LuWSi

Lusaka Water Security Initiative

"For a Healthy and Prosperous City"

LUSAKA'S WATER SECURITY SITUATION ANALYSIS

PUBLICATION 2:
Stakeholder and Institutional Analysis

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ABBREVIATIONS

AfDB	African Development Bank
CSO	Civil Society Organisations
DfID	Department for International Development
GDC	German Development Cooperation
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
KfW	German Development Bank (KfW),
LCC	Lusaka City Council
LWSC	Lusaka Water and Sewerage Company
MCTI	Ministry of Industry and Commerce
MEWD	Ministry of Energy and Water Development (former)
MLGH	Ministry of Local Government and Housing (former)
MLNREP	Ministry of Lands Natural Resources and Environmental Protection (former)
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MWSEP	Ministry of Water, Sanitation and Environmental Protection
NGOs	Non-Governmental Organisations
NRW	Non-Revenue Water
NWASCO	National Water and Sanitation Council
SWM	Solid Waste Management
UNICEF	United Nations Children's Fund ,
WARMA	Water Resources Management Authority
WB	World Bank
WSS	Water Supply and Sanitation
ZDA	Zambia Developmental Agency
ZEMA	Zambia Environmental Management Agency
ZESCO	Zambia Electricity Supply Corporation

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PREFACE

Although the notion of water security (with its important links to peace and human development), has been gaining traction in the global arena over the past years, its full practical expression within local contexts such as Zambia is yet to be fully realised. The UN-Water defines water security as "the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability" This definition highlights the complex dynamic interaction of many development disciplines including integrated water resources management, water supply and sanitation, development planning, disaster management and mitigation, community empowerment, social inclusion and human rights, all of which are not the mandate of one agency.

This Publication, the second in a series, is a stakeholder and institutional analysis. It is a product of a consultancy commissioned under the Lusaka Water Security Initiative (LuWSI), a multi-stakeholder partnership of public sector, private sector and civil society (TOR in appendix 1). LuWSI Partners[2] envision "water security for all to support a healthy & prosperous city" and have set out a mission to "strengthen multi-stakeholder collaboration to safeguard Lusaka's water resources while enhancing the sustainable & timely access to water & sanitation for all." In this regard the initiative aims to make Lusaka water secure for citizens, especially the most vulnerable and disadvantaged, and businesses.

The Publication analyses stakeholders and institutions around the four main action areas for the Lusaka Water Security Initiative viz: groundwater pollution prevention, sustainable groundwater exploitation, healthy of the Kafue River water supply and sanitation services access for all and urban flood risk management. In this regard, the Publication deliberately slants in favour of institutions related to integrated water resources management and water supply and sanitation and thus takes a view of water security within this narrow remit. The Publication does not delve into rights based perspectives in view of institutions that deal with civil society's rights and duties; i.e. It does not deal, in great depth, the complex interplay of governance institutions between duty bearers and right holders, which surface deeper questions on stakeholder relations and possibilities for their transformation to engender a balance of power amongst civil society, private sector and public sector. Besides this, the Publication also does not apply itself to a deeper analysis of the less obvious stakeholder and institutional dimensions of water security such as development planning, land administration and disaster management and mitigation. The Publication, however, must be seen as a very useful resource to understand the manifold elements at the core of water security as outlined earlier in this section.

This Publication 2 complements Publication 1 which deals with the water risks and solutions assessment for Lusaka City. It informs much of the barrier analysis (institutional gaps) in Publication 1 and the two Publications should be read together to form a more informed perspective of Lusaka's water security situation.

[1]UN Water (2013) Water Security and the Global Water Agenda: a UN-Water Analytical Brief .United Nations University- Institute for Water, Environment and Health, United Nations Economic and Social Commission for Asia and the Pacific

[2]LuWSI Partners at the time of Publication are: The Water Resources Management Authority, Lusaka Water And Sewerage Company, Lusaka City Council, The Zambia Environmental Management Agency, The National Water and Sanitation Council, Zambia Breweries Ltd, UNICEF, World Wide Fund For Nature, The Nature Conservancy, University Of Zambia, The Zambia Chamber Of Commerce And Industry, The Water And Sanitation Association Of Zambia, Village Water Zambia, Women For Change And The Zambia Homeless And Poor People's Federation.

1 INTRODUCTION AND BACKGROUND

1.1 LUSAKA WATER SECURITY INITIATIVE (LUWSI): INTRODUCTION

1.1.1 Context

The Lusaka Water Security Initiative (LuWSI) is a multi-stakeholder partnership of public sector, private sector and civil society actors, collaborating to address water security issues in Lusaka caused by a combination of:

- The proliferation of borehole drilling and subsequent increased abstraction which is causing groundwater levels to drop faster in each successive dry season, with many wells now drying up for several months in the year;
- Increasing populations and economic developments on critical groundwater recharge zones, reducing infiltration during the rains;
- Increasingly variable rainfall events as a result of climate change;
- Increasing contamination of the city's groundwater, a source on which LWSC depends for 55% of its supply, with faecal matter, hydrocarbons and other chemicals. Some of the contaminated water is subsequently consumed untreated by a good proportion of the estimated more than 40% of the city's residents unserved by LWSC's network;
- Limited capacity to effectively enforce environmental laws;
- Lack of appropriate sanitation and waste management facilities; and
- Fragmented institutional frameworks covering the different aspects of the foregoing issues.

Within that context, LuWSI, in collaboration with core partners prioritised the following Action Areas:

1) Groundwater pollution prevention (including sanitation and industrial);
2) Sustainable groundwater exploitation;
3) Healthy Kafue River; and
4) Water supply and sanitation access

1.1.2 Stakeholder and Institutional Analysis

The overall objective of the stakeholder and institutional analysis is to clarify the relationships (synergies, conflicts, overlaps, gaps) and the consequences of the relationships between the policies, laws, stakeholders and activities that affect the main threats to water security for Lusaka's residents and businesses in general. The analysis is presented within the context of "the major projects that are under preparation or implementation" within Lusaka.

The analysis is a product of many months of reviewing policy and legal documents on elements of water security in Zambia; the analysis has benefited immensely from interviews with individual stakeholders and been tested and consolidated through two stakeholder consultative workshops, the outputs of which form an integral part of this final document.

[2] A rapid assessment by a World Bank Technical Mission of January 2016 found that 51% supplied by LWSC, 24% by Water Trusts 22% by Private Boreholes 4% by Other sources.

While in general use institution can either be a type of formal organisation, or practices and behaviour pattern of a society , in this document the term is used specifically in the later context and includes framework conditions that define, govern and constrain action which can be formal; laws, rules and regulations or informal; custom and beliefs. Organisation here refers to a group of people brought together for achieving common purpose, such as the Ministry of Energy and Water Development or LuWSI. Figure 1-1 outlines the framework within which the terms are used.

Figure 1-1: *Institutions and Organisations*

	INSTITUTIONS	ORGANISATION
Formal	Policies Laws Regulations Guidelines Standards Programs	Line Ministries and Departments Regulations Local Authorities Commercial Utilities Private Sector entiries Civil Society
Informal	Customs Norms Beliefs Values Tradition Standards of Honesty Work Ethics	Traditional Leaders Community Based Organisations Pressure Groups Religious Groups Ethnic Groups Social Groups Association & Networks Partnerships and Initiatives

Water is of critical importance to all life forms and activities and therefore, essentially all forms of life are stakeholders in water related issues. Thus, the various institutions that exist and which are created around water and the organisations created within those institutions to manage water (either as a resource or as piped supply) are so created to serve the stakeholders' interests. In this document the organisations are examined as the stewards of water on behalf of their stakeholders. The term stewardship refers to the responsibility of actors to use and manage a fundamental common resource in a sustainable manner – in short, a good water steward is a responsible water user or manager. The ability of organisations to act in this capacity and the conditions that enhance or constrain those activities are the issues discussed in this document.

In addition to this chapter which provides introductory and contextual information about the assignment, chapter 2 gives an overview of organisations and their institution al setups vis a vis their connections to elements of water security in the country. Chapter 3 takes a closer look at public sector organisations and institutions whilst chapter 4 takes a cursory, but useful view of cooperating partners. Chapter 5 and 6 examine the private sector and academic and research stakeholders respectively. Chapter 7 presents an in-depth stakeholder power analysis by examining the level and importance of each stakeholder's interest in water security its degree of influence; the chapter is based on stakeholders' collective judgements, rendered in consultative workshops, and reflected as influence and interest matrix for stakeholders around each of the four main areas of action. Chapter 8 gives a succinct conclusion of the whole analysis.

Water security, as a concept, is new in Zambia and its implementation, taking a multi-stakeholder approach, has not been seriously attempted in the past. This analysis, therefore, is deliberately skewed in favour of organisations and institutions related to the obvious elements of water security such as water supply and sanitation and water resources management (perhaps as connoted by the four action areas).

[3] "In sociology, one definition of institution is that institutions are established and stable patterns of behaviour that define, govern and constrain action. Another definition denotes institution as a formal social structure that governs a field of action. Thus, it becomes clear that institution can refer to an abstract concept as well as a physical concept." http://pediaa.com/difference-between-institution-and-organization/:

1.2 NATIONAL ASPIRATIONS

1.2.1 Vision and Goals

The stakeholders' aspirations, which the organisations are expected to achieve, are articulated in various documents, which form some of the formal institutions governing the water sector. These aspirations are outlined below. The Vision 2030 (GRZ, 2006) has targets / goals in the water and sanitation and environmental and natural resources sectors, the sector in which LuWSI has interest. These are reproduced in Table 1-1.

Sector	Sector/Vision	Targets/Goals
Water and sanitation	Clean and safe water supply and sanitation for all by 2030	i. Improve access to appropriate, environmental friendly sanitation by all Zambians; ii. Attainment of 80 percent access to clean water supply to all by 2015 and 100 percent by 2030; iii. Attainment of 68 percent access to sanitation to all by 2015 and 90 percent by 2030; and iv. Fully integrated and sustainable water resource management.
Environment and natural resources	A productive environment and well conserved natural resources for sustainable socio- economic development by 2030	i. Rehabilitation, re-construction of sewage treatment facilities in all major towns and cities; ii. 80 percent of waste collected and transported; iii. Develop Integrated Licensing System; iv. 90 percent polluting industrial facilities comply with environmental legislation; and v. 80 percent of unplanned settlements upgraded and the residents have access to clean drinking water and sanitation facilities.

These aspirations are re-affirmed in the Revised Sixth National Development Plan (R-SNDP) (MoF, 2014) whose vision for the Water and Sanitation sector is "Access to sustainable water supply and adequate sanitation for all by 2030" with one objective for the National WSS Programmes being "To provide adequate, safe and cost effective water supply, sanitation and waste management services with due regard to environmental issues".

1.2.2 Inclusiveness

Various national policy documents provide guidance on matters related to inclusiveness of women, children, and persons with disability. Related to matters of concern to LuWSI, these include:

a) **The Vision 2030** which provides strategies for "Ensuring a healthy population in which the incidence of major diseases such as tuberculosis and malaria is reduced and the HIV/AIDS pandemic is brought under control with a progressively reduced incidence rate in both urban and rural areas and among both men and women"

b) Section 43 of the **Persons with Disabilities Act No 6 of 2012** requires that the Ministry responsible for water (among others) "ensure that the needs of persons with disabilities are taken into account" in design, construction and operations of their facilities.
c) The **NRWSSP** has strategies for gender, HIV-AIDS, in general and relative to children in particular;
d) Section 63(3) of the **Amended Articles of Association** of LWSC provide that "30% of the Board members shall be women in accordance with the SADC protocol"
e) The **IWRM/WE Implementation Plan** states that "women and children are the most affected if water is not properly managed to improve access" (MEWD, 2008, p. 134), observes that "Inadequate consideration of the needs of persons with disabilities with regards to technologies used" and the Prevalence of HIV/AIDS" (MEWD, 2008, p. 57) are major issues, and proposes projects that "Consider appropriate technologies for water supply and sanitation systems for persons with disabilities" (MEWD, 2008, p. 151).

