Improving Water Supply and Sanitation in Growth Centers in Zambia

Governance and Institutional Assessment
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Executive Summary

This report provides a governance and institutional assessment of water supply and sanitation (WSS) service delivery, centered on the role of commercial utilities (CUs) in Zambia’s urban WSS sector. The objectives of the assessment are to:

1. Identify key binding constraints on effective and efficient service delivery.
2. Identify gaps in the current institutional and accountability framework of CUs that prevent them from achieving optimal results in WSS service delivery.
3. Provide a set of recommendations for strengthening the governance, institutional, and accountability framework of WSS service delivery in Zambia.

Background and Context

A new Water Supply and Sanitation Services Bill was published in 2019. Sector performance over the past 20 years needs to be assessed in the context of the prevailing policy and legislation at the time while noting what the new legislation will enable.

Sector reforms initiated in 1994 were informed by sound principles. Urban water sector reforms were initiated with the 1994 Water Policy and led to a new Water Supply and Sanitation Act in 1997, the establishment of a dedicated WSS regulator—the National Water Supply and Sanitation Council (NWASCO)—in 2000, and the formation of 11 CUs (owned by local authorities) over the period 1989–2009 with the responsibility of providing water and sanitation services in urban areas. Sound policy principles informed the institutional reforms: the separation of the regulatory and executive functions and devolution of service responsibility to local authorities. Key policy goals included improved access to services, achievement of full cost recovery from user charges in the long run, and increased financial allocations to the sector on the part of the government.1

The reforms resulted in improvements, but these have been disappointing. There appears to be a broad consensus that the reforms resulted in increased investments into the sector and an overall improvement in the sector’s performance (measured in terms of access and institutional performance) compared to the situation prior to the reforms.2 There also appears to be broad agreement that more could have been achieved.2

The key constraints to better performance, focusing on institutions, governance, accountability, and the related financing arrangements, are summarized below.

Institutions, Governance, and Accountability Arrangements and Constraints

The key relationships are depicted in ES.1, and the major constraints are discussed below. A more comprehensive description and discussion of the institutions, governance, and accountability arrangements and constraints are set out in the main report.
1. The allocation of roles and responsibilities between the ministries responsible for water and local government is not optimal. Recent reforms resulted in the formation of the Ministry of Water Development, Sanitation and Environmental Protection in 2016. This ministry plays a major role in providing funding to the urban water sector. The WSS regulator, NWASCO, also reports to this ministry. The ministry also plays a significant role in the appointment of the CU boards, through the appointment of the chair, and through the ability to veto board nominations put forward by the local authorities. The role of the ministry is therefore conflicted. From a governance and accountability perspective, it would be better for the financing role to coincide with the shareholder role and for the regulator to report to a different ministry. Because local authorities own the boards, it would be better for the board appointments to be made by the local government and overseen by the Ministry of Local Government. The funding of the CUs is to be done by the local authorities, supported by the Ministry of Local Government. This was the arrangement after the 1994 reforms and prior to the reforms in 2016. The 2016 reforms were ostensibly driven by an implied need to consolidate the water sector functions into one ministry, bringing water resources management together with WSS services and alongside environmental management and regulation. Political considerations and control over budgetary allocations are likely to have played a role. The reforms initiated in 1994 were based on the principle of separating water resources management from WSS and separating the shareholding from the
regulatory functions, with the regulator reporting to a different ministry compared to the primary ministry involved in funding the sector.

Comments:

- Possibly, the recent changes are likely to be political in nature. The changes came soon after a change in political power at the national government level, whereby the CU boards were changed, despite the legal basis for this change being concretely set. The proposed legislation (Water Supply and Sanitation Services Bill of 2019) gives the ministry responsible for water the formal right to appoint the chair of the CU boards.

- Notwithstanding the above point, it is not clear that changes to the ministerial mandates would make a material difference on their own. The rules and practices with respect to board appointments (for both the regulator and the CUs) and the financing setup are likely to be more important determinants of performance than how ministerial mandates are allocated. It is, for example, not uncommon for the water regulator to report to the ministry responsible for water at the same time as the ministry is also responsible for financing and/or institutional oversight of the institutions providing the service.

2. The ownership and shareholding functions of the CUs, exercised by local authorities, are not fully developed. Although nominally the owners of the CUs, local authorities play virtually no role in their funding or financing, and their governance role is also severely constrained (see point 1 above). Local authorities are, therefore, owners of the CUs in name only, they do not fulfill the traditional ownership and shareholding functions. Although the Constitution devolves the responsibility for WSS to democratically elected local authorities, there is no corresponding devolution of finances. Although the Constitution provides for a Local Government Equalisation Fund, local authorities do not receive a constitutionally guaranteed allocation of resources and/or formula-driven funding allocations intended to support WSS services. Although local authorities have revenue-raising mandates, they are chronically under-resourced. The fulfillment of a full shareholding function would require local authorities to play a more hands-on role in the governance of the CUs and arranging for their financing.

Comment: For local authorities to achieve a fully developed shareholding function would require changes to the governance of the CUs, with a less constrained role in appointing the boards (subject to national government regulations and guidelines) and a greater role in arranging financing for the utilities by local authorities. This would require a rebalancing of roles between the central and local governments in the governance of these boards. The role of local governments with respect to financing could be strengthened through greater fiscal decentralization. Examples of greater fiscal decentralization are the unconditional and constitutionally guaranteed equishare grants applied in both South Africa and Kenya, for example, both of which are intended, at least in part, to support the provision of basic WSS services. The delayed and weak application of the Local Government Equalisation Fund (mandated by the Constitution) in Zambia suggests that the political appetite for such reforms may be limited.
3. **The appointment processes for the CU boards do not ensure sound governance.** There is a lack of transparency in the appointment processes, and the role of the ministry is predominant in the absence of clear criteria for board appointments. The boards should be appointed by the shareholders. There is some evidence to suggest that changes in boards have been made based on political considerations rather than on what is in the interests of the sector. For example, changes were made to boards and CU management in contexts where the governance was said to be satisfactory (relatively speaking), resulting in a destabilization of some CUs.8

**Comment:** Whereas the national water legislation includes specific requirements related to the appointment of the council governing the WSS regulator (NWASCO), the same is not the case for CUs. Board appointment processes are established in the articles of association, and there is an absence of national regulations and guidelines. The articles of association are, in principle, available for inspection at the offices of the utility, but there is a difference between accessibility and transparency. Most utility websites did not have information on who was on the board and even the management team. The absence of national rules, together with a low level of accessibility to information on board appointment processes and outcomes, arguably gives the national minister greater discretion. The remedies (rules and processes to promote sound governance) are relatively easy to identify and put in place. The establishment of these rules and guidelines, and more importantly, their effective implementation, would require the necessary political will.

4. **The regulator reports to the same ministry (MWSDEP) that provides most of the funding for the sector.** As already discussed, it would be better for the regulator to report to a different ministry, one that is not also primarily responsible for funding the sector and that is also playing a role in the governance of the CUs.

5. **The regulator was also involved in funding services.** An unusual feature of the institutional setup in Zambia is the fact that the regulator was also involved in overseeing and managing pro-poor infrastructure financing provided through the Devolution Trust Fund. This violates the principle of the separation of functions. The fund is no longer active, and hence this point is moot.

6. **The weak local electoral voice is compensated to some extent through consumer watch groups.** Even though responsibility for WSS services is devolved to local government, the electoral voice of citizens through local authorities, and with respect to WSS, is weak because of the limited role local authorities play vis-à-vis the CUs. However, the weak electoral voice at the local level could be compensated for through the Water Watch Groups established by NWASCO, which may increase consumers’ voice in relation to the CUs.

7. See point 6.

**The service mandate of the CUs is being expanded to include rural areas** (not shown in ES.1). There is an intention to expand the mandate of the CUs to include responsibility for providing services in rural areas. While it is deemed feasible for water services in urban areas to achieve a degree of cost recovery (recovery of operating and maintenance costs and some contribution toward capital costs), this is not the case in rural areas. The expansion of the service mandate without strategic
planning and phasing will undermine the objective of achieving some level of cost recovery in the urban areas and may result in ongoing and greater dependence of the sector on limited budget allocations and grant funding.

Comment: It is imperative to develop a sound strategy to expand the mandate of the CUs to include rural service provision. This expansion should be gradual and well thought through for each type of service. For example, the performance of the Water Utilities Corporation in Botswana was significantly destabilized as a result of expanding its mandate beyond cities and towns. The decision to expand the mandate of the CUs is likely to be driven by political considerations as a way to accelerate access to services in rural areas. However, this approach should not undermine the sustainability of the urban water sector as a whole.

Financing Constraints

The main channels for the flow of funds in the sector are shown in ES.2, and key financing constraints are discussed below. A fuller description and discussion of financing arrangements and constraints are set out in the main report.

1. Sector budgets are neither sufficient nor consistent. Sector budget allocations have ranged from less than 0.5 percent to over 2 percent of the national budget but have not been consistent, nor sufficient, in order to meet the government’s own targets. Zambia’s macroeconomic environment has deteriorated markedly in the past few years, and its ability to obtain loans and increase budget allocations is severely constrained.

2. Funding/financing is primarily provided as project funding/finance executed through the ministry, budget execution is weak with low disbursements relative to the allocated budgets, there are no transparent rules and processes related to the allocation of funds/finance between projects, and the link between investment and institutional performance is weak. This method of funding privileges large rather than small projects. Due to the high transaction costs of project finance, it is not oriented to smaller demand-driven investments that may have high returns through improvements in institutional performance (because the finance is largely supply-driven), and it is typically subject to long delays (due to transaction complexity and related approval processes). Overall, this is viewed as an inefficient financing mechanism that leads to high unit costs, poor outcomes, and the suboptimal use of resources. Even though this mechanism is inefficient with poor developmental and sustainability outcomes, this financial modality persists because the incentives within the system (experienced both within the government and among financiers) favor its continuation and/or due to a perceived or actual lack of better alternatives.

3. Tariffs and service charges do not contribute significantly to financing capital costs. Even though sector policy sets cost recovery as a policy goal, a formal regulatory system was put in place for tariff applications and approvals, and a real increase in the average effective tariff of 53 percent was achieved in the period 2008–18, this did not result in the generation of surplus cash available to contribute to capital costs in any significant way. The increase in revenues was absorbed into increased operating
costs. While affordability is an important consideration, household expenditure on cell phones exceeds that on piped water supply in Zambia, and higher urban tariffs have been successfully implemented in equally resource-poor contexts in other African countries.

