever experienced any of the following in the family? Diarrhoea, dysentery, cholera or intestinal worms? If so, when and how often? Ever heard of cases in the neighbourhood? Hospital treatment needed? Ever suspected it was water related?
- 2) Look after any orphans?
- 3) Willingness to pay (*EXTRA*) for improved services? i.e. for the preferred service as above. How much extra per month

F) Observations

Signs of water on the property (i.e. leaking water fitting and/or sewers) and state of sanitation facilities

2. Social Survey

The following provides data on the social survey carried out in the towns of Kitwe and Chingola between June and August 2005.

Town	Township	Mining or non-mining	Type	Nos. of surveys
Chingola	Riverside	Non-mining	High	23
	Town centre	Mining	High	17
	Matchbela	Mining	High/Medium	8
	Chiwempala	Non-mining	Low	43
	SQ	Mining	Low	18
	Mutende	Mining	Low	16
	Muzabwela	Mining	Low	12
	Site and Service	Non-mining	Low	17
	Chabanyama	Non-mining	Low	17

Town	Township	Mining or Non-mining	Type	Nos. of surveys	
Kitwe	Riverside	Non-mining	High	12	
	Riverside Extension	Mining	High	7	
	Nkana East	Mining	High	13	
	Chimwemwe	Non-mining	Medium/Low	52	
	Ndeke	Non-mining	Medium/Low	17	
	Kwacha East	Non-mining	Medium/Low	14	
	Wusakili	Mining	Low	8	
	Chipata	n/a	Peri-urban	9	
	Musonda	n/a	Peri-urban	17	
	Kandabwe	n/a	Peri-urban	3	
					152 total

3. Water quality analytical techniques

a) Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP – AES)

The following describes ICP – AES used for the analysis of cations in the collected water samples from the hand-dug wells in the town of Chingola. ICP – AES is an advanced spectroscopy technique used for multi-element analysis of dissolved species in acid. Different earth elements absorb photons of light at their own unique wavelengths.

The acidified sample is pumped through a capillary tube in the form of a fine aerosol, produced by inert argon gas. The aerosol travels through a heated tube where it is vapourised. This vapour is subsequently cooled and removed. The output is a dry, analyte-laden aerosol, which is introduced into the plasma. The argon plasma provides heat energy to generate emission spectral lines. A quartz ICP torch consists of three concentric tubes. The outermost carries the plasma gas, while the inner tube carries the analyte sample. Temperatures of approximately 8000°C are reached, eliminating any chemical contamination. As the analyte is converted into atomic form, the ICP torch energises individual atoms, producing photons of light. By measuring the intensity of each emission a quantitative concentration is detected for each species.

b) Dionex Ion Chromatography

The following describes Dionex Ion Chromatography used for the analysis of anions in the collected water samples from the hand-dug wells in the town of Chingola. Ion chromatography is a type of high performance liquid chromatography that enables the separation of ionic species in solution. A liquid mobile phase is pumped, at high pressure, over a stationary phase. Difference in the species retention time provides a qualitative analysis, whereas quantitative analysis is based on comparison between the peak produced and the area beneath it. Retention times depend on the size and charge of species. Large, highly charged species are retained longer.