Zambia also subscribes to various international agendas on the above issues. However, there may not be specific institutionalised measures that evaluate Zambia's performance in this regard to date.

1.3 LUSAKA

Lusaka, the capital of Zambia, with a conservatively estimated projected population growth rate of 3.8% per year, has one of the fastest growing populations in Zambia. Bounded by Chongwe, Chisamba, Chibombo and Chilanga, its population will increase from 1.7 million in 2010 to 2.5 million in 2020. LWSC main water sources are the local groundwater aquifer (accounting for approximately 56% of the city's total supply) and the Kafue River (44%) where water is pumped over 60 kilometres and up an elevation of 250 m. These are both coming under increasing pressure due to population increase, economic growth, climate change, pollution, land use change and environmental degradation. As of 2015, 12.67% of the city's population were connected to sewer systems implying that more than 1.9 million of its more than 2.2 million residents have some sort of, currently unregulated, on-site sanitation. This has major implications for ground water pollution in Lusaka, particularly due to a highly vulnerable dolomite (or limestone) aquifer and thin soil cover, allowing pollutants to readily seep into the ground.

As a result, GRZ along with its cooperating partners have nearly US$ 1 billion of ongoing or planned investments in water and sanitation projects, with about US$ 300 million for sanitation (of which about US$25 is for safer on-site sanitation).

[4] CSO 2010 Census Population Projections to 2035

2 OVERVIEW: THE ORGANISATIONS AND THEIR INSTITUTIONAL SETUP

2.1 FORMAL ORGANISATIONS AND INSTITUTIONS

2.1.1 Public Sector

The public sector sets the institutional frameworks (policy and legal) within which all economic activities operate. As water is key to all forms of life and to most types of human activity, everybody is a stakeholder in matters related to water. In this regard, the public sector has the primary mandate to ensure equitable access and sustainable use of water. All sectors of the economy and their respective line ministries have roles to play and are impacted by issues related to water. While some stakeholders have clear water management functions (e.g. Ministry of Local Government and Housing), other stakeholders are 'water influencers' or represent water users (e.g. Ministry of Commerce; Department of Agriculture). This can be seen in the National Water Policy 2010 (GRZ MEWD, 2010) in Chapters 2 (Situation Analysis) and 5 (Policy Measures and Implementation) which cover all sectors of the economy. This overarching reach of issues related to water is also implicit in the number of Acts that relate to water (Figure 2-1)[6]

The above Acts create the institutional frameworks within which the various public sector organisations involved the Water and Sanitation Sector listed in Table 2-1 operate.

Figure 2-1: *Acts Related to Water*

- The Constitution of Zambia
- The Urban and Regional Planning No. 3 of 2015
- Persons with Disabilities Act No 6 of 2012
- The Environmental Management Act No. 12 of 2011
- The Water Resources Management Act No 21 of 2011
- The Zambezi River Authority Act Cap 467;
- The Water Supply and Sanitation Act No. 28 of 1997;
- The Energy Regulation Act. Cap 436;
- The Fisheries Act Cap 200;
- The Tourism Act Cap 155;
- The National Heritage Conservation Act Chapter 173;
- The Forestry Act No. 7 of 1999;
- The Public Health Act Cap 295;
- The Local Government Act Cap 281;
- The Mines and Minerals Act Cap 213;
- The Inland Water Shipping Act;
- The Land Act;
- The Citizens Economic Empowerment Act; and
- The Zambia Development Agency Act.

Table 2-1: *Roles and Responsibilities of the institutions in the Water and Sanitation Sector*

No.	Institutions[6]	Description of key roles
1.	Local Authorities	Responsible for provision of water supply and sanitation services in rural areas.
2.	Water Utility Companies	Responsible for provision of water and sanitation services in urban areas.
3.	Ministry of Energy and Water Development	The Department of Water Resources provides overall coordination of water resources development and is responsible for policy formulation, monitoring developments with respect to water resources, and advises Government on issues of international waters.
4.	Ministry of Local Government and Housing	Through the Department of Housing and Infrastructure Development has responsibility for the co-ordination and monitoring of investments in municipal and commercial utilities infrastructure including water and sanitation.
5.	National Water Supply and Sanitation Council	Regulates service providers to improve delivery, efficiency and sustainability in urban areas.
6.	Water Resources Management Authority	Regulator which has the mandate to provide management, development, conservation, protection and preservation of the water resources and its ecosystem.

[5] Adapted and partially updated from the Integrated Water Resources Management and Water Efficiency (IWRM/WE) (2007 – 2030) published in 2008, page 41 to 42. (MEWD, 2008)

[6] Institutions used here in the Vision 2030 as "formal organizations".

7.	Ministry of Lands, Environment and Natural Resources	Through the Zambia Environmental Management Agency is responsible for establishing environmental standards.
8.	Ministry Community Development, Mother and Child Health	Has responsibility of monitoring and assessing rural communities in the development of water and sanitation projects particularly through the District Water, Sanitation, Health and Education (D-WASHE) Programme.
9.	Ministry of Health	Has responsibility for health and hygiene promotion among water users and also in the mitigation of water related diseases.
10.	Ministry of Education, Vocational Training and Early Education	Responsible for the implementation and management of rural water supply and sanitation in schools.
11.	Ministry of Tourism	Responsible for use of water for tourism purposes.
12.	Ministry of Agriculture and Livestock	Responsible for use of water for agricultural activities.
13.	Ministry of Works, Transport and Communication	Responsible for use of water for navigation, transport, construction.
14.	Ministry of Gender and Child Development	Advocacy and sensitisation with regard to increasing accessibility of safe water and sanitary facilities.

Source: Adapted from the revised Sixth National Development Plan (R-SNDP), p 113

However, among all of these, the key Line Ministries focused on water and the water security issues central to LuWSI and the identified threat areas, are:

- The Ministry responsible for water resources management and development (currently MEWD);
- The Ministry responsible for Water Supply and Sanitation and Solid Waste Management, (currently MLGH)
- The Ministry responsible for land use and environmental protection (currently MLNREP); and
- The Ministry responsible for Agriculture (currently MoA)
- These institutions not only play a leading role in creating the required framework conditions, but also, mostly through the statutory bodies under them, play similarly important roles relating to the regulatory and executive functions of the sector.

2.1.2 The Cooperating Partners

The Cooperating Partners (CPs), bilateral and multilateral, are heavily involved in the water sector in providing both financial resources and technical assistance as a contribution to efforts to achieve the stated national mandates. Examples include the Lusaka Sanitation Programme being funded by the African Development Bank, the European Investment Bank and the German Development Bank (KfW). Others include UNICEF especially on the Sanitation and Hygiene side, as well as GIZ on various capacity development measures, to mention a few.

2.1.3 The Private Sector

The Private Sector is primarily involved in the use of water and sanitation services as part of their core business inputs. This can be directly, as the main raw material in the business, such as in the manufacture of food and beverages and the use of faecal sludge as a business opportunity or solid waste as a business resource. It can also be indirectly, for maintaining the hygiene conditions around their business premises to create the necessary conditions for customer attraction and retention.

2.1.4 Civil Society

Civil Society Organisations (CSO) provide a diversity of services in the sector including technology development, direct service delivery, capacity building and community sensitisation among others. They also differ in size and coverage and include international NGOs, national NGOs, local community based NGOs, faith based organisations and community based enterprises.

2.1.5 Academic and Research Establishments

The academic and research establishments provide capacity for skills upgrading and technological research development. They include public and private establishments with a wide variety of subject coverage and ability to deliver customised water sector tailored products and services if requested.

These organisations and their policy and legal frameworks are described in more detail in the remaining sections of this report.

2.2 INFORMAL INSTITUTIONS

Water and Sanitation being critical to human existence and activities, there are informal institutions that impact on the activities of the formal institutions and organisations. The major ones are outlined below.

2.2.1 Political Interference

Due to water being a social and economic good, there is, and rightly so, political interests in water related matters. However, in some cases, this interest is expressed in manners that appear to conflict with the intent of the formal institutions.

On the water supply side, for example, Part X sections 203 – 220 of the Companies Act Chapter 388 of the laws of Zambia, supported by part 15 of the amended article of association of the CUs, clearly specify:

- how and by whom the directors should be appointed, by the shareholders (S62(1) of the Amended Articles of Association of LWSC);
- their tenure of office, 3 years “and subject to a review of his performance at every annual general meeting he may seek re-appointment at the expiration of his three year term” (63(1)); and
- how they are to be retired, “at the end of the three year term 50% of the Board of Directors shall retire” (63(2),

These provisions, which are in line with “Principles of Corporate Governance” espoused in section 5 of the articles, have not always been followed in the past.

On the water resources management side, even though the plan for the formation of WARMA and the transition arrangements have been well documented, the acquisition and deployment of additional drilling rigs to the Department of Water Affairs (DWA), a department that is supposed to be reformed out of existence appears out of line with the plan’s intent. The resourcing and operationalisation of WARMA has been slower than planned, probably due to matters related to DWA and therefore, two to three years after its creation it is still not operating at full capacity.

2.2.2 Vested Interests in all Sectors

Agriculture, which accounts for more than 70% of the annual water withdrawals, industry for whom, in some cases water is a key input resources, tourism for which the availability of water is a key requirement and health for whom lack of adequate

[7]Based on the amended articles of LWSC

water and sanitation not only makes their operations unsustainable, as lack of water and sanitation increases possibilities for cross contamination within the hospital, but for whom lack of water and sanitation in the community results in increased demand for their services from increases in water borne and water related diseases, all have serious vested interests in water in general as well as in good sanitation services.

Balancing the competing vested interests requires multi-stakeholder collaboration at all levels that, prior to LuWSI, had not been feasible. This has adversely affected developments in the past.

2.2.3 Public Sector Tunnel Vision

The public sector approach to operating in silos sometimes creates unintended consequences for WSS issues. For instance, our national desire to attract investment has, sometimes, led to decisions like siting an economic zone over a major aquifer. This together with the political interest – influence issue - creates conditions that can adversely influence water security, especially when it comes to decisions on urban and land use planning

A key part of the reason for this is that the public sector operates more comfortably at the operational level focused on public sector regulations which sometimes do not quite talk to each other. For instance, there are some differences in the financial regulations between the regulations in the Local Government Act and those in the Public Finance Act. The public sector operatives, who are judged on their compliance to regulations are uncomfortable to operate at the strategic level, if that conflicts with some regulation as even though such acts may achieve a greater public good, their performance is not assessed that way.

The issue has become so detrimental in some cases that His Excellency the President of the Republic of Zambia, E. C. Lungu, declared in his opening speech to Parliament that "The era of operating in "silos" under my administration will be a thing of the past as it leads to fragmentation, waste of resources and ultimately leads to nowhere" (Lusaka Times, 2016)

2.2.4 Beliefs about Water

Two wide spread interrelated beliefs about water in Zambia are that water is free and that Zambia has an abundance of water. Even though logically, especially now with electricity load shedding caused by low water levels, most people are aware that there is scarcity of water in some places and that water is processed at a cost to reach their households, the underlying beliefs still inform the activities of a material percentage of the Zambian population, most likely contributing to irresponsible water use. Addressing these beliefs and misconceptions requires continuous awareness raising and advocacy. The Zambian attitude towards public goods was formed during colonial times when public goods and services were, to a large extent, directed towards colonial settlements. The belief, used to be, and to some extent, still remains, though less so, that public goods are free. Free education is, as the name implies, free, even though it is paid for by the same taxpayers who view it as free. The previously common Zambian term "Niva Boma" (it belongs to the state), sums up that attitude.