4. The sector remains heavily dependent on donor finance for both the urban and rural WSS 25 years after sector reforms. The insignificant contribution of revenue from tariffs and service charges toward capital costs means that the sector depends entirely on government budget allocations and donor finance. Even though 75 percent of donor finance was in the form of concessional loans, these loans have effectively been on-lent to the sector as grants.

5. Off-budget finance comprises a minority, but a significant share of donor sector funding is mostly used for the rural sector and is difficult to track. Nevertheless, there is an opportunity to provide direct financing to CUs in a way that addresses some of the challenges identified in point 2 above, and that is either on-budget or through mechanisms that can be properly tracked.

6. The Local Government Equalisation Fund, a potential vehicle for the provision of grant financing to promote social objectives, is not currently being used to support the water sector. While the fund is required by the Constitution, implementation of the fund has been weak, and the volume of funding provided through the fund is small. It is very unlikely that any of this money has been used for the urban water sector.

7. Local authorities are not involved in financing CUs. Although the local authorities own the CUs, they are not involved in any significant way in providing or facilitating financing for these utilities. Their ownership role is thus nominal.
Recommendations

The following main recommendations are put forward for consideration. The recommendations are framed in terms of a relative assessment of the level of political commitment and time required to implement them (ES.3). These recommendations are drawn from a more comprehensive set of possible solutions identified in the main report.

1. **Confine CU mandate to urban areas and establish a clear policy on cost recovery for urban WSS.** The World Bank should engage with the Government of Zambia (GRZ) and make a case for the importance of confining the mandate of the CUs to urban areas and establishing a clearly defined policy on cost recovery (with a well-defined practical articulation of the setting of tariffs and user charges) before undertaking the expansion of the mandate to rural areas. In the absence of both of these, it is hard to see how the financing of the urban water supply sector could become more financially sustainable, since it will continue to be heavily dependent on donor finance and limited budget allocations from GRZ. This will negatively affect the whole sector, and it may significantly hinder the efforts being made to increase access sustainably. To the extent that the urban sector is more financially sustainable, hence absorbing less funds from donors and the government budget, more financing would be available to expand rural WSS services. Any loans made to the sector will need to be guaranteed by the Ministry of Finance and will have to be repaid from government tax revenues. This approach is likely to yield much better outcomes. It is entirely feasible for the urban WSS sector to make a substantial (albeit not full) contribution toward the capital costs of investments in the sector, especially for the rehabilitation and replacement of existing infrastructure. Without these reforms, providing further loan finance may support and perpetuate the unsustainable status quo.

   **Comment:** This is a difficult conversation. GRZ needs financial support, and a performance-based lending instrument could achieve the necessary policy reforms.

2. **Ensure sound corporate governance of CUs.** The World Bank should engage with GRZ and make a case for the importance of improving the governance of the CUs. The “technical” changes may be easier to make—best practices are readily available to emulate, and criteria and processes can be promulgated through regulations. However, these changes will limit the existing discretion and power on the part of the minister responsible for water. Political commitment will be required to put in place appropriate rules and regulations and honor them in practice.

3. **Establish transparent criteria and processes related to the allocation of finance and reporting on investments.** Allocations of finance are ostensibly based on need and equity. There is no link between investments and performance improvements, and very little attention has been given to investment effectiveness and value for money. The World Bank should engage with GRZ to establish criteria and processes for the allocation of finance that meet the dual objectives of both equity and efficiency. While there may be a trade-off between these two objectives, both are important. Consideration could be given, for example, to establishing two separate funding pools and streams, each of which
privileges one of these objectives. In other words, a funding pool could be established that is specifically oriented to achieving performance improvements and incentivizing value for money, and another pool for promoting access and equity. Increasing transparency in these processes will likely lead to more accountability and better outcomes. The sector coordination framework needs to be expanded to include all key development finance institutions and needs to be more specific on the monitoring and reporting on actual investments made at the country level.

4. **Create an escrow account (for the capital cost contribution) for each CU and require a proportion of revenue to be deposited in the account. Amend the tariff regulations to specify this.** An observed phenomenon, not unique to Zambia, is that the additional revenue arising from tariff increases tends to get absorbed by increases in operating costs and that the intended contribution to capital costs, used to justify the tariff in the first place, does not materialize. One way to prevent this from happening is to require a proportion of tariff revenue to be deposited into an escrow account that can only be used for contributions to capital costs (either directly or for the repayment of loans). This mechanism has been
used successfully in Jamaica, for example (OECD 2019). When tariffs are approved, the regulator can determine a factor to be applied to the tariff revenue that is to be set aside as a contribution to capital costs. This would need to be set out in tariff regulations and related regulatory processes. This reform could make a major contribution to improving the sector’s financial sustainability. This is a significant reform and would require a high level of political commitment to implement.

5. **Offer a technical-assistance-led competitive funding mechanism with small, sequenced investments to improve CU performance and establish creditworthiness.** The chronic inefficiencies in the CUs mean that there are “low-hanging fruits” for small investments with high returns that would improve each utility’s performance and move it toward becoming more financially sustainable and eventually creditworthy. The World Bank’s assessment of the efficiency of the CUs indicated that the knowledge and skills to do this are limited. The World Bank should consider working with GRZ to establish a “commercial utility performance fund,” which offers a combination of technical assistance and modest and incremental investment finance on a competitive basis. Utilities would need to apply for the funding. In order for this fund to be effective, the utilities would need to demonstrate (up-front and/or during the process) a commitment to sound governance and effective management. The aim would be for the fund to work with the utility to put it on a path of financial sustainability and achieve creditworthiness so that it would be able to take up and effectively use larger amounts of investment finance to meet its service goals sustainably. Some precedents for this approach exist: the Azure model in El Salvador, KfW’s Investment Financing Facility, and the Urban Water Catalyst Fund concept.

6. **Offer technical assistance in the form of capacity building and training related to management and systems improvements, investment appraisal and optimization, and related areas.** The 2019 bill states that “the board of water supply and sanitation utilities shall ensure the water supply and sanitation utility builds sufficient human resource and technical capacity for efficient undertaking the utility’s business.” The World Bank and other partners could offer or arrange technical assistance in the form of capacity building and training to support this. The training could focus on management training, investment proposal development and appraisal, utility operational efficiencies, systems improvement, and related organizational and technical matters. The CU efficiency assessment recommended a specific training program to create the necessary hydraulic modelling, monitoring, and geographic information system (GIS) capabilities in the CUs. This training could be complemented with, or substituted by, other initiatives such as water operator partnerships.

7. **Deepening fiscal decentralization.** Legislative decentralization has not been accompanied by any significant fiscal decentralization in Zambia (ICLD 2019). Consequently, local authorities have legal responsibility for WSS but do not receive resources from the national government to implement this mandate to any significant extent. While the Local Government Equalisation Fund is intended to support fiscal decentralization, the fund does not play this role in practice, at least with respect to WSS. Deepening fiscal decentralization in Zambia through structural reforms beyond the fund is a major reform exercise and would require a high level of political commitment. The World Bank could engage
with GRZ on the merits of further fiscal decentralization as part of an urban reform agenda that would, in turn, affect the urban WSS sector.

Notes

1. The 1994 policy states these policy goals in the form of policy principles.


3. A World Bank (2020) diagnostic report stated that “access to water supply and sanitation (WSS) services remains stubbornly low in Zambia” and the Commercial Utility Efficiency Assessment completed as part of the present analysis stated that “The commercial utilities exhibit chronic levels of inefficiency, exerting a significant hidden fiscal burden on the government.” In interviews conducted for this study, Zambian government officials also acknowledged that performance could have been better (see footnote 2).


5. Except that finances flowed from the ministry responsible for local government directly to water projects, not from (or via) the local authorities.

6. For example, in Kenya, the water regulator reports to the ministry responsible for water. In South Africa, both the shareholding and regulatory functions of the water boards are undertaken by the ministry responsible for water. Neither situation is ideal.

7. There is a proposal for 5 percent of national revenue to be allocated to local government, but this has not been implemented.

8. Personal communications with sector stakeholders.

9. Naurin (2006) has shown that transparency is a necessary but not sufficient condition for accountability, and argues that accessibility (how information is communicated and publicized) is also important.

10. The Devolution Trust Fund was intended to facilitate value for money investments in improving access to WSS, through a competitive selection process.

11. The World Bank’s assessment of CU efficiency recommended the development of a “funding package to empower the CUs to prioritize, program and design appropriate and cost-effective interventions which yield tangible economic benefits which can fund other efficiency-yielding interventions in the future without the need to resort to expensive external consultants.”


15. See, for example, GWOPA (https://gwopa.org) and WaterWorx (https://www.vei.nl/projects/waterworx).

16. “Provision is made in the constitution for a Local Government Equalisation Fund, to which the national government is to contribute, to provide for such grants. An amendment to the Act has been proposed to give effect to that provision, and would require at least 5 percent of national revenues to be paid into the fund; this amendment has, however, after many years in the pipeline, still not been passed” (ICLD 2019).
Abbreviations

ADRA  Adventist Development and Relief Agency
AFD   French Development Agency
AFDB  African Development Bank
BADEA Arab Bank for Economic Development in Africa
BORDA Bremen Overseas Research & Development Association
CARE  Cooperative for Assistance and Relief Everywhere
CEO   chief executive officer
CRIDF Climate Resilient Infrastructure Development Facility
CU    commercial utility
DANIDA Danish International Development Agency
DTF   Devolution Trust Fund
D-WASHE District water, sanitation, and hygiene
EIB   European Investment Bank
GDP   gross domestic product
GIS   geographic information system
GIZ   Deutsche Gesellschaft für Internationale Zusammenarbeit
GRZ   Government of Zambia
ILO   International Labour Organisation
JICA  Japan International Cooperation Agency
JMP   Joint Monitoring Programme
K     kwacha
KfW   Kreditanstalt für Wiederaufbau
MCA   Millennium Challenge Account
OCCR  operating cost coverage ratio
OECD  Organisation for Economic Co-operation and Development
MWDSEP Ministry of Water Development, Sanitation and Environmental Protection
NRWSSP National Rural Water Supply and Sanitation Programme
NUWSSP National Urban Water Supply and Sanitation Programme
NWASCO National Water Supply and Sanitation Council
NRW   nonrevenue water
PPHPZ People's Process on Housing and Poverty in Zambia
PPP   public-private partnership
SNV   Stichting Nederlandse Vrijwilligers
V-WASHE Village water, sanitation, and hygiene
WASAZA Water and Sanitation Association of Zambia
WASUP Water and Sanitation for the Urban Poor
WSS   water supply and sanitation
ZEMA  Zambia Environmental Management Agency
Chapter 1
Introduction

1.1 Context

The World Bank carried out an advisory services and analytics to assess the current situation of the delivery of water supply and sanitation (WSS) in urban areas and growth centers in Zambia. A systems approach was adopted to understand the constraints to improving WSS service delivery centered on the 11 commercial utilities (CUs) in Zambia. The systems approach implies addressing the issue from its roots and within existing government structures.