Appendix C: Water quality data

Cations

Sample No	Silicon	Calcium	Magnesium	Sodium	Potassium	Iron	Aluminium	Zinc	Manganese
1	4.3	1.1	0.9	10.4	4.5	0.06	0.18	<0.05	<0.05
2	7.1	0.75	0.75	10.1	4.1	0.5	2.2	<0.05	<0.05
3	2.2	8.9	3	20.1	5.2	<0.01	0.14	<0.05	<0.05
4	2.8	1.5	1	5.2	2	0.5	0.1	<0.05	<0.05
5	7.4	1.7	0.6	20.6	4.4	0.5	2.6	0.06	<0.05
6	15	6.2	2.4	22.2	8.6	2.4	8	0.07	<0.05
7	6.7	0.75	0.54	17.1	6.6	0.3	1.7	<0.05	<0.05
8	4.1	1.54	0.82	20	9	0.1	0.1	0.1	<0.05
9	3.6	0.6	0.13	28.2	2.7	0.1	0.9	<0.05	<0.05
10	6.2	7	6.5	21.2	23.1	0.2	2	<0.05	0.08
11	6.2	7.1	10.8	22	26.2	0.16	1	<0.05	0.37
12	5.4	3.5	1.4	10.5	15.3	0.52	1	1.1	<0.05
13	4.6	6.6	4	18.1	12.8	0.1	1.2	0.07	<0.05
14	2.2	2.6	1.5	19.8	15.4	0.5	1	<0.05	<0.05
15	2.2	5.5	3.2	5	14.1	0.02	2	0.07	0.25
16	4.3	0.65	0.2	5	4.2	0.17	1.7	<0.05	<0.05
17	3.2	0.5	0.16	5	1.3	0.07	0.18	<0.05	<0.05
18	8.8	0.9	0.18	2	3.3	0.9	4.6	0.1	<0.05
19	2.3	5.2	2.6	16.3	16	0.15	0.2	0.07	<0.05
20	8.4	11.2	5.05	8	9.5	0.35	0.27	<0.05	<0.05
21	4.6	5.3	5.5	15.9	7.6	0.4	1.4	0.07	0.09
22	4.4	0.7	3.9	12.7	3.6	<0.01	0.03	<0.05	<0.05
23	10.6	2.8	2.2	11.6	6.12	0.9	3.2	0.07	<0.05
24	3.04	8.42	4.3	24.7	17	0.11	0.8	<0.05	0.09
25	2.6	21.7	13.5	9.7	10	0.5	0.53	<0.05	<0.05
26	3.4	8.14	5.9	7.1	8.1	<0.01	1.1	0.07	<0.05
27	2.7	0.7	4.1	6.1	5.2	0.01	0.05	0.13	<0.05
28	6.06	0.9	0.2	4.7	2.4	0.96	1.3	0.16	<0.05
29	10.9	95.1	55.5	10.4	16.4	0.1		0.07	0.26
30	2.4	13	9.2	7	7	0.2	0.02	0.12	<0.05
31	2.4	0.53	0.08	26.5	4	0.02	0.05	<0.05	<0.05
32	8.6	1.3	0.6	2.6	3.3	0.01	1.1	<0.05	<0.05
33	8.9	1.1	1	12.5	7.4	0.01	0.2	<0.05	<0.05
34	9.5	14.9	38.6	8.8	15	0.03		0.05	0.4
35	7.6	2.15	1.1	8.7	6.7	0.11	0.5	<0.05	<0.05
36	7.6	2	1.14	8.7	6.2	0.22	0.8	0.06	<0.05
37	9.9	36.8	19.3	91.1	54.9	0.2	0.8	0.32	1.3
38	11.1	28.12	17.3	44.8	38	0.06	2	0.06	0.6
39	11	5.6	6	22.7	20	0.04	2.1	<0.05	0.3
40	9.6	128.6	41.5	8.9	15.7	0.01	0.01	<0.05	0.5
41	9.7	127.5	41.2	8.9	15.8	<0.01	0.01	0.08	0.5
42	9	1.5	1.1	6.3	7.3	0.05	1.5	<0.05	<0.05
43	8.4	1.3	0.65	5.9	4.9	0.03	0.4	0.05	<0.05
44	7.5	1.7	1.1	7.7	8	<0.01	0.9	<0.05	<0.05
45	8.3	0.5	0.07	3.9	4	1.3	0.6	<0.05	<0.05