The need to counter that belief partly informed the creation of Water and Sanitation

[10] In this particular case some progress is being made as MoF has recently created the office of the Accountant General (Local Government) to coordinate and collaborate with the Ministry of Local Government on issues of financial accounting and reporting. But this is one rare incidence.

Commercial utilities (CUs) in a manner that distanced them from the “Boma” (the local authority) and thereby enable them operate as private commercial entities do. The water supply and sanitation Act even foresees private sector shareholding in the CUs. However, that separation, both from the government and public point of view, has not been very successful, and, to some extent, permeates even some CU workers and their work ethics. This is manifest in various forms, including around Lusaka, the mushrooming of car wash business which not only leave water running throughout the day, and sometime the night as well, thereby contributing to the high non-revenue water, but also damaging nearby roads, without much evident effort by LCC or LWSC to control these enterprises.

2.2.5 Sense of Responsibility and Respect of the Law

Individual behaviours by most people exhibit a blatant disregard for the law and a sense of personal responsibility for the collective good. Individuals indiscriminately dispose of waste, vandalise public infrastructure, build over water and sewer pipelines, and connect to water supply pipes without regard for the law. This lack of personal responsibility towards public services is of great concern and needs to be addressed in order to achieve a water secure city.

2.2.6 Short Termism

The informal institutions, and their proponent organisational structures, such as sub-district political party structures, can have great influence on matters related to water security that must be taken into account when designing and implementing measures to address water security around Lusaka. For instance, the issuing of plots, in a number of cases without council involvement, on sometimes water sensitive areas is a big issue that requires to be addressed and resolved. This will only happen if there is a shift from short term thinking and planning to more long term strategic thinking.

2.3 INSTITUTIONAL AND STAKEHOLDER RELATIONS

2.3.1 Institutions

The formal institutional frameworks and informal institutional conditions for the water sector are extremely diverse and complex. There are more than twenty public policy documents (listed above), combined with the various institutional frameworks of key partners, such as CPs, and the informal institutions and their permutations of possible areas of synergy, cooperation or conflict. Table 2-2 presents a highly summarised view of the key stakeholders and their respective institutions.

Table 2-2: *Summary of Sector Stakeholders and their Institutional Frameworks*

Stakeholders	Formal Institutional Frameworks and Informal Conditions
The Public Sector	• Formal: Various Laws and programmes (listed above) • Informal: Heightened public / political interest; culture of serving vested interests vs public service; public attitudes to public goods and services
The Private Sector	• Formal: The Companies Act, Corporate Governance Charters (including corporate social responsibility (CSR) provision therein) and in some cases specific development agreements with GRZ. • Informal: Varying inter-corporate cultures, including competition and cooperation; intra-corporate cultures, including sense of responsibility, long-termism vs short-termism
Cooperating Partners	• Formal: Various bilateral and multilateral agreements • Informal: Relations between CPs and government
Civil Society	• Formal: The Societies Act • Informal: Financing agencies focus areas and interest
Academic and Research Institutions	• Formal: Higher Education [No. 4 of 2013 97
The Public	• Informal: Beliefs and attitudes; societal cohesion

Table 2-3 *Highlights the inter-connectedness of the issues contributing to the Action Areas; some issues contribute to more than one Action Area. The institutional frameworks is fragmented; for each issue there are various mandated stakeholders with different complementary, and sometimes, conflicting roles.*

LuWSI Action Areas	**Related Issues**	**Key Stakeholder**
1. Groundwater Pollution Prevention (including sanitation and industrial)	• Increasing contamination of the city's groundwater with faecal matter, hydrocarbons and other chemicals. Some of the contaminated water is subsequently consumed untreated by a good proportion of the estimated 40% of the city's residents unserved by LWSC's network • Lack of appropriate sanitation and waste management facilities • Limited capacity to effectively enforce environmental laws	• LCC / Private Sector entities / the Public / NGOs • LCC / LWSC / Academia • LCC/ZEMA/WARMA
2. Sustainable Groundwater Exploitation	• Increasing populations and economic developments on critical groundwater recharge zones, reducing infiltration during the rains • The proliferation of borehole drilling and subsequent increased abstraction, causing groundwater levels to drop faster in each successive dry season, with many wells now drying up for several months in the year. LWSC water bowsers are now more visible in some areas of Lusaka. • Limited capacity to effectively enforce environmental laws	• LCC / MCTI-ZDA/ Private Sector entities • LWSC/WARMA/ Drillers • LCC/ZEMA/WARMA

3. Healthy Kafue River	• Increasing abstraction, mainly for agriculture, as well as significant evaporation losses from hydropower reservoirs • Deforestation and land use change in upper Kafue Catchment, contributing to reduced infiltration, rapid run off, soil erosion and sedimentation, and potentially affecting rainfall patterns • Increasingly variable rainfall events as a result of climate change • Changes in flow regimes caused by abstractions and hydropower, putting strain on critical ecosystems, such as the Kafue Flats, which in themselves, also help to regulate flow • Pollution from point and diffuse sources, also threatening key ecosystems	• WARMA/MLNREP/ MoA/ MCTI-ZDA/ Private Sector entities / the Public / NGOs • Public sector / Private sector / NGOs
4. Access to Water Supply and Sanitation	• Rapid urbanisation, putting significant strain on the limited infrastructure and supply services of LWSC • Groundwater over-abstraction and pollution, reducing community access to safe and sufficient groundwater	• LWSC / NWASCO / LCC / WARMA • LCC / MCTI-ZDA/ Private Sector entitie

Some of the areas of synergy, cooperation or conflict in the four LuWSI Action Areas are outlined below.

2.3.1.1 Groundwater Pollution

Key contributors to water pollution are inadequately regulated. NWASCO is just now developing a regulatory framework for the onsite sanitation service chain from septic tank standards, through emptying of faecal matter, safe transportation to safe disposal. Industrial sites (including filling stations) and the rapid growth of unplanned settlements are all major contributors to water pollution, but the key sectors do not adequately collaborate on managing these source of pollution. The primary role for regulating the proliferation of these developments lies with LCC, and with both ZEMA and WARMA for regulating their pollution. Some of the required regulations are in place, but their enforcement could improve with better coordination. For instance, the Public Health (Drainage and Latrine) Regulations under the Public Health Act chapter 295 of the laws of Zambia, provide that a council shall enforce any building less than 60.96 metres of a council sewer line to connect to the sewer line (S4(1)) and that “Any person who fails to comply …… shall be guilty of an offence” (S4(2)) and therefore LCC can prosecute such compliance failures. LWSC in its operations can probably identify these buildings but cannot enforce while LCC can enforce but does not have people in the field to identify these buildings. There are, therefore, synergies in the three public institutions working together to, with LCC leading, avoid the causes of pollution in the first place, and, jointly monitor for incidences of pollution and enforce the existing regulations.

Within the public sector, the Zambia Development Agency (ZDA) has sited a Multi-Facility Economic Zones (MFEZ) on water recharge areas. WARMA, ZEMA and LCC all would, had they been involved, probably expressed concern and helped ZDA find alternative suitable places. This is an area in which LuWSI’s well field protection

activities could yield positive results relating to prevention of pollution.

Within the private sector, there is likely to be tension between large water users, such as beverages manufacturers on one hand, and those whose core business might pollute water, such as filling stations or chemical intensive industries such as tanneries. Whereas both operate within the same legal framework, their core business interests differ. However, the public sector has the required institutional mandates, through LCC and ZEMA, to create the necessary enabling conditions for all the different businesses.

2.3.1.2 Groundwater Over-abstraction

The key contributor to increased, unregulated abstraction of water is the inability of LWSC not only to keep up with increasing demand for water from domestic and business entities, but also its inability to adequately supply existing customers, more recently exacerbated by erratic power supply. This is compounded by inefficiencies such as high non-revenue water (NRW); 47% of water produced by LWSC is lost as NRW according to the NWASCO 2015 Sector Report.

On the other hand, the Water Resources Management Act No. 21 of 2011 ensures "the right to draw or take water for domestic and non-commercial purposes". In this regard Section 6 (g) provides that "water has an economic and a social value and this shall be reflected in its use, ***but all domestic and non-commercial use of water shall not be required to obtain a water permit"*** and 6 (m) reinforces that ……the right to use water for domestic and non-commercial purposes shall not be under any permit or attract any charge for its use".

So the combination of increasing demand for water supply, erratic water supply from LWSC and the right to domestic and non-commercial use of water creates conditions for the proliferation of increased self-supply. As both the potential new customers and some existing customers, in seeking alternative methods of securing their water supply turn to the self-supply option, they have created demand for the services of drilling companies that have responded to fill in the market gap leading to unregulated, and probably unsustainable, increased abstraction of water.

However, Part X of the Water Resources Management Act provides under Section 88 the licensing of (contractors and) drillers and Section 89 provides that "The Minister may prescribe: -

(b) the terms and conditions attaching to the application, grant, modification, refusal, renewal, transfer or revocation of a licence; and
(c) such other matters as are necessary or incidental to the effective regulation of constructors and drillers licenced under this Part.

So while the main solution for addressing the proliferation of drilling activities and the resultant uncontrolled abstraction of water lies in improved service and coverage by LWSC, it is also possible to regulate the proliferation of drilling activities by regulating the activities of drillers. It is also possible to improve on water use efficiency by promoting good water stewardship amongst the general public and private sector water users.

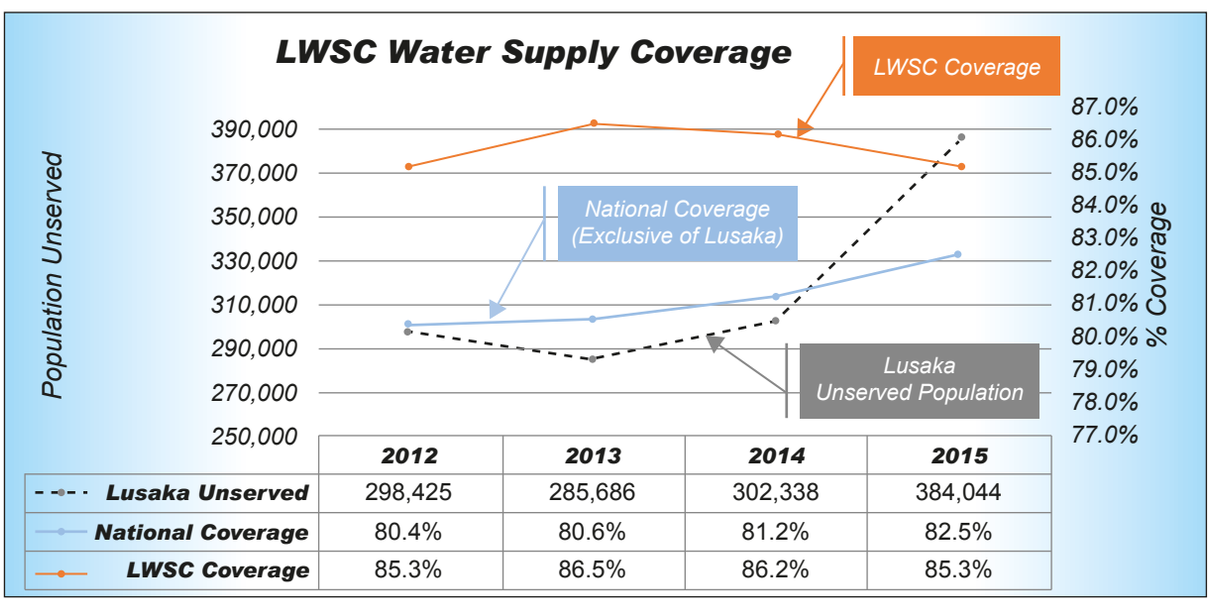
In addressing this matter, therefore, cooperation and coordination between LWSC

and WARMA is critical. For instance, as part of the licensing procedures for drillers, these drillers may be required to register, under certain conditions, with the local utility regarding service levels in any particular area. This may, however, be a potential conflict area with drillers that would require resolution.