1.2 Scope and Related Work

This report provides a Governance and Institutional Assessment of WSS service delivery centered on the role of the CUs in Zambia’s urban WSS sector. The objectives of the assessment are to:

1. Identify key binding constraints for effective and efficient service delivery.
2. Identify gaps in the current institutional and accountability framework of CUs that prevent them from achieving optimal results in WSS service delivery.
3. Provide a set of recommendations for strengthening the governance, institutional, and accountability framework of WSS service delivery in Zambia.

This component of the work will be integrated with a technical and commercial efficiency analysis of the CUs.

1.3 Purpose

A key purpose of the report is to identify and present the key binding constraints to urban water sector progress and how these might be addressed.

1.4 Focus of Assessment

The governance assessment focuses on the delivery of WSS services in the urban areas of Zambia. The primary institutions providing these services are the 11 CUs. Basic scale data on the 11 CUs are set out in Table 1.1. The report is interested in the governance and institutional ecosystem within which these services are provided.
TABLE 1.1. Commercial Utilities—Scale Indicators, 2018

<table>
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<th>Year established</th>
<th>Total population '000</th>
<th>Population served '000</th>
<th>Staff</th>
<th>Total Connections '000</th>
<th>Water Sales pa</th>
<th>Sales per connection kl/m</th>
<th>Connection density people</th>
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<td>Lusaka</td>
<td>1989</td>
<td>2,588</td>
<td>2,243</td>
<td>905</td>
<td>110</td>
<td>46.3</td>
<td>35</td>
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<td>Nakana</td>
<td>2000</td>
<td>820</td>
<td>795</td>
<td>603</td>
<td>64</td>
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<td>510</td>
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<td>17</td>
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<td>284</td>
<td>155</td>
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</tr>
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<td>Chambesi</td>
<td>2003</td>
<td>364</td>
<td>299</td>
<td>252</td>
<td>24</td>
<td>7.1</td>
<td>25</td>
</tr>
<tr>
<td>Luapula</td>
<td>2009</td>
<td>221</td>
<td>100</td>
<td>77</td>
<td>8</td>
<td>1.1</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: NWASCO sector performance reports.
Note: kl/m = kiloliters per meter; kl pa = kiloliters per annum.

1.5 Sources
This report focuses on the key binding constraints and proposes solutions to these binding constraints. The report does not itself present a detailed empirical analysis. A detailed analysis has already been undertaken in the World Bank (2020) report “Zambia Water Supply and Sanitation Sector Diagnostic: Narrowing the Gap between Policy and Practice,” referred to hereafter as the Diagnostic Report. This is used as the starting point for this report, together with the recent World Bank report “Comprehensive Analysis of Water Service Efficiency in Selected Secondary Cities in Zambia” (June 2020). The report also draws on additional work undertaken by a consulting team on data collection and analysis and other works in Zambia, particularly “Access to Water and Sanitation in Sub-Saharan Africa: A Way Forward for German Development Cooperation and its Partners Based on a Review of Two Decades of Involvement in Urban Water Sector Reforms in Africa” (GIZ 2019).

1.6 Caveats
Due to COVID-19 restrictions, engagement with sector stakeholders was limited in 2020, but more consultations became possible in 2021.

A new Water Supply and Sanitation Services Bill was published in 2019. Sector performance over the last 20 years needs to be assessed in the context of the prevailing policy and legislation at the time while noting what the recent legislation enables.

The proposed solutions are only presented at a high level. A detailed elaboration of these solutions was beyond the scope of this governance and institutional review. Further work to elaborate on the proposed solutions will need to be undertaken as part of a new program design.
1.7 Outline

This report is structured as follows:

Chapter 2: Water Sector Performance Summary (access, efficiency, sustainability, transparency)

Chapter 3: Policy, Legislation, Frameworks, Strategies, and Problems

Chapter 4: Institutional Design

Chapter 5: Financing Architecture and Cost-Recovery

Chapter 6: Governance and Accountability

Chapter 7: Recommendations
Chapter 2
Water Sector Performance Summary

2.1 Introduction

Sector performance was assessed in the World Bank’s Diagnostic Report. Key points are summarized here under the headings access, efficiency, financial sustainability, and transparency.

Separate assessment of the CUs’ technical and commercial efficiency was critical for some of the performance measures and benchmarks reported below. These findings and their implications are discussed in section 2.3.

The purpose of chapter 2 is to set out a problem statement related to sector performance. An analysis of the underlying reasons and binding constraints for this performance is presented in the sections that follow on policy (chapter 3), institutional design (chapter 4), financing architecture and cost-recovery (chapter 5), and governance and accountability (chapter 6).

2.2 Access

Progress in access to urban WSS in Zambia has been short of the target, and the levels of service are insufficient to reduce key health risks substantially. According to the Joint Monitoring Programme (JMP) data (2019), access to piped water in urban areas in Zambia was 68 percent in 2017 (figure 2.1), although 89 percent of the urban population had water available when needed. The National Water Supply and Sanitation Council (NWASCO) reported urban water coverage (“population served with drinking water”) to be 86 percent in 2018, at an average of 14 people per domestic water connection.‡ Zambia’s relative position compared to other African countries is shown in figure 2.1, using the JMP survey data, indicating there is significant scope for improvement.

FIGURE 2.1. Access to Piped Water in Urban Areas versus GDP per Capita, 2017

Note: Zambia is shown as a black diamond. GDP = gross domestic product.
With respect to sanitation, JMP (2019) reported that, in 2017, 34 percent of people in urban areas had access to a septic tank or sewer connection and a further 36 percent to on-site forms of sanitation such as pit latrines. NWASCO reported sanitation coverage to be 64 percent, comprising the population serviced by off-site (centralized piped sewer systems) and septic tanks only, indicating a large discrepancy between these two numbers.

Given that the sector reforms initiated with the Water Policy of 1994 aimed to achieve near-universal coverage in urban areas, this progress has been disappointing. The JMP survey data indicate that the percentage of people with access to piped water has been declining (from over 80 percent in the early 2000s down to 64 percent in 2017), whereas the NWASCO data report an improvement from 69 percent to 86 percent between 2008 and 2018² (see appendix A for further details).

Monitoring and reporting on service outcomes are not robust. The discrepancy in reporting on access speaks to data issues, a point that is made in the Diagnostic Report. JMP uses household survey data, whereas the coverage reported by the CUs and NWASCO is assumed to be based on input data: the number of connections and an assumed number of people accessing the service by type of connection.³

Improving WSS will have substantial health and economic benefits. The Diagnostic Report states that “estimates by the World Bank (2012) suggest that Zambia loses $194 million every year due to poor sanitation” and that, “from a public health perspective, inadequate water, sanitation, and hygiene are the leading causes of infections like cholera and diarrhea, and the leading cause of death of children under the age of five” (emphasis added). The report noted that cholera outbreaks are a common occurrence in Zambia and that “the most recent outbreak in October 2017 resulted in 5,900 cases, claimed 114 lives, and caused massive economic disruption.”

2.2.1 The Relationship between Access and Efficiency

The CU efficiency assessment concluded that “while most investments and efforts have been directed to increasing WSS coverage-related goals, it has tended to overlook the importance of doing so efficiently so that a consistent revenue base is created to allow the expansion of the coverage in a sustainable way. As a result, the focus on WSS coverage has tended to come at the expense of the overall efficiency of the service and financial sustainability of the utility.” The discussions with the client government indicated that access was indeed the government’s political and policy priority and that the key problem was insufficient investment (see section 2.3).

2.3 Efficiency

The CUs exhibit levels of inefficiency, exerting a significant hidden fiscal burden on the government. A key objective in establishing the publicly-owned CUs from the year 2000 onward, was to improve the efficiencies and effectiveness in the sector. However, progress on key efficiency parameters has been limited.

Note: It is not clear to what extent the client government agrees with this problem statement. The client government notes that investment into the sector has increased, and coverage has increased as a result of
the reforms and, therefore, that the reforms were successful. The problem statement given is that there is insufficient money made available for investment and that there are low levels of affordability limiting the ability of the sector to achieve cost recovery. Efficiency is thus very much a secondary concern.

Summary data on performance are presented in table 2.1.

Two examples are provided below.

There is a wide range in performance across the CUs, and aggregate nonrevenue water (NRW) performance for all 11 CUs deteriorated from 45 percent to 51 percent over the period 2008–18 (figure 2.2b). It should be noted that the CU efficiency assessment argues that NRW is an inappropriate performance measure to use and that a uniform benchmark is also not appropriate. Nevertheless, both the wide divergence in performance as well as the overall negative trend in performance are notable.

Collection efficiency compares poorly to the NWASCO benchmark of 85 percent in 4 CUs and compares unfavorably to an international best practice benchmark of 95 percent in 8 of the 11 CUs. The overall trend, on a weighted aggregate basis, is negative (figure 2.3b).

COVID-19 is very likely to affect CU revenue and cash collection negatively over the next year and beyond.

The Diagnostic Report estimated that, during the period 2001–17, Zambia’s CUs lost an estimated $858 million due to high levels of NRW and low bill collection efficiency, creating a hidden fiscal burden and making it harder to finance the sector. This loss is equivalent to about 20 percent of the total capital invested in the National Urban Water Supply and Sanitation Programme (NUWSSP) to date.