Sample No	Strontium	Lead	Arsenic	Cadmium	Cromium	Copper	Nickel	Cobalt
1	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
2	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
3	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
4	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
5	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
6	<0.1	<0.1	<0.05	<0.01	<0.01	0.03	<0.01	<0.01
7	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
8	<0.1	<0.1	<0.05	<0.01	<0.01	0.03	<0.01	<0.01
9	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
10	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
11	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
12	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
13	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
14	0.1	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	<0.01
15	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
16	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
17	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
18	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
19	0.1	<0.1	<0.05	<0.01	<0.01	0.04	<0.01	<0.01
20	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
21	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
22	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
23	0.1	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	<0.01
24	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
25	0.1	<0.1	<0.05	<0.01	<0.01	0.03	<0.01	<0.01
26	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
27	0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
28	0.5	<0.1	<0.05	<0.01	<0.01	0.03	<0.01	<0.01
29	0.5	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	<0.01
30	0.5	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
31	0.5	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
32	0.5	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	<0.01
33	0.5	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
34	0.6	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	<0.01
35	<0.1	<0.1	<0.05	<0.01	<0.01	0.03	<0.01	<0.01
36	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
37	0.2	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	<0.01
38	0.3	<0.1	<0.05	<0.01	<0.01	0.03	<0.01	0.03
39	0.1	<0.1	<0.05	<0.01	<0.01	0.02	<0.01	0.02
40	0.7	<0.1	<0.05	<0.01	<0.01	0.12	<0.01	0.03
41	0.7	<0.1	<0.05	<0.01	<0.01	0.1	<0.01	0.03
42	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
43	<0.1	<0.1	<0.05	<0.01	<0.01	0.01	<0.01	<0.01
44	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
45	<0.1	<0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01

Anions

Sample No	Fluoride	Chloride	Nitrate	Sulphate	Phosphate
1	0.095	8.5	27.7	0.75	1.18
2	0.083	8.14	25.5	0.17	0.47
3	0.067	10.95	52.61	15.17	0.17
4	0.047	4.57	9.34	3.38	0.08
5	0.115	11.12	48.49	2.08	0.07
6	0.3251	28.14	34.4	14.44	
7	0.21	19.03	33.14	0.15	
8	0.07	14.32	37	3.7	
9	0.051	11.7	69.41	0.15	
10	0.448	17.5	106.23	1.92	
11	0.1	22.7	127.5	0.38	1.514
12	0.182	13.83	30.62	9.23	0.31
13	0.4197	25.7		1.88	0.55
14	0.25	21.76	62.74	1.53	0.2
15	0.579	9.64	69.45	0.56	
16	0.073	3.05	16.78	0.285	0.069
17	0.059	2.64	9.507	0.28	1.21
18	0.0431	1.58	4.18	0.46	0.28
19	0.062	27.69	38.51	12.03	0.09
20	0.154	7.78	18.8	38.1	0.07
21	0.1	17.78	16.78	36.27	
22	0.018	17.85	25.62	0.42	
23	0.081	15.09	25.9	0.33	
24	0.193	29.97	83.41	0.57	
25	0.127	7.41	4.06	107.7	
26	0.887	8.98	6.39	45.14	
27	0.117	4.47	6.28	11.56	1.6
28	0.168	3.09	2.38	0.4	0.4
29	0.462	5.04	7.66		
30	0.204	5.62	1.63	45.95	
31	0.07	19.41	18.5	2.62	0.06
32	0.08	1.7	7.05	4.07	
33	0.12	10.06	27.2	0.99	
34	0.28	4.57	4.94		
35	0.18	6.09	26.5	2.68	
36	0.16	9.2	26.09	2.68	
37	1.6	113.8	308	84.3	
38	1.87	49.1	180	48.4	0.17
39	1.73	17	113.4	2.5	0.7
40		5.77			
41	0.3	5.7	4.6	325	
42	0.2	5.3	12.1	5.3	0.46
43	0.5	4.8	30.3	0.7	0.3
44	0.6	6.7	32.5	0.6	0.1
45	0.11	2	3.1	0.32	0.07

pH data

Sample No	pH
1	4.23
2	4.77
3	5.65
4	5.8
5	5.57
6	5.96
7	5.26
8	5.5
9	5.1
10	6.01
11	5.5
12	6.3
13	4.9
14	5.27
15	4.43
16	4.2
17	5.47
18	5.6
19	4.9
20	5.6
21	5
22	5.43
23	5
24	5.2
25	5.2
26	5.4
27	6.01
28	5.8
29	7.87
30	6.3
31	5.5
32	7.04
33	5.3
34	7.8
35	5.4
36	4.97
37	5.6
38	4.98
39	4.8
40	6.6
41	7.7
42	6
43	4.8
44	4.4
45	7