2.3.1.3 Access to Water Supply and Sanitation

Issues related to Water Supply access are primarily rapid population and industrial / commercial growth around Lusaka. This is compounded by erratic water supply. According NWASCO data over the period 2013 to 2015 water coverage by LWSC decreased from 86.5% to 85.3% going against the national trend (exclusive of LWSC areas) of increased coverage. The population unserved, which dropped from 298,425 in 2012 to 285,686 in 2013, increased to more than 384,000 by 2015 due in part, to rapid urban population growth. This shows deteriorating access, see Figure 2-2.

Figure 2-2: *Lusaka Water Supply Coverage*



	2012	2013	2014	2015
Lusaka Unserved	298,425	285,686	302,338	384,044
National Coverage	80.4%	80.6%	81.2%	82.5%
LWSC Coverage	85.3%	86.5%	86.2%	85.3%

Source: Summarised from 2012 – 2015 NWASCO Reports

This deteriorating trend is the underlying cause of the increased levels of water abstraction. Uncoordinated development planning between LCC and LWSC are compounding the matter as new development areas, planned and unplanned, spring up without consultations with utility providers including LWSC which leaves them trying to catch up, without too much success so far.

LCC has the institutional mandate to manage the integrated growth of Lusaka and there are no institutional overlaps. The Urban and Regional Planning Act No. 3 of 2015 requires that "A planning authority **shall** prepare an integrated development plan (IDP) for its area." (S19(1)) which shall "link, integrate and coordinate sector plans and proposals for the development of the area of the local authority." (S19(4a)). Such a plan, through the collaboration required to "link, integrate and coordinate sector plans" cannot be developed in isolation and would avoid conflict among plans. While the unplanned settlements are sometimes beyond LCC control, creating an IDP as a part of addressing unplanned developments is not and therefore those developments should be better coordinated. As most of these settlements, where up to 70% of

the population of Lusaka live, use pit latrines, their access to adequate sanitation is severely compromised and their contribution to ground water pollution is considerable. The IDP, a master plan, would create a useful framework for addressing both access and pollution.

2.3.1.4 Healthy Kafue River

The health of the Kafue River is negatively impacted by various factors including:

a) the environmental degradation of the Kafue catchment due to human activities including settlements and the increased use of charcoal for firewood, without replacement of the forest cover;
b) industrial activities such as mining, electricity generation and agro-industries that abstract large amounts of water, pollute the river or change the river's flow regime;
c) increasingly erratic rainfall.

Each of these above causes has different, but overlapping, sets of stakeholders some of whom are listed in Table 2-4.

The high number of institutions and resulting stakeholders not only show the importance

Cause	Organisarion	Function
Environmental degradation	• Ministry of Lands, Natural Resources and Environmental Protection • Ministry of Agriculture • Local Authorities • Forestry Department • International and national conservation NGOs • Communities	• Manage forests and control settlements • Research and awareness raising
Industrial activities	• Ministry responsible for Agriculture and Fisheries; • Ministry responsible for Mines and Mineral Development; • Ministry responsible Lands and the environment (ZEMA) • Ministry responsible for tourism • Ministry responsible for Energy and Water Development (WARMA, ZESCO) • Ministry responsible for trade and industry • Mining Companies and Agro-Industries	• Control of agricultural practices that might pollute the river • Control quality of mining effluents • Monitor pollution levels and enforce regulations • Regulate and monitor tourism activities in the Kafue catchment • Regulate water use; • Manage the catchment • Research and awareness raising
Increased rainfall variability	• Ministry responsible for Energy and Water Development (WARMA) • Ministry Responsible for Communications and Transport (Zambia Meteorological Department (ZMD))	• Develop inland water management facilities (dams, weirs etc) • Rainfall pattern modelling

of the river, but also the complexity of coordinating these stakeholders to ensure that each can use the river's resources without unnecessary adversely affecting the right of the others, a key role for WARMA. The operationalisation by WARMA of Catchment Councils, Water User associations and development of Catchment Management Plans, all of which are provided for in the Water Resources Management [No. 21 of 2011] have all been delayed due to the issues described above.

The institutions and stakeholders and their roles are presented in more detail in the rest of this report.

3 PUBLIC SECTOR

The public sector organisations have three levels of focus on different but complimentary aspects of the water and sanitation sector:

- the line ministries, who are the mandate holders, are responsible for developing the policy and legal frameworks, providing sector guidance, formulation of strategies and programmes and for overall resource mobilisation;
- the regulators, normally autonomous statutory bodies, are responsible for regulating the activities of the executing agencies; and
- the mandate executing agencies.

The three levels of the four key public sector institutions listed above are now presented in this section.

3.1 MINISTRIES DEALING WITH WATER, SANITATION AND ENVIRONMENTAL PROTECTION

3.1.1 Formal Institutional Setting: Mandate, Policy and Legal Frameworks

The new Ministry of Water Sanitation and Environmental Protection (MWSEP), which takes the water resources function from the previous Ministry of Energy and Water Development (MEWD) and Water Supply and Sanitation from the former Ministry of Local Government and Housing (MLGH) as well as the Environmental Protection from Ministry of Land, Natural Resources and Environmental Protection (MLNREP) will be responsible for water resources management and development, water supply and sanitation as well as environmental protection.

However, since the constitution mandates Local Authorities with Water Supply and Sanitation activities, the new Ministry of Local Government will still have a role to play in WSS; its mandates include policy development and guidance, resource mobilisation, housing, local government and various municipal services including roads, markets and bus stations, libraries, spatial planning, Water supply, Sanitation and Solid waste management.

The Constitution of Zambia (Amendment) [No. 2 of 2016) under section C. Local Authorities exclusive functions, pages 117 to 188 provides, among other LA exclusive functions the following:

- Water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems.

- Refuse removal, refuse dumps and solid waste disposal.

In undertaking these mandates the MWSEP predecessors, particularly, MEWD and MLGH, launched the 1994 National Water Policy at the start of the water sector reforms which created the seven sector principles which are still applicable today. These are

1) Separation of water resources functions from water supply and sanitation;
2) Separation of regulatory and executive functions within the water supply and sanitation sector;
3) Devolution of authority to Local Authority and Private Enterprises;
4) Achievement of full cost recovery for the water supply and sanitation services through the user charges in the long run;
5) Human Resources development, leading to, more effective institutions;
6) Technology appropriate to local conditions; and
7) Increased GRZ spending priority and budget spending to the sector.

As a result of the 1994 policy, the Water Supply and Sanitation Act No 28 of 1997 was enacted. However, the act relates mainly to the creation of CUs to provide urban WSS services and to NWASCO for the regulation of the provision of services by CUs and other service providers.

3.1.2 Water Resources Management

In order to take account of intervening developments in the management of the water sector, a new National Water Policy (GRZ MEWD, 2010) was developed in 2010 and the Water Resources Management Act No 21 of 2011 was enacted to provide the legal framework for the revised policy. In line with the first sector principle above, the NWP 2010 (GRZ MEWD, 1994), focuses more on Water Resource Management and Development (WRMD), the mandate of the Ministry responsible for Water Resources Development. WSS, which is the mandate of MLGH, is not addressed in depth in this policy.

3.1.2.1 The Programmes

The Integrated Water Resources Management and Water Efficiency (IWRM/WE) Volume 1: Main Report (2007 – 2030) published in 2008, (MEWD, 2008) sets a holistic blue print for the sector. Its vision is to ***"achieve equitable and sustainable use, development and management of water resources for wealth creation, socio development and environmental sustainability"*** with the goal of ***"Supporting economic growth and improving livelihoods through sustainable water resources development and management with equitable provision of water in adequate quantity and quality to all competing groups of users, at reasonable cost, with security of supply under varying conditions"***

It has defined four Programmes (Strategic Focal Areas) for the sector: 1 Water Resources Management; 2 Water Resources Infrastructure Development; 3 Water Supply and Sanitation; and 4 Monitoring, Evaluation and Capacity building. Table 1-1 lists the programmes, their strategic objectives and the identified prioritised projects for the programmes (the projects highlighted in blue may be of prime interest to LuWSI).

The MLGH has fully articulated its programmes; The National Rural Water Supply and Sanitation Programme (NRWSSP 2006 – 2015) (GRZ - MLGH, 2007), The NRWSSP

II 2016 – 2030 now under formulation; and The National Urban Water Supply and Sanitation Programme (NUWSSP 2011 – 2030) (GRZ - MLGH, 2010) which covers both urban and peri-urban.

The programmes for water Resources Management; Water Resources Infrastructure Development and sector Monitoring, Evaluation and Capacity building have not been fully articulated by the sector lead ministry, a matter raised in various annual Joint Water Sector Reviews (JWSR). The operationalisation of the Water Resources Management Authority (WARMA), might address this matter (see the next section).

Table 3-1: *Programmes, Strategic Objectives and Prioritised Projects*

PROGRAMMES (STRATEGIC FOCAL AREA)	STRATEGIC OBJECTIVES	PRIORITISED PROJECTS
1. Water Resources Management	• Integrated management of all the resources in the catchment areas • Improve water resources planning and management • Improve water use and allocation efficiency	1.1 Water resources planning 1.2 Information management system for water resources, water supply and sanitation 1.3 Surface water resources assessment 1.4 Groundwater resource assessment 1.5 Legal and institutional framework capacity enhancement 1.6 International waters 1.7 Drought management 1.8 Flood management 1.9 Sustainable environmental management 1.10 Protection of catchment areas and management wetlands 1.11 Environmental institutional capacity Building
2. Water Resources Infrastructure Development	• Develop water infrastructure to harness the country's water resources in a sustainable manner and make it available in the required quantity and quality to enhance its utilisation for economic growth.	2.1 Water resource development and infrastructure development 2.2 Monitoring development of water infrastructure
3. Water Supply and Sanitation	• Increase access to safe water supply and sanitation to the urban, peri-urban and rural population • Provide adequate, safe and cost effective water supply and sanitation services with due regard to environmental protection	3.1 Rural water supply and sanitation 3.2 Institutional capacity building and enhancement; 3.3 Urban water supply and sanitation 3.4 Peri-urban water supply and sanitation

4. Monitoring, Evaluation and Capacity building	• Improve the quality of decision making, sector efficiency and managerial performance in the planning and implementation of water sector programmes and projects • Monitor and evaluate performance of the programmes and projects in order to determine their impacts	4.1 Mainstreaming cross cutting issues-gender and HIV/AIDS 4.2 Institutional and human resource capacity building and enhancement 4.3 Water research and development 4.4 Public awareness and advocacy 4.5 Monitoring and evaluation 4.6 Financing and economics

Source: IWRM/WE, p 62.