**TABLE 2.1. Commercial Utilities’ Performance Data, 2018**

<table>
<thead>
<tr>
<th>Water coverage</th>
<th>Avg hours of supply</th>
<th>NRW</th>
<th>Staff/1000</th>
<th>Collection efficiency</th>
<th>Average tariff</th>
<th>Revenue per conn</th>
<th>OCCR (by collection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% hours NRW</td>
<td>%</td>
<td>$/kl</td>
<td>$/month</td>
<td>ratio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lusaka</td>
<td>87%</td>
<td>17</td>
<td>45%</td>
<td>8.3</td>
<td>80.3</td>
<td>0.66</td>
<td>23</td>
</tr>
<tr>
<td>Nakana</td>
<td>97%</td>
<td>19</td>
<td>46%</td>
<td>9.4</td>
<td>71.9</td>
<td>0.66</td>
<td>21</td>
</tr>
<tr>
<td>Mulonga</td>
<td>96%</td>
<td>17</td>
<td>39%</td>
<td>8.0</td>
<td>96.9</td>
<td>0.50</td>
<td>24</td>
</tr>
<tr>
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<td>83%</td>
<td>20</td>
<td>72%</td>
<td>10.2</td>
<td>72.2</td>
<td>0.69</td>
<td>16</td>
</tr>
<tr>
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<td>20</td>
<td>53%</td>
<td>7.7</td>
<td>90.0</td>
<td>0.69</td>
<td>12</td>
</tr>
<tr>
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<td>19</td>
<td>51%</td>
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<td>93.6</td>
<td>0.64</td>
<td>14</td>
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<tr>
<td>Western</td>
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<td>60%</td>
<td>9.1</td>
<td>81.0</td>
<td>0.70</td>
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<td>98.8</td>
<td>0.69</td>
<td>9</td>
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<tr>
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<td>18</td>
<td>51%</td>
<td>10.7</td>
<td>86.1</td>
<td>0.28</td>
<td>7</td>
</tr>
<tr>
<td>Luapula</td>
<td>45%</td>
<td>20</td>
<td>78%</td>
<td>9.6</td>
<td>85.1</td>
<td>0.70</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: NWASCO sector performance reports.

Note: $/kl = US dollars per kiloliter; NRW = nonrevenue water; OCCR = operating cost coverage ratio.
2.3.1 Key Findings from the Commercial Utility Efficiency Assessment

The findings and conclusions from the assessment of utility efficiency in three CUs were as follows:

- **All three of the CUs assessed are in a very precarious financial situation** resulting from similar technical problems, which to some extent are worse than apparent from the raw data, and this has contributed to a downward spiral of inefficiency.

- **The real situation is much worse than would appear from the NWASCO data.** Incomplete and often inaccurate measurement of production volume makes the reliable assessment of NRW difficult. Outdated maps make the optimum management of the network virtually impossible. Longer periods of interruption to the supply than declared, in an attempt to reduce costs that inevitably harm...
the pipes’ structural integrity, worsen the level of losses further. Low operational pressures lead to poor service quality—probably exacerbated by the high leakage level.

- **Difficulty in collecting revenue is a significant problem** leading to a high frequency of disconnections and subsequent reconnections.

- **All CUs are struggling to hold their heads above the water, financially speaking**, which means that all they can realistically do is keep going as they are unless cost-effective and targeted efficiency-yielding investment is introduced. COVID-19 will certainly aggravate this situation, at least in the short term.

- **The immediate problems appear to arise principally from incomplete knowledge of the real situation** (e.g., accurate flow and pressure measurement, outdated GIS, and no active testing of customer meter accuracy), lack of network optimization and eliminating hydraulic bottlenecks (e.g., the absence of hydraulic modelling), revenue and collection problems, and difficulties in paying bills, salaries, and suppliers.

- **Effort is directed to reduce the consequence of their problems rather than eliminate their cause**, leading to a sense of helplessness exacerbated by their performance being judged poorly by external assessors using inappropriate performance indices.

- Optimum technical solutions applied in developed countries are not necessarily appropriate or cost-effective in developing countries.

- The utilities appear to have competent staff with the capability and the motivation to change the situation, although staff turnover is an ongoing concern.

- Staff redundancy does not appear to be an impediment to improving organizational efficiency.

- **The metrics adopted to measure sector progress may not be appropriate**. Although the monitoring metrics and targets adopted by NWASCO constitute a very detailed and valuable assessment and benchmarking exercise for the individual components which impact efficiency, there are potentially many flaws in applying simple albeit traditional metrics. Such objectives, if unquestioningly pursued, could ultimately make the CU even less efficient and undermine its financial stability and its ability to expand coverage. Examples of this are found with leakage and customer metering.

### 2.4 Financing Sufficiency, Efficacy, Efficiency, and Sustainability

#### 2.4.1 Are There Sufficient Funds to Meet the Sector Targets?

**Budget allocations to the urban water sector have been highly volatile between years** as a percentage of the national budget and have not followed the National Development Plan (figure 2.4 and appendix B).

**There has been a persistent gap between budgeted allocations and actual expenditure.** Sector budget execution varied between 40 percent and 66 percent over the period 2012–16 (Diagnostic Report).
A large share of expenditure is off-budget and is not reported in an integrated and consistent way. The Diagnostic Report noted, for example, that the Millennium Challenge Compact provided $355 million of financing to the Lusaka Water and Sanitation Company (WSC) between the years 2013 and 2017 that was not reported in the budget.

**Funding for urban WSS is primarily project-based and is highly dependent on cooperating partners.** Over 80 percent of total investments in urban and rural WSS come from the cooperating partners: 25 percent as grants, mainly to the rural sector, and 75 percent as concessional loans to GRZ for the urban water sector.

**There is a significant financing gap.** Although the Diagnostic Report states that the NUWSSP (2011–30) is on target to deliver the planned capital expenditure of $4.08 billion, a statement that is based on performance to date, there is nevertheless a significant funding gap of $1.3 billion over the next 10 years.5

**Is it feasible to close the financing gap?** The Diagnostic Report concluded that raising this level of capital for the urban program, $1.3 billion over 10 years, was feasible, “provided GRZ can expand the fiscal space.” This conclusion assumed that the effectiveness of new concessional debt would be improved and that the CUs would address inefficiencies and be able to access capital markets as well as attract government and donor finance. The conclusion was made before COVID-19, and it is not clear that these assumptions still hold (see section 2.7).

**2.4.2 Are the Funds Going to the Right Areas? (efficacy)**

Financing is not prioritized across the urban water sector and does not go where it is most needed nor where it could be used most effectively. The Diagnostic Report notes that the NUWSSP investments are “heavily skewed towards bulk water supplies” and are “focused substantially on new water resource development.” This comes at the expense of the rehabilitation and expansion of aging water distribution networks, especially in small towns and peri-urban areas. It is unclear how investment priorities are
determined because there is an absence of transparent capital investment allocation criteria and processes. Stakeholder consultations do not appear to inform investment priorities. The drivers and incentives underlying these patterns are addressed later in the report. The Diagnostic Report concluded that “although NUWSSP is on target to deliver the planned capital expenditure, the urban water supply coverage has not increased at all since the program was conceived in 2011.”

2.4.3 Are the Funds Used Efficiently?

The large investments have not resulted in substantial improvements in coverage or quality of service or been efficient. According to the Diagnostic Report, “the NUWSSP has driven considerable investment in increased water provision across the CUs; however, service coverage and quality have not changed much because most of the capital has gone into large bulk water production projects. Rehabilitation and expansion of aging water distribution networks, especially in small towns and peri-urban areas, has not received the same level of attention, with the consequence that most of the increased production is lost in leaky networks, thus undermining the ability to expand coverage.” The Diagnostic Report estimated that the investment costs amounted to about $640 per capita and cannot be regarded as efficient in light of the above.\(^2\) The underlying reasons for this are discussed in later sections.

2.4.4 Is the Financing Sustainable?

The urban WSS sector is not financially sustainable. The sustainability of financing depends on the ability of the government and CUs to repay loans made to the sector. The government fiscal space has narrowed with the public debt/gross domestic product (GDP) ratio deteriorating from 27 to 78 percent between 2013 and 2018, and is likely to become significantly worse as a result of COVID-19. At the same time, the ability of the CUs to repay loans, as measured by their operating cost coverage ratio (OCCR), is very weak at 1.04 in 2018, which is worse than it was in 2008 at 1.07 (figure 2.5a). In Lusaka, the OCCR in 2018 was 1.11, the same as it was in 2008 (figure 2.5b) (Lusaka accounted for between 30 and 40 percent of the total revenue of the CUs over the period).

**FIGURE 2.5. Operating Cost Coverage by Collection, 2008-18**

Source: NWASCO sector performance reports.

Note: CU = commercial utility.
Sanitation financing is neither adequate nor sustainable and will require new public financing mechanisms. The ongoing Lusaka Sanitation Program is currently the only large-scale public investment in sanitation in Zambia. The Diagnostic Report notes that “the unprecedented capital injection of $300 million will require a rethink of existing financing mechanisms for urban sanitation services to ensure sustainability.”

2.5 Transparency

The establishment of the regulator NWASCO has resulted in significantly improved reporting on the performance of CUs, with annual reports from 2009. Nevertheless, there remain important gaps in transparency:

- **Financial data.** While the Ministry of Finance publishes water and sanitation budgets, it is difficult to trace how much money has been spent and on what, and what the overall financial status of the sector is (e.g., the level of outstanding debt related to investments in water and sanitation) (see figure 2.6).

- **Overall sector progress.** There is no overall reporting on sector progress that integrates both urban and rural and financial data with outcome and service provider performance information. The NWASCO annual reports on sector performance, as good as they are, provide only a partial view of overall performance and are silent on investment flows and financing.

---

**FIGURE 2.6. GRZ Water Supply and Sanitation Budget Information**

<table>
<thead>
<tr>
<th>ECONOMIC CLASSIFICATION</th>
<th>2018 BUDGET</th>
<th>2019 BUDGET</th>
<th>2020 BUDGET</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>02 Use of Goods and Services</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>00 General Operations</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>03 Transfers and Subsidies</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>01 Transfers</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>01 National Water and Sanitation Council</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>02 Various Water Utility Companies</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>04 Assets</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>01 Non-Financial Assets (Capital Expenditure)</td>
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<td>-</td>
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</tr>
<tr>
<td>Programme Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: GRZ budget data.
• **The basis for calculating urban access.** The basis for reporting on access to WSS in urban areas by NWASCO is not transparent.