3.1.2.2 The Regulators

National Water Supply and Sanitation Council (NWASCO)

Arising from the 1994 NWP, the National Water Supply and Sanitation Council (NWASCO) was created through Part II sections 3-8 of the Water Supply and Sanitation Act No 28 of 1997 to regulate WSS activities in Zambia. Its functions are outlined in section 4 but its core mandate, under section 4(1) is ***"Subject to the other provisions of this Act, the functions of Council shall be to do all such things as are necessary to regulate the provision of water supply and sanitation services".*** NWASCO was, however, placed institutionally, under MEWD although the functions it regulated were under MLGH. In addition, to date, its focus has been on the regulation of piped water supply and sewerage services. This has left on-site sanitation uncovered by the regulator, despite the fact that the majority of people in Lusaka are on onsite sanitation. This has adverse implication for ground water pollution.

Meanwhile, while industrial and to some extent, commercial water usage was regulated by the Water Board, since replaced by WARMA, domestic water self-supply, such as boreholes and wells, has not, till recently, been covered by any regulator. Thus the combination of rapid urban population growth, slow increased service coverage by LWSC and, recently, erratic power supply, has resulted in the proliferation of both water drilling companies and the use of boreholes for domestic water supply. This has adverse implications relating to sustainable ground water abstraction.

Water Resources Management Authority (WARMA)

Arising from the 2010 NWP, the Water Resources Management Authority, WARMA, has been created under Part II – sections 7 – 16 of the Water Resources Management Act No 21 of 2011. Its functions are particularly outlined in section 8. But generally its core mandate under section 8(1) is ***"to promote and adopt a dynamic, gender-sensitive, integrated, interactive, participatory and multisectoral approach to water resources management and development that includes human, land, environmental and socioeconomic considerations, especially poverty reduction and the elimination of water borne diseases, including malaria"***

While it has replaced the Water Board which used to issue water rights, a somewhat regulatory mandate, its mandate, according to the Act as outlined above, seems, unlike that of NWASCO which is strictly regulatory, to cover executive functions as well.

This would seem to be, if it is the case, somewhat contradictory to the second sector principle, the "Separation of regulatory and executive functions within the water supply and sanitation sector". In addition, there seems to be issues of mandate boundaries to be resolved between:

- WARMA
- the Department of Water Affairs (DWA), which used to be the executive arm of the ministry and which was expected to have disappeared under the new arrangement but has not; and
- the new Department of Water Resources Development (DWRD), which is supposed to focus on developing new water resources and water resources infrastructure

The Energy Regulation Board (ERB)

The Energy Regulation Board (ERB) regulates the energy sector which includes power supply companies, including hydropower companies that impound and use large amounts of water. It also regulates petroleum oil related companies that have potential to pollute groundwater.

3.1.2.3 The Implementers

WARMA, DWA, DWRD all seem to implement aspects of water resource management and development activities. However, while DWA used to be involved in water supply activities in the rural areas, it has not been active in the urban areas and there is of no direct consequence for LuWSI. DWRD will have, when fully operational more concerned with policy and trans-boundary waters.

The Zambia Electricity Supply Corporation (ZESCO) is the national electricity supplier and is interested in, and can have impact on the health of the Kafue River.

3.1.3 Water Supply and Sanitation

3.1.3.1 Mandate, Policy and Legal Frameworks

Regarding Water supply, Sanitation and Solid waste management, the policy, legal and financial mobilisation functions were led by the Water supply, Sanitation and Solid waste management unit of the Department of Housing and Infrastructure Development (DHID), which will now, almost in its totality be moved to the new Ministry of Water Sanitation and Environmental Protection. However, the resource mobilisation function, an executive function, is also under the Devolution Trust Fund, which was created under the Water Supply and Sanitation Act No 28 of 1997 and was, initially, under NWASCO. This was a contravention of the sector principle aimed at separating regulatory and executive functions. DTF has been separated from NWASCO but the sector still has a fragmented resource mobilisation framework with MLGH-DHID spearheading one end and MEWD – NWASCO – DTF spearheading another.

Currently there are efforts to develop a holistic financing framework for the sector and a study to develop the financing mechanisms is likely to get underway before the end of 2016.

While the 1994 NWP covered both Water Resources Management and Water Supply and Sanitation services, the 2010 NWP, and its enabling act the Water Resources Management Act No 21 of 2011, in line with principle 1 of the seven sector principles,

focus on Water Resources Management and do not adequately address WSS issues. To address this issue MLGH is actively formulating the first ever WSS & SWM policy. The draft of this policy was cleared by the Technical Working Group on 22nd to 24th March 2016 for submission to the Minister for his comments before submission to the Cabinet for consideration.

The current legal framework for WSS & SWM is fragmented between the Local Government Act Chapter 281 of The Laws of Zambia, the main act providing for municipal services through Local Authorities, for water and sanitation services in rural areas. For the urban areas Local Authorities, as service providers, have incorporated Commercial Utilities (CUs), formed under PART III sections 9 and 10 of the Water Supply and Sanitation Act No 28 of 1997, but incorporated under the Companies Act Chapter 388 of the laws of Zambia. However, even though the Water Supply and Sanitation Act No 28 of 1997 provided the basis for delegating water supply and sanitation services to CUs, the CUs took over water supply and sewerage services (hence Lusaka Water and Sewerage Company); onsite sanitation fell under the cracks. For Lusaka this oversight is being addressed now through the Lusaka Sanitation Programme (LSP).

Solid Waste Management

The Environmental Management Act No. 12 of 2011 provides for the Continuation and re-naming of the ***"Environment Council of Zambia (ECZ)"*** to the ***"Zambia Environmental Management Agency (ZEMA)".*** It provides the legal framework ***"for integrated environmental management and the protection and conservation, sustainable management and use of natural resources".*** The Act creates ZEMA as the regulator for solid waste management (SWM) but also provides for the role of local authorities in waste management (S56). The Local Authorities are also mandated to undertake SWM activities in their areas of jurisdiction according to the Local Government Act Cap 281, through Statutory Instrument No 100 of 2011, (Solid Waste Management Regulations, 2011).

3.1.4 The Programmes

MLGH has formulated the National Rural Water Supply and Sanitation Programme (NRWSSP 2006 – 2015) for rural areas, which came to an end in 2015. A new one is being formulated for the period 2016 – 2030. Of more interest to LuSWI is the National Water Supply and Sanitation Programme (NUWSSP 2011 – 2030) for urban areas.

3.1.5 The Regulators

Water Supply and Sanitation (NWASCO)

NWASCO, despite having the legal mandate to regulate Water Supply and Sanitation services, has, to date regulated piped water supply and sewerage services and not onsite sanitation.

Solid Waste Management (ZEMA)

The Environmental Management Act No. 12 of 2011 established the Zambia Environmental Management Authority (ZEMA) as the regulatory authority responsible for doing "all such things as are necessary to ensure the sustainable management of natural resources and protection of the environment, and the prevention and control of pollution" (S9(1). The Local Authorities are mandated to undertake SWM activities in their areas of jurisdiction according to the Local Government Act Cap 281, through

Statutory Instrument No 100 of 2011, (Solid Waste Management Regulations, 2011). However, in practice, ZEMA regulates and licences the transportation used in the collection and disposal of Solid Waste and faecal sludge. While their role should include regulating undesirable environmental effects of onsite sanitation polluting ground water resources, this is not currently done.

So between LAs, NWASCO and ZEMA, onsite sanitation seems to have fallen between the cracks.

3.1.6 The Implementers

For rural water supply and for sanitation services nationally, the Local Authorities (LAs) implement services directly. For urban areas the eleven CUs owned by the LAs provide water supply and sewerage services. With regard to onsite sanitation services, such as faecal sludge management, a motley group of private sector service providers undertake varied services.

The LAs, who have preventive health responsibilities, have Health Inspectors whose functions include ensuring suitable environmental conditions relative to water pollution including inspection of solid waste disposal sites. They also have planners whose functions include assuring integrated planning for their cities and towns to avoid unplanned settlements that might, among other things, contaminate ground water.

3.1.7 Environmental Protection

3.1.7.1 Mandate, Policy and Legal Frameworks

One of the key mandates of the then Ministry of Land, Natural Resources and Environmental Protection (MLNREP), through the Environmental Management Act No. 12 of 2011 is to ensure the “integrated environmental management and the protection and conservation, sustainable management and use of natural resources”. In this regard protection of the woodlands that are key healthy river systems and pollution, key to ground water contamination are among its functions.

With reference to water, the National Policy on Environment (MLGH - MENTR, 2007) sets the MLNREP objective as “To manage and use water resources efficiently and effectively so as to promote its conservation and availability in sufficient quantity and acceptable quality for all people”. Specifically, for water supply and sanitation it has the following strategies:

(c) Where water supply and sewage disposal is the responsibility of private companies, greater care must be taken to avoid wastage and negative impacts upon the environment;
(d) Strengthen and institutionalise the Water Sanitation Health Education (WASHE) for sustainable service delivery of water supply and sanitation;

(e) Capacitate the Ministry of Local Government and Housing Department of Infrastructure Support Services with adequate resource to rehabilitate and extend sewerage systems and other forms of sanitation in order to contain environmental and water pollution;

(f) Capacitate local authorities to develop and manage municipal solid waste systems, including engineered land fill sites;
(g) Ensure that local by-laws incorporate community based rules for proper management of village-based furrows, irrigation channels and other local water off-takes;

How these strategies were to be implemented is unclear.

3.1.7.2 The Programmes

Currently there does not seem to be major programmes under MLNREP, at least not with respect to implementation of the 2007 NPE strategies for WSS, as its major focus in this area seems to be regulation.

3.1.7.3 The Regulators

The Environmental Management Act No. 12 of 2011 provides for the Continuation and re-naming of the "Environment Council of Zambia (ECZ)" to the "Zambia Environmental Management Agency (ZEMA)". It provides the legal framework for regulation. Currently while ZEMA undertakes environmental impact Assessments (EIAs) for any major new projects in the country, its activities, post implementation, seem to be reactive as it responds to reports of pollution having happened.

3.1.7.4 The Implementers

As there are no major programmes, MLNREP does not have implementing agencies regarding issues of water and sanitation. To a large extent its hands on the ground are health inspectors from LAs. However the Ministry's role in land administration and development planning and control is vital to water security.

3.2 MINISTRY OF AGRICULTURE (MOA)

3.2.1 Mandate, Policy and Legal Frameworks

The mission of MoA is "To facilitate and support the development of a sustainable, diversified and competitive agricultural sector that assures food and nutrition security, contributes to job creation and maximises the sector's contribution to GDP".

The importance of the sector, relative to water issues, its potential is reflected in that, according to the 2014 Joint Water Sector Review (2014 JWSR), it "uses 75% of the water that is withdrawn, employs 72% of the labour force, (yet) it only contributes 22% to the Gross Domestic Product (GDP)"

According to the same review the institutional framework for the Ministry of Agriculture include "the National Agriculture and Cooperative Policy (2003), the National Irrigation Policy and Strategy (2004), the National Water Policy (2010), the National Energy Policy (2007), Public-Private Partnership Policy (2008) and the Rural Finance Policy and Strategy (2013) among others.

As can be seen from above, the National Agriculture and Cooperative Policy (2003) and the National Irrigation Policy and Strategy (2004), both of them centre pieces for agricultural development, are in need of redrafting to bring them into line with the current IWRM framework.

Currently Government is revising the Agriculture Policy of 2004, so as to achieve

sustainable food security, by addressing issues of poor storage, inadequate irrigation and other infrastructure challenges which have resulted in over-reliance on rain-fed agriculture.

3.2.2 The Programmes

MoA key project, relative to water use is the Irrigation Development and Support Project (IDSP) whose objective is for Zambia "to increase yields per hectare and value of diverse products marketed by smallholders benefitting from investments in irrigation in selected sites served by the project".

3.2.3 The Regulators

MoA has no regulators relative to its water activities as it relies on WARMA and ZEMA to provide the required regulation.

3.2.4 The Implementers

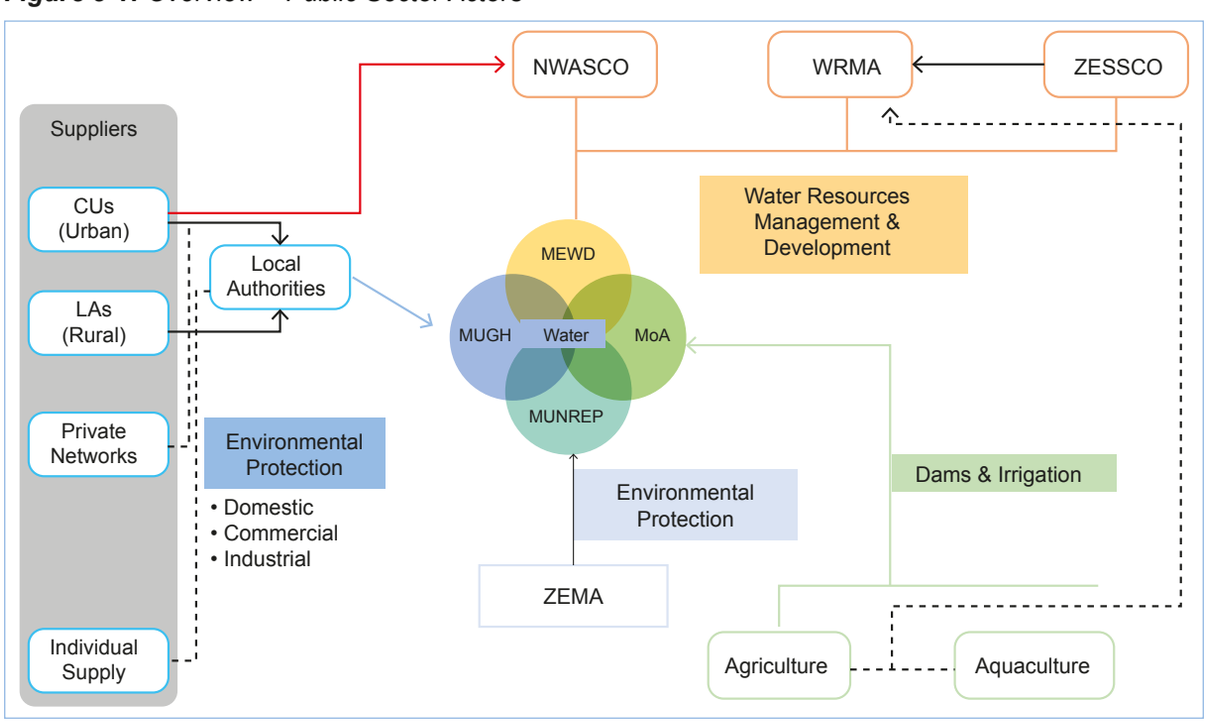
MoA water related activities, which include the development of water infrastructure, are spearheaded by the Technical Services Branch (TSB). The 2014 JWSR notes that "Infrastructure development in the water sector is a crosscutting issue which mainly affects the Ministries responsible for Water Development (and Energy) and Agriculture, but the approach to infrastructure development has been sector based instead of integrated. This has hindered attainment of sustainable use of water resources for socio-economic development". There are issues for creation of synergies here.

3.3 SUMMARY PUBLIC SECTOR

3.3.1 Overview

Figure 3-1 presents a simplified overview of the roles and relations of the key public sector actors in the water sector.

Figure 3-1: *Overview – Public Sector Actors*



[9] Note the diagram represents the status before the re-organisation of the ministries. Now effective the water aspects under MEWD, MLGH and environmental aspects under MNLREP have gone to MWSEP

3.3.2 Institutional Gaps and Overlaps

There are gaps in the institutional framework for the sector relative to LuSWI's work. The institutional housing of both NWASCO and the DTF under MEWD, as per the Water Supply and Sanitation Act, rather than under MLGH, the WSS mandate holder, has created some organisational strife.

In addition the Water Supply and Sanitation Act focuses, mainly, on the creation of NWASCO and CUs and does not address rural WSS, which given the close proximity of some of these "rural" areas, like Chongwe and Chibombo, to Lusaka, creates conditions in which issues that might affect water security in Lusaka happening in the surrounding "rural" areas might not be addressed in a timely manner as the inter-jurisdictional coordination required to do so would require effort by various parties cross institutional boundaries, which might not be easy.

Further, although the legal framework of the CUs is the Companies Act Chapter 388 of the laws of Zambia which provides how companies may be governed, and even though the Water Supply and sanitation Act No 28 of 1997 foresees the possibility of private sector shareholding in the CUs, this has not happened to date, nearly 20 years after the enactment of the WSS act. This is primarily due to the weak financial status of most CUs, and also, more increasingly, due to various departures from the corporate governance tenets espoused in the Companies Act. This later part touches on informal institutional issues covered elsewhere in this report.

The fragmentation of the legal framework, with WSS being delivered under two separate Acts, the Local Government Act for the rural areas and the Water Supply and Sanitation Act for the urban areas, has created possibilities of some areas falling between the cracks and compounding the above issues more.

The operationalisation of WARMA and DWR relative to DWA as envisaged in the Water Resources Management Act, and the 2010 NWP implementation plan, has also created some tensions between WARMA and DWA particularly because there has been no clarity as to how the DWA staff are likely to be deployed in the new setup as DWA is transitioned out of existence.

The mismatch in policy timings, the National Agriculture and Cooperative Policy (2003), the National Water Policy (2010), which by design does not, unlike its 1994 predecessor, fully cover WSS; the slow update of the Water supply, Sanitation and Solid Waste Management policy; the fragmented legal framework; and, the unintegrated programmes between MEWD, MoA and MLGH, combine to adversely affect the achievement of the national aspiration to manage water in an integrated manner.

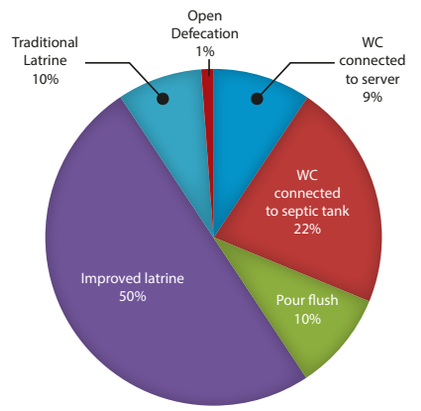
3.3.3 Organisational Gaps and Overlaps

From the public sector aspect, there is currently a gap in the management and regulation of on-site sanitation activities. LAs, according to the Water Supply and Sanitation Act, handed over the management of Water Supply and Sanitation services to CUs and yet the CUs, as implementers, and NWASCO as the regulator, have been, to date, focused on Water Supply and Sewerage Services. However, only 9% of the households are connected to the LWSC sewer system, see Figure 3 2, on which both the LWSC and NWASCO are focused. Thus more than 90% of the households are not covered

by LWSC and NWASCO. Given the possibility of ground water contamination from sanitation options not connected to the sewer system, this is a major gap.

There are also major enforcement capacity and coordination issues from the LCC. Both the enforcement of existing health and sanitation regulations as well as the development and implementation of integrated development solutions require a level of coordination with other utility providers. This is currently not happening to the extent needed.

Figure 3-2: *Rapid Assessment Analysis – Lusaka Sanitation*



Source: World Bank Rapid Assessment of the Sanitation Status in Lusaka

4 THE COOPERATING PARTNERS

This group is made up of bilateral and multilateral development institutions which in Zambia include by the African Development Bank (AfDB), the World Bank (WB), the European Investment Bank (EIB) and the German Development Bank (KfW), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the UK's Department for International Development (DfID) and the United Nations Children's Fund (UNICEF), among others. To a large extent they are all public organisations with different institutional settings which affect how they operate. The composition and extent of engagement in the sector of CPs change overtime as some, such as DANIDA, have withdrawn while others, such as DfID have come into the sector.

Within the water sector these partners provide finance and technical assistance within the framework created by GRZ, which, for the LuWSI related matters, is largely the NUWSSP and the IWRM / WE frameworks. For purposes of coordinating their interactions with GRZ, the CPs are represented by a troika; AfDB, WB and GDC with annually rotating chairs.

5 THE PRIVATE SECTOR

5.1 MANDATES AND LEGAL FRAMEWORKS

In general, private sector entities operate under the Companies Act Chapter 388 of the laws of Zambia. Prior to 1994, companies were required to have both articles of association, that described their ownership and governance structures, and memoranda of incorporation, which listed the specific objectives the companies were set up to achieve and activities outside the stated objectives were said to be ultra-vires. Since 1994 companies can use standard Articles of Association and, as legal persons, can undertake any activities as long as those activities were not illegal.

In practice, companies, while having the same overall objective to generate a decent return on investment and grow, undertake different activities in support of their different core business focus. Thus different business entities will have varying levels of interest in the activities of LuWSI. In addition, companies have varying levels of social and economic capacity which affects their possible influence and ability to engage. Therefore, LuWSI's engagement with individual private sector entities has to be entity specific.

5.2 THE KEY PRIVATE SECTOR ENTITIES AND THEIR INTERESTS VIS-À-VIS LUWSI.

Water resource and water supply and sanitation can be of critical importance to private companies in their core operations, supply chains and for their investments (the latter particularly relating to the financial sector). Water is important for businesses in many ways, including:

- Water as a key raw ingredient for end products (e.g. soft drink production or growing of crops), in operational processes (for example diluting chemicals, cleaning plant or for helping to discharge pollutants) or in the supply chain (e.g. irrigation)
- Water as a by-product to dispose of (e.g. the mining sector dewaters the mines)
- Water as a flood risk
- Water and sanitation for the health of customers and employees

Some of the entities within the above broad categories and their possible interest in and / or impact on LuWSI's prioritised areas of action are outlined below.

5.2.1 Water and Water Related Producers

The category of Water and Water Related Producers includes all entities for whom water is a primary and direct resource for their business and / or for whom water forms major content to their product or service. These include beverage makers ranging from water trusts and privately run WSS suppliers, producers of bottled water and beverages (carbonated drinks, beer and other drinks), drillers and hydro-electricity generators. Key among these are; Zambian breweries, Varun, Manzi Valley, Aqua Savanah (and other bottlers of water) various Maheu makers and various drilling companies.

While those listed by group, for instance "Various drilling companies" might not individually have much influence, collectively their influence can be significant, but they all have significant interest. For these entities the lack of water security around Lusaka is a great matter of (strategic) concern.

5.2.2 Farmers, Agro and other Industries

The category farmers, agro and other industries includes food processing entities and around Lusaka would include ZAMBEEF, Galaunia Farms, Parmalat and Freshpikt among others. Water and sanitation is a key concern for them as it has implications for quality of their products.

5.2.3 Health, Educational and other Public Spaces

This category covers hospital and clinics, schools, malls, markets and hotels, among others. For these water and sanitation are critical public health issues as the number of people who patronise them, and therefore need to use these facilities, is high. Lack of adequate water and sanitation facilities in these places can adversely affect the quality of service provided and can lead to outbreaks of water borne or water related diseases.