• **Performance metrics and targets** do not differentiate between CUs in terms of their very different contexts and do not consider the costs versus the benefits of interventions to meet the benchmarks.

• **Financial allocations.** The basis used for making financial allocations and investment and financing decisions is not transparent.

• **Audited financial statements** are not readily available for any of the CUs.

• **Board and CEO appointments.** CU boards are constituted in terms of the articles of association adopted by the CU owners, the local government. Appointments must be vetted by the responsible minister (national government; Ministry of Water Development, Sanitation and Environmental Protection [MWDSEP]), who also appoints the chair. There can sometimes be delays in this process. Public reporting on the CU boards (appointment criteria and processes, who is on the board, tenure, etc.) and CEOs (appointment processes, date and status of appointments, acting or not, tenure, etc.) appear to be unavailable.

• **Infrastructure investment information by CU is not readily available.** How much has been invested each year on what, and how has it been financed? Information on projects is very limited, and no financial data are provided. In most cases, finance flows directly from the ministry (and development partners) to projects rather than to the Cus. In some cases, off-budget financing is provided directly to Cus by development partners. Any loans extended to Cus need to be guaranteed by the national government.

• **Only 4 of the 11 CUs had working websites**, and the ones that existed had limited information (no annual financial statements, no annual report, and only one had the names of the CEO and the board members) (see table 2.2).

• **Only 2 of the 11 utilities had active boards during 2018** (table 2.2). GRZ indicated that delays were experienced after creating the new MWDSEP after the elections in 2017.

### 2.6 Zambia’s Urban Water Sector in a Broader Context

#### 2.6.1 Governance Indicators

The performance of Zambia’s urban water sector also needs to be viewed within a broader context. With respect to governance indicators, Zambia sits between the 30th and 40th percentile rank for government effectiveness, regulatory quality, and rule law (figure 2.7). Zambia’s ranking with respect to control of corruption declined to the 28th percentile in 2018. A number of cooperating partners suspended funding in 2018 as a result of a corruption scandal.2
### TABLE 2.2. Availability of Information Related to Corporate Governance

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
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<td>no</td>
<td>no</td>
<td>no</td>
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</tr>
</tbody>
</table>

Source: Review of websites (May 12, 2020) and NWASCO 2018a sector report (status of boards).

Note: AFS = annual financial statement; CEO = chief executive officer.

### Performance on Project Loan Portfolio

The Project Performance Assessment Report undertaken by the Independent Evaluation Group for the World Bank’s Water Sector Performance Improvement Project (2006–13) rated the development outcomes as moderately unsatisfactory, the risk to development outcome as high, and borrower performance as moderately unsatisfactory. The report noted that “there were governmental delays in paying a lapsed loan soon after project effectiveness, and in meeting the conditions of effectiveness for additional finance.” A key lesson was that “Maintaining the financial viability of a service provider requires strategies to deal with *exogenous factors* in addition to securing technical and commercial efficiency of operations” (own emphasis). Notwithstanding this modest performance, the bank’s water portfolio was considered to perform relatively well compared to other sectors.8

### 2.6.2 Macroeconomic Context

Public debt was 78 percent of GDP in 2018 and is likely to have subsequently deteriorated further in the context of COVID-19, a lingering drought, and weak copper prices (Focus Economics 2022). The World Bank reported that “Public and publicly guaranteed debt has nearly quadrupled from 20.5% of GDP in 2011 to 78.1% of GDP in 2018, driven by an accumulation of both external and domestic debt. The debt composition has also significantly shifted towards commercial and Non-Paris Club bilateral creditors,
exacerbating the country’s exposure to exchange rate and market risks.” The Debt Sustainability Analysis undertaken by the World Bank and International Monetary Fund (2019) concluded that “Zambia’s risk of overall and external debt distress remains very high and that public debt under the current policies is on an unsustainable path.” There is a strong risk of a sovereign debt default.

2.7 Binding Constraints on Performance—Key Questions

Some key questions arising from the presentation of sector performance are highlighted in this section. The answers to these questions are then examined through four lenses in the following sections: policy and legislation (chapter 3), institutional design (chapter 4), financing (chapter 5), and governance and accountability (chapter 6).

2.7.1 Is the Binding Constraint Affordability?

Officials within GRZ appear to embrace the proposition that affordability and insufficient investment finance are the key binding constraints to better sector outcomes in terms of access, cost recovery, and efficiency. There is, however, a plausible alternative perspective on this.
In urban areas, over 80 percent of households own cell phones, whereas according to the survey data, less than 70 percent of households have access to a piped water supply, and less than 50 percent have piped water to their premises. Even more striking is the divergence in trends in access to piped water supply in urban areas compared to the number of cell phone subscriptions per 100 people: whereas access to piped water declined over the period 2000–16 (figure 2.8a), subscriptions to cell phones increased substantially over the same period (figure 2.8b).

In 2015, the average household expenditure on communications was kwacha (K) 102 per month, whereas the average expenditure on water by households with access to piped water was less than K 50 per month (GRZ 2016; NWASCO 2015).

These data could offer an indication that the poor progress in access to piped water may not be a result of the absence of demand for piped water or a lack of ability to pay for water, but could have to do with the way that the “market” for urban water is structured. Could the institutional incentives

**FIGURE 2.8. Access to Urban Piped Water and Cell Phone Subscriptions per 100 People**

and governance arrangements within the urban water sector be changed to be more responsive to demand and result in better outcomes? We know from figure 2.1 that much better outcomes are certainly possible for Zambia at its current level of economic development. **This report seeks to identify the binding constraints that prevent or limit the achievement of better outcomes and recommend how these constraints could be addressed.**

2.7.2 Is the Binding Constraint Insufficient Investment Finance?
Finance per se may not be a constraint. Adequate sources of finance exist and will be unlocked where conducive conditions for financing are created. In the context of Zambia, this should include a contribution of reliable and sustainable grants from the national government budget to contribute to the social objectives of the sector, combined with effective and efficient use of repayable finance, including concessional finance from development partners. This is also the position of the World Bank. See, for example, *Reform and Finance for the Urban Water Supply and Sanitation Sector* (World Bank 2019): “This stark reality calls for a major shift in the way resources are allocated in the sector. Each country is different and will require a customized solution that, where possible, leverages public funding ... to mobilize commercial finance—either international or domestic.” The relationship between financing and cost recovery is examined in chapter 5.

2.7.3 Is the Binding Constraint the Sector’s Institutional Structure?
Are the CUs appropriate vehicles for the provision of WSS services, or is there a better alternative? Should the mandate of the CUs be extended to include rural areas or not? This question is answered in chapter 4 (Institutional Design).

2.7.4 Is the Binding Constraint the Financing Architecture?
Responsibility for the provision of WSS has been devolved to the local government. The CUs are owned and governed by the local government, but financing is allocated by the national government. Does this pose a constraint on sector development, and could it explain why investments appear not to have led to improved coverage? Could this also explain why unit investment costs are higher than international norms and why investments appear to favor large projects and bulk infrastructure compared to smaller incremental investments? These questions are addressed in chapter 5 (Financing Architecture and Cost Recovery).

2.7.5 Is the Binding Constraint the Current Set of Incentives within the System?
One of the informing propositions of this report is that current outcomes are “optimal” in terms of the prevailing incentives within the system. For example, cell phone penetration has increased significantly in response to customer demand because investments are allowed to flow to where there is a return and because customers have a choice of provider, ensuring a healthy degree of competition between providers, thus providing incentives for efficiency in the provision of the service. This market logic does not apply to the urban water sector, which is a natural monopoly. However, it is possible to change incentives regarding how finance is allocated, how services are priced, and what information is provided to whom, which could result in different outcomes. **This report seeks to understand the**
underlying causes of disappointing performance, particularly as these relate to incentives within the system, and makes proposals for how these could be addressed. Key questions related to this are addressed in chapter 6 (Governance and Accountability).

Notes

1. The definition of “population served” is not explicit. It is assumed that this is based on a calculation of the number of connections (by type) multiplied by an assumed number of people per connection.

2. A United Nations Children’s Fund presentation on water supply, sanitation, and hygiene coverage in Zambia to the Water Cooperating Group Meeting (March 2020) reported 87 percent access to a basic water supply in urban areas. It did not report on access to piped water.

3. Neither the definition of coverage, nor the method to calculate or estimate the coverage are clearly stated in NWASCO’s annual performance reports.

4. NWASCO sector performance reports.

5. “During the period 2013-2018, GRZ was able to mobilize US$925 million for NUWSSP. Total signed commitments for the period 2013-2030 are about US$2.7 billion, which represent about 67 percent of the overall program cost (US$4.08 billion). GRZ, therefore, needs to raise US$1.3 billion (about 33 percent of total program cost) over the next decade” (World Bank 2020).


7. The United Kingdom, Ireland, Finland, and Sweden suspended aid in 2018 (BBC 2018).


Chapter 3
Policy, Legislation, Frameworks, Strategies, and Programs

3.1 Policy

3.1.1 Policy Principles and their Application

The sector underwent fundamental reforms that commenced with a new water policy in 1994. The policy was based on seven principles that were slightly refined in a review and updated in 2010 when a new water policy was published. The policy principles are sound and are based on accepted international best practices (GIZ 2018, 2019). The evolution of the policy environment, based on these principles, is given in appendix C. Together, these policy principles should have provided a sound basis for significant and ongoing improvements in the sector’s performance. The policy principles, and the extent to which the policy principles have been applied, are set out in table 3.1.

3.1.2 Policy Principles in the Water Supply and Sanitation Services Bill (2019)

The following principles are contained in Section 3 of the Water Supply and Sanitation Services Bill (2019):

1. Protection of the environment and prudent use of water, taking into account the present and future generations;
2. Development and promotion of public health through sustainable and safe sanitation;
3. Protection of the interests of consumers through effective participation of citizens in the management and decision-making processes for WSS;
4. Creation of an enabling environment for the delivery of reliable, sustainable, and affordable WSS;
5. Creation of a framework aimed at ensuring that contributions toward operations, maintenance, and capital costs for the provision of WSS services are met by consumers; and
6. Promotion of public-private partnerships in the provision of WSS services.