6 ACADEMIC AND RESEARCH ESTABLISHMENTS AND CIVIL SOCIETY

While there are, currently, no dedicated academic or research organisations focused on WSS issues, probably due to inadequate market, some existing organisation have some capacity to provide academic, professional and research services for WSS related issues. Various areas of possible collaboration include appropriate sanitation technologies for different types of peri-urban conditions, training at crafts, technician and technologist levels, onsite and offsite training and research into climate resilient and environmentally friendly up-scalable technologies. There are currently discussions for creating a dedicated WSS institute.

In view of the available legal frameworks these organisations can be public or private. For instance, the Higher Education Act no. 4 of 2013, provides "for the establishment of the Higher Education Authority and define its functions and powers; provide for quality assurance and quality promotion in higher education; provide for the establishment, governance and regulation of ***public higher education*** institutions; provide for the registration and regulation of ***private higher education institutions; ….***" These cover "tertiary education leading to the qualification of a diploma, Bachelor's Degree, Master's Degree or Doctorate Degree". The 1996 Technical Education and Vocational Training Policy also espouses private sector participation in providing technical education and vocational training. The public academic, professional and research organisations, just around Lusaka, include the University of Zambia, the National Institute of Scientific and Industrial Research (NISIR) , the Natural Resources Development College, the National Institute for Public Administration (NIPA), the Evelyn Hone College of Applied Arts and Commerce, the Zambia Centre for Accountancy Studies (ZICAS) and the soon to be Chalimbana University. Private organisations range from various universities (Cavendish University, the Open University and the Lusaka University, among them) to colleges such as the College for the Built Environment (CBE) among others.

The CSOs, which include, international non-governmental organisations (I-NGOs) such as World Vision, Water Aid, Care International, Netherlands Development Organisation (SNV) and Village Water and some faith based organisations such as ADRA that operate in a similar manner to CPs.

This category also includes local and community based NGOs which, to a large extent, focus on advocacy and community mobilisation nationally or in localised areas. These include a myriad of organisations such as the Water and Sanitation Association of Zambia (WASAZA), People's Process on Housing and Poverty in Zambia (PPHPZ) and the Zambia Institute of Environmental Health (ZIEH) among others.

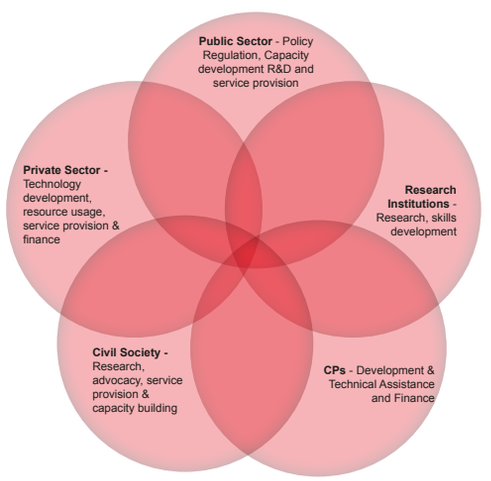
All of these could, if approached, provide WSS tailored training and to some extent, research facilities.

7 STAKEHOLDER POWER ANALYSIS

7.1 OVERVIEW

Figure 7-1 presents a simplified overview of the stakeholders outlined above and their primary roles in matters related to LuWSI. The diversity of stakeholders and their primary roles means that LuWSI must be innovative and inclusive in enlisting the participation of the stakeholders in it multi-stakeholder forum.

Figure 7-1: *Stakeholders' and their Primary Roles*



There are gaps and overlaps in the institutional frameworks that relate to LuWSI and there is wide diversity in the stakeholders and their interest and influence in the LuWSI. Understanding the stakeholder interest in and influence on the LuSWI's Action Areas would be a good starting point. LuWSI's Action Areas are listed below:

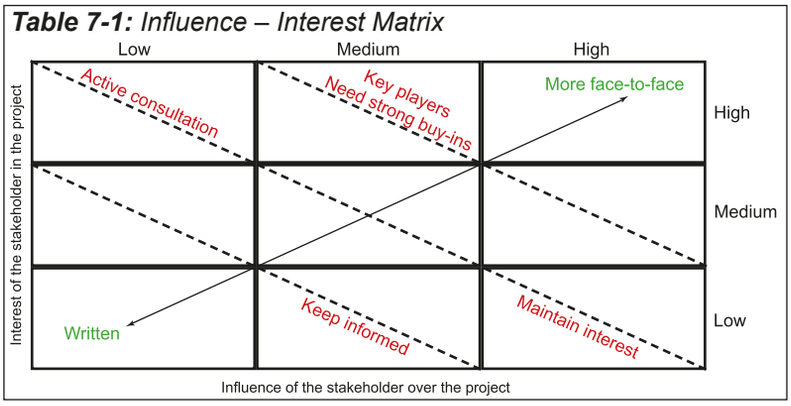
- Groundwater pollution prevention (including sanitation and industrial);
- Sustainable groundwater exploitation;
- Healthy Kafue River; and
- Water supply and sanitation access

In reviewing the above priority areas, it seems that, apart from the priority area relating to a healthy Kafue River, all the other areas are areas of interest as the water security issues involved are primarily caused by a combination of:

a) The rapid and loosely regulated urbanisation and commercial and industrial development around Lusaka; and
b) the inability of:
   a. LCC to properly regulate these rapid developments; and
   b. LWSC to extend coverage at the pace required by the rapid developments.

7.2 STAKEHOLDER INFLUENCE AND INTEREST

Table 7-1: *Influence – Interest Matrix*



The stakeholders who participated in a workshop by Lusaka Water Security Initiative (LuWSI) and the Future Resilience for African Cities and Lands project (FRACTAL) on "Water Security in Lusaka: Understanding and Addressing Threats through Collaboration" on Tuesday, 05 April 2016, at the Radisson Blu Hotel, Lusaka, Zambia, identified and mapped the various stakeholder levels of influence and interest relating to the LuWSI prioritised areas using the framework presented the matrix in Table 7-1.

It would seem that in some cases the time allotted to the groups to map and explain

their logic might have been insufficient as some explanations were at variance with the mapping. In all cases the mapping as given by the groups are presented. However, the verbal descriptions as captured during the presentations were also noted. Where the verbal explanation and the mapping were at variance, the maps have been revised to reflect the explanations . However, given that the stakeholders were given maps with only a few public sector organisations on it, they added considerable value to the process by identifying and mapping additional public sector, private sector and CSO organisations thereby improving the comprehensiveness of the stakeholders identified and mapped.

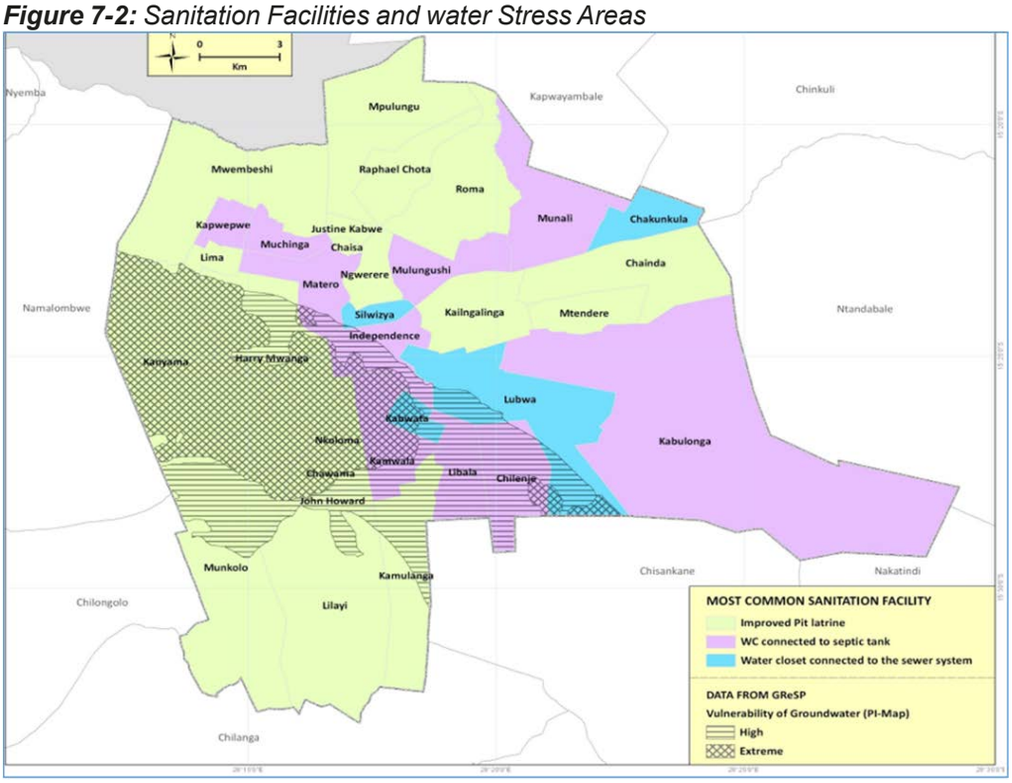
In presenting the stakeholder matrices as produced by the participants at the stakeholder consultation workshop, some background to each of the four prioritised areas of interest is given to provide some context for the matrices. The matrices and their background settings are presented in the sections that follow.

7.3 GROUNDWATER POLLUTION

7.3.1 Background

Regarding groundwater pollution prevention (including sanitation and industrial pollution) in Lusaka, Figure 7-2 shows the areas of Lusaka that are on onsite sanitation with the south and west of Lusaka, including Kanyama and John Howard, not only being in water stressed areas, but also having pit latrines as the predominant type of sanitation.

Figure 7-2: *Sanitation Facilities and water Stress Areas*



In addition, the siting and management of some business, such as petrol service stations with inadequately sealed underground storage tanks, and the unplanned growth of peri-urban settlements, sometimes in water recharge areas, further contribute to ground water pollution.

[10] It seems, in some cases, that identification and placing of stakeholders on the matrix could have been influenced by the organisations the participating stakeholders came from.

7.3.2 The Stakeholder Matrix

The participants at the stakeholder consultation workshop indicated that LCC, MENTR (now MLNREP) and NWASCO are the public sector institutions that have high interest and high influence on issues related to ground water pollution prevention. The CSOs with high interest and high influence were indicated as People's Process on Housing and Poverty in Zambia (PPHPZ) and the Zambia Institute of Environmental Health (ZIEH), with Water and Sanitation for the Urban Poor (WSUP) having medium interest. Zambia Breweries and Commercial farmers were mapped as having low interest and medium influence regarding ground water pollution, Figure7-3 shows the said mapping.

Figure 7-3: *Stakeholder Interest in and Influence on Prevention of Ground Water Pollution*

It seems however more likely that, for instance, Zambian Breweries would have high interest and high influence in some matters of water security. This is because one its key production inputs is water. The cost for Zambian Breweries of having either to process highly polluted water or relocating its three production facilities from Lusaka West to areas with adequate water supplies could cost millions of dollars. They cannot therefore be said to have low interest in water security issues in general, and pollution in particular, or, with their financial clout, to have medium influence. Table 7-2 presents a proposed revised Stakeholder Interest and Influence matrix relative to ground water pollution.