Notably, the “full cost recovery principle” has been moderated to “a framework for contributions towards” costs. There is no principle related to government contributions (Principle 7 in the 1994 Policy) and no explicit policy principle related to the separation of regulatory and executive functions (Principle 2 in the 1994 Policy), though this principle is enacted in the legislation.

3.1.3 Policy Gaps and Weaknesses

The 1994 Water Policy was replaced by the National Water Policy of 2010 (for water resources) and the 2019 Water Supply and Sanitation Services Bill. The NUWSSP noted that the National Water Policy of 1994 was very specific and detailed with regard to urban WSS and laid the foundation for the sector reforms. It also noted that its main principles were largely valid and applicable even in 2010. Although there is a new Bill for Water Supply and Sanitation Service (2019), there is no
corresponding WSS policy. NWASCO refers to the 1994 policy with respect to tariffs in its sector report, implying that this policy is still active and that the 2010 policy did not replace this policy. The NUWSSP provided for the development of an updated WSS policy, but this has not yet happened, although a bill has been produced. Therefore, the WSS services policy must be inferred from the 2019 Water Supply and Sanitation Services Bill.

Cost recovery had not been fully implemented 26 years after the policy was first introduced. The 1994 policy gave no time frame for the achievement of full cost recovery, and the policy of implementing urban water tariffs that recover the replacement cost, the operating cost, and a return on investment has not been implemented. The Diagnostic Report states that NWASCO sets tariffs that exceed the operating

<table>
<thead>
<tr>
<th>Policy Principle</th>
<th>The Extent to Which the Principle Has Been Put into Practice</th>
</tr>
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<tbody>
<tr>
<td>2. Separation of the regulatory and executive functions within the sector.</td>
<td>Largely realized through the establishment of the National Water Supply and Sanitation Council (NWASCO) in 1997, the creation of the commercial utilities (CUs) (starting in 2000 and completed in 2009), the establishment of the Water Resources Management Authority (WARMA) in 2011, and the reform of the Zambia Environmental Management Agency (ZEMA) in 2011.</td>
</tr>
<tr>
<td>3. Devolution of authority to local authorities and the private sector.</td>
<td>Partially realized. While ownership of the CUs has been devolved to the local authorities, this was not accompanied by the devolution of resources. Financing of the sector remains highly centralized. Private participation has been limited.</td>
</tr>
<tr>
<td>4. Achievement of full cost recovery for the water supply and sanitation services through user charges in the long run.</td>
<td>Partially realized. Recovery of operating costs has been achieved to a significant extent (the operating cost coverage ratio was greater than 1 in 9 of the 12 annual reporting periods from 2008); however, there has been hardly any recovery of capital costs some 26 years after the principle was first established in 1994.</td>
</tr>
<tr>
<td>5. Human resource development leads to more effective institutions.</td>
<td>Partially realized. NWASCO has performed as planned. Improvements in the institutional effectiveness of the CUs have been disappointing.</td>
</tr>
</tbody>
</table>
| 6. Technology appropriate to local conditions. | Partially realized. Low investment in technologies with a high return of investment was noted in the Diagnostic Report; investments have the privileged bulk infrastructure at the expense of distributions, and investments in sewer systems were high relative to investments in lower-cost alternatives, including fecal sludge management. There has been more focus on on-site sanitation in recent years (through, for example, the World Bank’s Lusaka Sanitation Project).*

a. Investing in sewers so that the richer can pay for the poorer also does not seem to work. Enforcement of connections to the sewer network is difficult but in recent years efforts to improve connection rates have been scaled up. In many affluent areas in Lusaka, people use on-site sanitation, septic tanks, and conservancy tanks. Most houses have their own well too. Can the utility be supported by the regulatory system?
costs but that a positive OCCR is not obtained because of CUs’ operational inefficiencies (high NRW and low cash collection efficiencies compared to the NWASCO benchmarks).

**While full recovery of all capital costs may not be a realistic objective in the Zambian context**, it is reasonable to expect a portion of capital costs to be paid for from the tariff. The World Bank’s recent flagship report on subsidies showed that consumption subsidies (that arise where volume-based tariffs are below cost) are regressive, benefitting wealthier households more than poor households and that in general, subsidies were “pervasive, expensive, poorly targeted, nontransparent and distortionary,” thus offering an opportunity for much better use of subsidies (Andres et al. 2019). The 2019 Water Supply and Sanitation Services Bill softens the cost-recovery principle to “creating a framework ensure that contributions towards operations, maintenance and capital costs for the provision of water supply and sanitation services are met by consumers.”

### 3.2 Legislation

A description of the key legislative and related regulatory instruments and how these have evolved is set out in Appendix D.

**3.2.1 The Water Supply and Sanitation Act of 1997**

The first legislation specific to WSS was passed in 1997. The Water Supply and Sanitation Act No. 28 set out procedures for the establishment of water and sanitation companies and for the licensing of these companies, including the establishment of the sector regulator, NWASCO, to manage and oversee the licensing process and to undertake other regulatory functions.

**3.2.2 The Water Supply and Sanitation Bill of 2019**

A new comprehensive bill for WSS services has recently been published. The main features of the bill are summarized below.

**Policy principles.** The bill incorporates a set of policy principles (see previous section).

**Minister’s responsibility:** The minister is given responsibility for:

- National policy and strategy for WSS;
- Coordinating and providing technical support;
- Coordinating planning and resource mobilization;
- Facilitating appropriate technologies; and
- Making emergency declarations.

The **minister may make regulations** “for the better carrying out of the Act,” including standards to be used by NWASCO, procedures for appointing persons to management positions within the water and sanitation utilities, and regulations for the administration and management of consumer watch groups.

*Comment: Direct financing and investment in WSS services are notably absent from this list.*
Local government is responsible for:

- Providing WSS services; and
- Ensuring that WSS providers comply with the act by making bylaws, providing services themselves (directly or through a local-government-owned commercial water and sanitation utility), or contracting entities to provide services on its behalf if it cannot provide the service.

NWASCO is responsible for:

- Advising national and local government on matters related to WSS;
- Licensing WSS utilities;
- Approving tariffs, rates, and charges;
- Monitoring the performance of WSS utilities;
- Entering into service-level agreements with WSS utilities;
- Establishing and enforcing standards and guidelines; and
- Disseminating information.

Local authorities may establish WSS utilities with a majority of the shares owned by the local authority. These utilities must be financially and administratively autonomous and shall provide efficient and affordable WSS services. Their functions include:

- Treating water to the required standards;
- Developing and maintaining WSS works;
- Planning and executing projects;
- Educating and informing the public;
- Proposing tariffs and collecting revenue; and
- Doing “all such things necessary for the provision of effective and sustainable water supply and sanitation services and access to such services.”

WSS utilities shall adhere to the minimum service level guarantees and shall keep maps of its WSS networks and related infrastructure.

The Board of Water Supply and Sanitation utilities shall:

- Ensure the efficient and economical provision of WSS services;
- Oversee the administrative affairs of the WSS utility by putting in place effective, efficient, and transparent systems of corporate governance;
- Ensure sound financial management structures, including financial, risk management, and internal audit controls;
• Provide strategic direction;
• Approve strategic plans;
• Ensure the WSS utility builds sufficient human resource and technical capacity for the efficient undertaking of the utility's business;
• Ensure the financial viability of WSS services; and
• Borrow sums of money as may be necessary for the proper functioning of the WSS utility.

A water and sanitation utility may obtain funds from:
• Monies appropriated by Parliament (directly or through funds);
• Monies from tariffs, rates, or charges;
• Monies received from the local authority;
• Borrowed monies (with approval of the Minister in case of foreign loans); and
• Donations, grants, and bequests.

Consumer watch groups may be constituted by NWASCO to “enhance transparency, accountability and participation in the provision of water supply and sanitation services.”

3.2.3 Criteria for Setting Tariffs

According to the bill, NWASCO must establish criteria for setting and approving tariffs that take into account:
• Costs of supply;
• Need for a return on the capital invested;
• Financial implications of the tariffs, rates, or charges on consumers;
• Consumer and investor interests;
• Promotion or achievement of water conservation;
• Prescribed national WSS standards;
• Financial sustainability of the WSS services; and
• Protection of the environment and health.

This is a comprehensive list of criteria. Further comments on tariffs and cost recovery are made in chapter 5 (Financing Architecture and Cost Recovery).

3.2.4 Overall Comment on Water Supply and Sanitation Services Bill of 2019

The legislation is well written, is clear, appears comprehensive, and improves the Water Supply and Sanitation Act of 1997. Nevertheless, there appear to be some important tensions and gaps.
3.2.5 The Tension between the Social Objectives and Financial Viability

There is a tension between the policy priority of access and the establishment of the water and sanitation utilities as financially viable entities in the absence of a robust subsidy framework.

On the one hand, the boards of the water and sanitation utilities are charged with the responsibility to "ensure the financial viability of water supply and sanitation services" and at the same time to provide (uneconomical) services to rural growth centers and peri-urban areas without being able to recover the costs of this service. The latter is reflected in the license conditions of the utilities (where the service areas are specified) and the intention of the government to expand the mandate of the water and sanitation utilities to include rural areas.

3.2.6 Gaps in Legislation and Regulations

Principles and processes with respect to how financing is raised and allocated are not set out in the policy and legislation.

There has been a contradiction in the past between devolution of responsibility for the provision of WSS services to local government and retention of the financing function at a national government level. It is unclear to what extent this is resolved in the new bill. Current practice is for the national government to be a significant role-player in the provision for financing in the sector, including how this finance is allocated. The 2019 bill does not give the national government a direct financing function (its role is to mobilize resources and appropriate moneys through its budgeting and parliamentary processes).

There are unclear roles and responsibilities with respect to investment prioritization. There is a lack of clarity on who drives the prioritization process with respect to the NUWSSP investment plan and implementation.

Governance. Whereas the word governance was not mentioned in the 1994 policy, the 2019 bill requires the boards of the utilities to institute “effective, efficient and transparent corporate governance systems.”

The monitoring and evaluation of policy implementation are absent. There is no formal monitoring and evaluation of policy implementation.

There is no policy or legislative instrument which stipulates how much the government is expected to invest in the sector. Actual commitments by the government have varied significantly between years and have been neither stable nor sufficient (see section 2.4).

There are no clear regulations and guidelines for the appointment of board members to the CUs. Whereas the Water Supply and Sanitation Act of 1997 (and the new bill) set out the procedures for the appointment of the council and its composition, this is not the case for the CUs. These are established under the Companies Act, which has very generic conditions pertaining to the appointment of company directors. While more specific conditions may be established in the articles of association for each company, none of these appeared to be available for public scrutiny.
The appointment of suitably skilled professionals to oversee the management of the CUs is very important. This appears not to be safeguarded. NWASCO monitors corporate governance in the CUs and reported in their 2018 sector report (latest available) that “all the CUs operated without Boards of Directors for most of the year save for Lusaka and Nkana WSCs” and that this was “against tenets of good corporate governance.” The same report also noted that eight boards met only once in 2018 and only one board met the required four times. This phenomenon does not appear to be an exception. The 2014 report noted that there were no operating boards for 19 months spanning the calendar years 2011, 2012, and 2013. The formal and informal power of the national minister appears considerable. He/she may vet board member appointments (not explicitly stated in the 2019 bill) and appoint the chair of each board (2019 bill).

Although the 2019 bill states that boards must implement good corporate governance, there are no specific requirements in the bill; however, these could be developed in the associated regulations.

**There are no clear regulations and guidelines related to the transparency of key information pertaining to the CUs.** The CUs are not required to (and most do not) publish information on their websites with respect to the names of their board members, current CEO, and management team; their annual financial statements and reports; and the basis for the appointment of their boards and management teams (see section 2.5).

**There are no guidelines and regulations related to decision-making criteria for allocating resources and investment decisions for urban WSS.** Consequently, there is limited transparency with respect to how these decisions are made (see section 2.5). The Diagnostic Report noted that “there is currently no mechanism for investment prioritization.”

**There are no guidelines and regulations related to national sector reporting,** nor is a national sector performance report produced (see section 2.5). While NWASCO annual sector performance reports are an important contribution, these reports, on their own, give an incomplete picture of sector performance. The 2019 bill gives NWASCO a mandate to monitor the performance of water and sanitation utilities and service providers and to disseminate information to the public. Few details are given, although these could be elaborated in forthcoming regulations.

### 3.3 Strategies, Programs, and Frameworks

Key strategies, programs, and frameworks are listed in table 3.2. Of particular note are:

- The **major flagship urban water supply and sanitation program** (NUWSSP 2011) and its rural equivalent (NRWSSP 2005).

- The very recent development of a **framework for provision and regulation of rural water supply and sanitation in 2018** in response to a recognized gap in this area.

- The very recent creation of a **framework for provision and regulation of urban on-site sanitation and fecal sludge management in 2018** in response to a recognized gap in this area.
<table>
<thead>
<tr>
<th>Year</th>
<th>Policy initiative</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Framework for Provision and Regulation of Rural Water Supply and Sanitation</td>
<td>NWASCO 2018</td>
</tr>
<tr>
<td>2018</td>
<td>Framework for Provision and Regulation of Urban Onsite Sanitation and Faecal Sludge Management</td>
<td>NWASCO 2018</td>
</tr>
</tbody>
</table>

3.3.1 Gaps and Weaknesses in Strategies, Programs, and Frameworks

**A failure to achieve flagship program objectives.** The Diagnostic Report notes that the “major flagship programs have so far failed to close the service gap.” Despite significant investment, “service coverage and quality have not changed much because most of the capital has gone into large bulk water production projects.”

**No mechanism to drive prioritization and to monitor results.** The Diagnostic Report notes that “there is no mechanism for prioritization of investments and monitoring of implementation.” Neither the NUWSSP (at the ministry level) nor NWASCO was active in leading and managing project prioritization. However, a sector cooperation framework has recently been developed (see section 6.5).

**The NUWSSP has not resulted in improvement in the performance of the CUs.** The Diagnostic Report notes that Zambia’s chronically inefficient water utilities create a fiscal burden and make it harder for the government to finance the sector.

**There is no link between investments and operational efficiency improvements.** The Diagnostic Report notes that “GRZ should have a deliberate strategy to use public finance to incentivize efficiency improvements in CUs by linking financing to verifiable improvements in operational efficiency,” but this has not been the case.

**Project-based financing.** The NUWSSP was based on project financing. Service providers would make project proposals, and these would be matched with financiers by the NUWSSP.

**Lack of operational plans.** The Diagnostic Report noted a lack of operational plans to support the NUWSSP, which was a high-level strategy with funding targets.

**Lack of a dynamic investment plan.** The Diagnostic Report noted that “there is no dynamic national Sector Investment Plan that prioritizes investment across provinces and towns.”

**Absence of integrated investment plans at the CU level.** The Diagnostic Report noted that there were “no rolling investment plans in CUs that shows what the future investment needs will be and how best to
meet them; and no holistic methods for planning and prioritizing infrastructure investment in CUs that considers asset conditions and most cost-effective investment to improve the systems.” The CU efficiency assessment confirmed that there was inadequate data to develop informed investment plans. The 2019 Bill requires water and sanitation utilities to keep maps of their WSS networks and related infrastructure.

Too much emphasis on creating (bulk) infrastructure and too little on strengthening the capacity for service provision. The NUWSSP privileged investments in bulk infrastructure and paid too little attention to building the capability of the service providers.

Poor monitoring and reporting on investment. NWASCO’s monitoring is mainly regulatory and operational and does not provide information on the current and planned infrastructure development and expenditure under the NUWSSP.

The development of the framework for the regulation of rural provision is very recent, and it is too early to assess its efficacy.

The development of the framework for the regulation of on-site sanitation and fecal sludge management is very recent, and it is too early to assess its efficacy.

3.4 Binding Policy and Legislative Constraints

The current policy (as inferred in the 2019 Water Bill) and the proposed legislation do not pose any significant binding constraints on the sector. Nevertheless, there is scope for improvement in the following areas:

- The development of a separate policy document for WSS makes sector policy clearer. At present, the policy must be inferred from the legislation.

- The policy objectives with respect to cost recovery need to be clarified. Directly related to this, there is a lack of clarity on how the tension between the social objectives (access and affordability) and financial objectives (commercial viability of the utilities) is to be resolved.

- Greater clarity on responsibilities for financing and the development of transparent criteria and processes for allocating finance to achieve greater effectiveness and efficiency is needed and to create a more direct link between investments and sector performance improvements.

- There is a need for more detailed regulations and guidelines in implementing good corporate governance in the sector.

- There is a need for more formal monitoring of policy implementation, including annual sector performance reports (beyond that already provided by NWASCO).

- Regulations and guidelines related to the transparency and accessibility of key information such as investment, board membership, management, annual financial statements, and annual reports are needed.
Chapter 4
Institutional Design

4.1 The Evolution of Institutions in the Water Sector

Institutional reforms are best understood from a perspective of decades rather than years. In this light, key milestones in the reform timeline for Zambian water sector policies, legislation, and institutions are set out in table 4.1.

<table>
<thead>
<tr>
<th>Year</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>Creation of the first commercial utility (CU) in the City of Lusaka through the local government’s initiative, which preceded all other reform policies.</td>
</tr>
<tr>
<td>1994</td>
<td>Launch of the Water Policy. The policy sets out seven guiding principles for the water sector: (1) separation of regulatory and executive functions, (2) devolution of supply responsibility to local authorities and private enterprise, (3) promotion of appropriate technology for local conditions (in terms of ability to pay), (4) increased government spending on water supply and sanitation (WSS), (5) creation of effective institutions through human resource development and capacity building, (6) full cost recovery through user charges (over the long term), and (7) separation of water resources regulation from WSS regulation.</td>
</tr>
<tr>
<td>1997</td>
<td>National Water Policy and the Water Supply and Sanitation Act. The Ministry of Local Government and Housing and the local authorities are responsible for WSS—both urban and rural. The ministry provides policy guidance, ensures technical and financial control, and facilitates mobilization of foreign and local funds for capital development. The responsibility for managing water resources falls to the Ministry of Energy and Water Development.</td>
</tr>
<tr>
<td>2000</td>
<td>Establishment of commercial utilities. Commercially oriented WSS utilities are formed on a province basis with the explicit aim to finance operations from user charges. A further four CUs were established in 2003, 2006 (two), and 2009.</td>
</tr>
<tr>
<td>2001</td>
<td>Establishment of the Devolution Trust Fund to provide financing for WSS infrastructure in urban areas with a pro-poor focus. The fund became fully operational in 2004 and operated under NWASCO but is no longer active.</td>
</tr>
<tr>
<td>2010</td>
<td>Revision of the National Water Policy. The policy was revised but kept its core principles. The 2010 Policy focused on water resources management. An updated water and sanitation policy was intended, but this has not been accomplished.</td>
</tr>
<tr>
<td>2011</td>
<td>New Law on Water Resources Management. This law established the Water Resources Management Agency (WARMA) and separated the regulation of water resources and WSS provision.</td>
</tr>
<tr>
<td>2011</td>
<td>National Urban Water Supply and Sanitation Programme for the period 2011 to 2030. The program consists of a set of institutional and sector support activities aimed at developing and sustaining water supply, sanitation, solid waste management, and drainage infrastructure and services in the urban areas of Zambia.</td>
</tr>
<tr>
<td>2016</td>
<td>Creation of the Ministry of Water Development, Sanitation and Environmental Protection. With the creation of this ministry, all urban WSS functions such as service provision and regulation were brought under one roof. However, CUs are owned by the local government.</td>
</tr>
<tr>
<td>2019</td>
<td>The Water Supply and Sanitation Services Bill confirms the institutional setup, with water and sanitation utilities, licensed by NWASCO and owned by local government, remains the primary driver of WSS service provision, with responsibility for both investment and operation of infrastructure.</td>
</tr>
<tr>
<td>2020</td>
<td>It is planned that the mandate of WSS utilities will be extended to provide services in rural areas.</td>
</tr>
</tbody>
</table>
Before the water sector in Zambia was reformed, it was characterized by a long list of weaknesses and gaps, such as a lack of guiding policies, very low cost-recovery of operations, a lack of clearly defined institutional arrangements and mandates, and a low level of investments. The urban water sector in Zambia has undergone important changes and modifications in the past 20 years.