Table 7-2: *Proposed Revised Stakeholder Interest in and Influence on Prevention of Ground Water Pollution*

Stakeholders' Interest in Ground Water Pollution Prevention	Low	Medium	High	
	MOH ZIEH PLAZA ZAW PPHPZ	LWSC MEWD MLGH MLNREP WSUP	LCC NWASCO ZEMA WARMA Zambia Breweries UNICEF	High
				Medium
	MAL - TSB	Solid Waste Management Enterprises		Low
	Stakeholders Influence on Ground Water Pollution Prevention			

7.4 SUSTAINABLE GROUNDWATER EXPLOITATION

7.4.1 Background

The proliferation of borehole drilling and subsequent increased abstraction is causing groundwater levels to drop faster in each successive dry season. As a result, there are

[11] NOTE: yellow cards = public sector, pink cards = private sector and green cards = civil society

many wells now drying up for several months in the year around Lusaka. However, this proliferation, the proliferation of private sector drillers, is a market response to:

a) Inadequate service by LWSC. This inadequate supply is partly due to rapidly increasing demand due to rapid population and industrial and commercial activities around Lusaka and aged infrastructure and inadequate monitoring resulting in, according to the 2015 sector report, 47% non-revenue water (NWASCO, 2016, p. 4) (literary 47% of the water produced disappearing into thin air). This has now been exacerbated by erratic power supply.; and
b) Provisions in the 2010 NWP and in the Water Resources Management Act No 21 of 2011 which provide that:
    a. 2010 NWP: "domestic and non-commercial use of water including traditional and small-scale farmers with irrigated plots of up to 0.5 ha will not be charged" (GRZ MEWD, 2010, p. 29); and
    b. The Water Resources Management Act No 21 of 2011 (S 62(2) "A person shall not require a permit for the use of water for domestic and non-commercial purposes".

Continued exploitation / uncontrolled exploitation will only worsen overall access.

7.4.2 The Stakeholder Matrix[12]

The influence / interest matrix is similar to the pollution prevention matrix, for similar reasons, except that LCC and LWSC swap positions since although they both have high interest, having hived off WSS to LWSC, LCC does not directly have influence on groundwater exploitation.

Similarly, MEWD and MLGH have high interest but their influence is indirect through WARMA and LWSC. It is not clear how NWASCO has high influence on ground water exploitation, but interestingly the stakeholders put political parties on the matric and given their influence in the informal institutional setup, their high influence, for the ruling party, and medium influence, for the opposition parties, but low interest for both, represents a fair assessment. Figure 7-4 presents the output from the stakeholder consultation.

Figure 7-4: *Stakeholder Interest in and Influence on Sustainable Groundwater Exploitation*

7.5 WATER SUPPLY ACCESS

7.5.1 Background

The underlying causes that contribute to the proliferation of ground water extraction, outlined in the previous section, are interlinked with water supply access. The more water boreholes are drilled, the more difficulty access will become for those with no boreholes who will have to depend on LWSC. The higher the number households with private boreholes becomes, the lower the number connected to LWSC supplies and therefore, by losing economies of scale, the higher the unit cost of water might become. The most excluded in this process will be the peri-urban areas whose plot sizes are unlikely to support safe boreholes and who might, if the unit cost of water increases,

[12] Note: Black text = public sector, Red text = private sector, green text = CSO and Blue text = CP

not be able to afford adequate water supply and therefore defeat the national aspiration for water for all.

7.5.2 The Stakeholder Matrix

MEWD, MLGH, NWASCO, LWSC and WARMA have high interest and high influence in water supply access. MEWD has high interest and high influence because its core mandate is to manage the water resource sustainably and equitably for all competing needs. MLGH has high interest because water supply access is one of its core mandates and high influence because even though its mandate is devolved to LAs and CUs, it plays a leading role in resource mobilisation for the sector.

Figure 7-5: *Stakeholder Interest in and Influence on water supply access*

NWASCO has high interest because increased coverage is part of its core business and high influence because its tariff structure approaches can affect access in several ways so it has to perform a delicate balancing act between high tariffs that would enable the CUs increase coverage quickly but would exclude some economically vulnerable households or low tariffs that would make water accessible to all but reduce the CUs ability not only to expand coverage, but even to sustain service levels.

LWSC has high interest in water supply access as water supply is its core business and the wider the access levels the broader the customer base which creates a basis for gains from economies of scale. It has high influence as its policies and investment strategies can influence access considerably.

WARMA has high interest as assuring water access for all users is its core mandate and high influence as, when fully operational, its functions relative to water permits would influence access considerably. Currently this influence moderated as WARMA is not fully functional or fully funded yet.

Cooperating Partners (CPs) have high interest and influence because the resources they spend and technical assistance they give in increasing access, in line with various global and within the national context, not only helps to complement and sustain GRZ efforts, but can influence the rate at which increased coverage can be achieved.

LCC has high interest in water supply access as this is one of its core mandates. However, it has medium influence as that function has been devolved to LWSC (figure 7-5).

7.6 HEALTHY KAFUE RIVER

7.6.1 Background

There are various factors that affect the health of the Kafue River. Pollution from the commercial and industrial activities along its catchment is a key factor. However, the flow of the water in the river itself is also a matter for consideration. There is a vicious cycle in this regard. Erratic power supply caused by low water levels in the generating stations is increasing the use of charcoal as an energy source. This is reducing the trees in the Kafue catchment which in turn adversely affects the amount of water in the Kafue. Keeping the Kafue healthy might not only improve electricity generation, thus reducing the need for charcoal somewhat, but also assure the utilisation of the multi-million dollar investments by LWSC to tap water from the Kafue River for supply to Lusaka.

Figure 7-6: *Stakeholder Interest in and Influence on a Healthy Kafue River*

7.6.2 The Stakeholder Matrix

Regarding a healthy Kafue River, WARMA and ZEMA were indicated to have high interest and high influence due to their national mandates which wold include the whole Kafue catchment as well. However, it would seem likely that ZESCO, the World Wildlife Fund (WWF) and The Nature Conservancy (TNC) which is "working in the Kafue Ecosystem to ensure that communities share the benefits of conservation" are also likely to have high interest in that area. They are also likely to have high influence, the latter two, due in part to their global outreach.

Figure 7-6 presents the output from the stakeholder consultation.

In view of the comments above, a proposed updated matrix is in Table 8-3.

Table 8-3: *Revised – Stakeholder Interest in, and Influence on, a Healthy Kafue River*

Stakeholders' Interest in a Healthy Kafue River	Low	Medium	High	
	NWASCO LWSC Communities / Farmers	MAL MEWD MLNREP MLGH	WARMA ZEMA ZESCO Forest Dept. TNC WWF Zambia Sugar	High
	MOH	LCC		Medium
				Low
	Stakeholders Influence on a Healthy Kafue River			

8 CONCLUSION

Every life form is a stakeholder in matters related to water security. Even though this stakeholder and institutional analysis is restricted to "the consequences of the relationships between the policies, laws, stakeholders and activities that affect the main threats to water security for ***Lusaka's residents and businesses*** in general", the diversity and multiplicity of these "policies, laws, stakeholders and activities" is such that the permutations of possible "synergies, conflicts, overlaps and gaps" between them are high. This paper outlines some of these, hopefully the key ones, and in so doing, suggests possible ways to optimise the synergies and mitigate the conflicts in order to contribute to Lusaka's water security.

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APPENDIX 1:

Terms of Reference
Stakeholder and Institutional Analysis
Lusaka Water Stewardship Initiative (LuWSI)
18th December 2015

Background

Lusaka's thirst for water, estimated to be approximately 400,000m3 per day, is outstripping what both Lusaka Water and Sewerage Company (LWSC) and nature can supply. The proliferation of borehole drilling and subsequent increased abstraction is causing groundwater levels to drop faster in each successive dry season, with many wells now drying up for several months in the year. This is exacerbated by increased populations and economic developments on critical groundwater recharge zones, reducing infiltration during the rains and increasingly variable rainfall events as a result of climate change. Not only does this affect the private and corporate groundwater users, but it also threatens water supply to LWSC, which relies on groundwater for 55% of its supply. To make matters worse, much of the city's groundwater is increasingly contaminated with faecal matter, hydrocarbons and other chemicals. There is limited capacity to effectively enforce environmental laws and lack of appropriate sanitation and waste management facilities. This contaminated water is subsequently consumed untreated by a good proportion of the estimated 40% of the city's residents unserved by LWSC's network.

LuWSI

The Lusaka Water Stewardship Initiative (LuWSI), a multi-stakeholder partnership of public sector, private sector and civil society actors, aims to address above threats and improve water security for Lusaka's residents and businesses with a series of accompanying projects. In September and October 2015 leaders of the Lusaka Water and Sewerage Company (LWSC), Lusaka City Council (LCC), the Water Resources Management Authority (WARMA) and the Zambian Environmental Management Agency (ZEMA) signed a letter of intent to co-initiate LuWSI, together with the Gesellschaft für Internationale Zusammenarbeit (GIZ) through the International Water Stewardship Programme (IWaSP). LuWSI will work on action areas prioritised by its core partners:

- Groundwater pollution prevention (including sanitation and industrial)
- Sustainable groundwater exploitation
- Healthy Kafue River
- Water supply access

The GIZ-IWaSP team identified, for its water stewardship approach, the most obvious and important partnership steps and tools described in a "Water Risk and Action Framework" (WRAF). LuWSI is following the framework in the development of her water security initiative.

A critical component of WRAF is a stakeholder and institutional analysis as it will inform the Water Risk and Solutions Assessment on the interests and capabilities of the public and private sector and civil society to jointly address main threats to water security.

Objective

The overall objective of the stakeholder and institutional analysis is to clarify the relationships (synergies, conflicts, overlaps, gaps) and the consequences of these relationships between the policies, laws, stakeholders and activities that affect the main threats to water security for Lusaka's residents and businesses.

The analysis should be carried out in the context of the major projects that are under preparation or implementation, like MCC-funded Lusaka Water and Sanitation Project, the AfDB/JICA Bulk Water Supply Project and the Lusaka Sanitation Project (AfDB, WB, EIB, KfW).

Scope of Activities
The stakeholder and institutional analysis should:
- Be highly visual and be conducted in a participatory manner (with involvement of LuWSI's core partners)
- Help inform critical action areas for LuWSI's capacity building;
- Help inform technical working groups and WRSA; and
- Help create the basis for LuWSI's overarching role in driving and coordinating water security in a holistic manner

Activities
- Prepare an inception report including approach for the assignment
- Provide an overview of the stakeholders and institutional landscape including their roles and responsibilities
- Analyse and clarify the synergies, conflicts, overlaps, gaps and bottlenecks of relationships between the policies, laws, stakeholders and activities in the context of main threats to Lusaka's water security
- Evaluate the consequences of the above relationships for Lusaka's water security
- Identify critical action areas for LuWSI's capacity building
- Visualise the relationships and consequences of these relationships between policies, laws, stakeholders and activities that affect main threats to water security
- Prepare draft report on the stakeholder and institutional analysis
- Verify the analysis through stakeholder interviews and presentations at a multi-stakeholder validation workshop
- Prepare final report on the stakeholder and institutional analysis and present findings (PPT) to LuWSI's focal point team
- • Support GIZ in engagement of key public sector as well as private and civil society sector actors, helping to establish relationships, organise and conduct meetings with stakeholders

Deliverables
- Inception report
- Draft report for review
- Workshop report
- Final report
- Presentation on findings for focal point team
- Advice to GIZ on stakeholder relationships and participation in meetings (up to 10 days)

Time frame
The contract covers a period of 6 months and shall commence on the 20th of January 2015 and shall be finalised by 20th of July 2016. The deliverables should be completed within a maximum of 45 days.

Coordination with GIZ-IWaSP Zambia
Regarding the deliverables the Consultant will regularly report to the Zambian GIZ-IWaSP team and provide mentioned deliverables and informing GIZ-IWaSP of any arising difficulties.

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