The following is of particular significance in relation to this timeline.

**The drivers** underlying the establishment of the CUs (previously departments in local government) were the following: inefficiency of the local authorities, inadequate service provision, lack of investment in the water sector, and disease burden in terms of the outbreak of waterborne diseases. Other drivers include industrialization, mine development, population growth, and migrations from rural to urban areas. All these were drivers for the government to put in place measures for services to be provided effectively and efficiently at a sustainable level.1

It is 20 years since the establishment of seven CUs and over 10 years since the establishment of the other four, providing sufficient time to assess the progress of their performance over time.

Compared to the situation before 1994, the evidence shows that although the institutional reforms have resulted in increased investments and improved access, the results have been disappointing (see GIZ 2018 and chapter 2).

**A new national ministry.** The establishment of the MWDSEP is relatively recent (2016), and the responsibility for the NUWSSP has moved from the Ministry of Local Government to this ministry. The idea was to bring water under one umbrella—water resources management from the Ministry of Water and WSS services from the local government. The intention was to strengthen the link between water resources and water use.2

**The new Water Supply and Sanitation Bill of 2019 confirms the sector’s institutional design.**

It is planned to extend the mandate of the CUs to rural areas.

### 4.2 The Current Institutional Framework

The current institutional framework is shown in figure 4.1.

The functional allocation of responsibilities is shown in figure 4.2.

As shown in the figure, local governments own the CUs and appoint the boards (but not the chair), though appointments are vetted by the MWDSEP (currently named Ministry of Water Development and Sanitation). The role of local governments, and that of their parent ministry, with respect to the CUs, appears to be largely passive beyond this function.2 CUs appear to be more accountable to the regulator in terms of the license arrangements rather than toward their owner, the local authorities. (The issue of accountability is addressed in chapter 6.) Although, by law, local authorities are supposed to fund the CUs, this does not happen in practice because they are themselves short of funds. Local governments do not receive funds from the national government for investment in WSS outside of the project financing mechanisms described in chapters 2 and 5 of this report.
There is a clear split in functions—in the first instance between the policy, regulation, and service provision functions, and in the second instance, between the regulatory functions for water resources (Water Resources Management Authority, WARMA), water services (NWASCO), and environment (Zambia Environmental Management Agency, ZEMA).

While responsibility for service provision is devolved to local authorities, it is executed through the CUs in urban areas. The CUs are, therefore, the “engine” of service delivery for WSS services in urban areas. A key purpose of the CU is to translate investments into expanded and sustainable services to the urban and peri-urban populations within their areas of jurisdiction.

4.3 Binding Institutional Constraints?

The institutional model of public companies to provide services, a regulatory agency to approve tariffs and monitor standards and performance of the companies, and the ministry as a policymaker and a significant contributor (and/or mobilizer) of finance is a common arrangement for the provision of water...
and sanitation services in Africa, and is generally recognized as an appropriate enabling institutional structure (see, for example, GTZ 2008; GIZ 2018; World Bank 2016).

Nevertheless, there are three main concerns related to the institutional structure, as discussed below.

**The role of local government in the provision of services is ambiguous.** While local authorities are responsible for providing WSS services in terms of both policy and legislation (confirmed again in the 2019 bill), no finance is devolved to local authorities for this purpose. Instead, financing for the sector has, to date, been highly centralized through the national ministry responsible for water services and sanitation (previously the ministry responsible for local government, and from 2016 the MWDSEP). The 2019 bill is ambiguous with respect to how this might change in the future. The bill gives the water and sanitation utilities the power to raise finance and gives the national ministry (MWDSEP) the role of mobilizing finance. In the new arrangement, the role of the ministry responsible for local government appears to be passive, even though ownership (shareholding) of the water and sanitation utilities is vested with the local government. The minister of MWDSEP (and not the ministry responsible for local government) appoints the chair of the board and vets board members, whereas the minister responsible for local government appears to play no role. Local governments nominate board members to the companies that they own but appear to play no role in the financing of these entities (how the entities are financed and in financing decisions). This issue is addressed further in chapter 6 (Governance and Accountability).
The regulator was given a financing role, which contradicts the "separation of the functions" principle embraced as part of the 1994 reforms leading to the current institutional setup. The Devolution Trust Fund (DTF), a dedicated pro-poor financing mechanism, was affiliated to NWASCO, the regulator. (The fund is no longer active; see box 5.1.) This structure does not comply with the principle of separation of functions, in this case, between regulation and financing. A similar fund (the Water Services Trust Fund) was established in Kenya as an independent, separately governed trust (see GIZ 2018).

The intention to expand the mandate of the CUs to provide services in rural areas undermines the ability of these entities to be commercially and financially viable. This is a very significant concern. Zambia could do well to learn from the experience of Botswana’s Water Utility Corporation, whose performance and success was significantly compromised when it had to provide services beyond its original urban mandate. If the mandate of the CUs is restricted to urban areas, then it is both feasible and desirable to run these services in a financially viable way, with the CUs generating a cash surplus (after meeting their operating and maintenance costs) that can be used to contribute toward the capital costs. If, however, the mandate of the utilities is extended to rural areas, then it is much harder to impose and enforce a commercial discipline on the utilities, who will claim, with justification, that it is not possible to generate cash surpluses due to their service obligations in rural areas. This undermines the intention to achieve cost recovery of services, including a contribution toward capital costs, in the urban areas.

All three of these concerns relate to financing and are discussed further in chapter 5.

Notes
1. From discussion with government stakeholders (personal communication, June 2020).
2. Ibid.
3. Local government has the responsibility for both water supply and sanitation. The scope of services provided by the CUs includes both water supply and sanitation.
4. A public company refers to a government-owned entity typically established in terms of a specific statute or in terms of company law. In the case of Zambia, the utilities are established in terms of company law.
Chapter 5
Financing Architecture and Cost Recovery

5.1 Key Features of the Financing Architecture

Sector financing has been described in chapter 2. Key features of the financing architecture for the urban water supply and sanitation sector are summarized below.

- **Financing is strongly centralized.** Financing decisions are made by the responsible ministry (MWDSEP).

- **No financing for urban WSS appears to be provided through local government, even though local authorities are responsible for WSS provision.**

- **Financing is predominantly project-based and favors large projects focused on bulk infrastructure.** Finance is allocated on a project basis and not given to CUs to prioritize. The project management units manage projects in the ministry. Consequently, the CUs do not make investments in business improvements and other investments with high returns (see Commercial Utility Efficiency Study).

- **Financing is heavily dependent on development partners.** Eighty percent of the sector financing comes from development partners in the form of grants (25 percent) and loans (75 percent).

- **Government and development partner commitments are not consistent between years.**

- **The process and criteria for allocating finance are not transparent.** Criteria are not published, and there does not appear to be public consultation with the CUs and with communities.

- **There is no direct link between investment and the performance of the CUs.** Investments have been made, but performance improvements on the part of the CUs have been disappointing.

- **The pro-poor basket fund is not active.** A key mechanism to competitively and cost-effectively allocate funds toward increased access by the poor is no longer active (see box 5.1).

- **GRZ has minimal fiscal space for new loans, including concessional loans** (see section 2.7).

- **Reporting on actual investments made** and on the status of outstanding loans in the sector could be substantially improved.

- **There appears to be an absence of integrated investment plans at the CU level.**
The Devolution Trust Fund was established in 2006 by the regulator to assist the commercial utilities (CUs) in improving water supply and sanitation services. However, it is no longer active. The fund was a pro-poor basket fund established specifically for the purpose of providing funds to increase access to water supply and sanitation services in low-income peri-urban and urban areas, focusing on the “last mile” of the water network—service connections to improve access—and on household sanitation facilities. The fund also had a performance enhancement window to assist the CUs in improving their financial viability.

Proposals were submitted to the fund by the CUs and it assessed the proposals in terms of a predefined set of criteria (for example, cost per beneficiary and impact on coverage and health). The management of the project followed a well-defined project implementation framework. The CUs entered into a financing agreement with the fund, and funds were to be released to the utilities based on project milestones, including reporting on and accountability for expenditure. The utilities were responsible for implementation of the projects, with a project steering team comprising relevant community-based organizations and local authority representatives. The fund also provided support, and monitored project progress and outcomes.

According to the National Water Supply and Sanitation Council 2018 report, “a decision was made to commence the winding up of its operations within the course of 2019 mainly due to lack of funding.” Disagreements about the role of the fund, including its financing mechanisms coupled with the government’s low contribution to the fund, impeded the mobilization of adequate funds.

5.2 The Extent of Cost Recovery and Its Impact on Sector Sustainability

5.2.1 Tariff Setting

There is no strong link between tariff setting and efficiency. The process of tariff proposals and approvals is described in appendix E. The Diagnostic Report described NWASCO’s tariff-setting process as follows:

“NWASCO collects performance information from each CU and publishes annual reports of comparative performance. NWASCO also approves any proposed tariff increases put forward by CUs. A key focus in recent years for NWASCO is to promote the reduction of non-revenue water, but this has had little effect in practice, and NWASCO seems to have scope for applying relatively only limited incentives through imposing conditions on tariff increases. Tariffs approvals are related to specific improvements (e.g., making 1000 new connections), not overall performance. NWASCO’s annual reports’ main power is in ‘naming and shaming’ poor performers.”

The benchmarks may not be appropriate. The CU efficiency assessment suggests that the benchmarks, and hence the incentives used by NWASCO to encourage improved performance, are inappropriate.
5.2.2 Tariff Levels

Tariff levels remained more or less constant in real terms after 2013 (at about K 6/kiloliter [kl]) but then dropped in 2018 to K 5/kl (figure 5.1). In 2018 the average tariff per CU ranged between K 4/kl and K 8/kl. Tariffs increased by 53 percent in real terms (net of inflation) between 2008 and 2018.

Sewerage services are charged at 35 percent of the water tariff, with no clear linkage to the service’s actual costs.

If the objective of tariffs is only to cover the operating and maintenance costs of the service, then the tariff levels have been mostly adequate. The weighted average OCCR for all CUs was above one in 9 out of 10 years (figure 5.2a) and equal to or above one in 7 of the 11 CUs in 2018 (figure 5.2b).

**Figure 5.1.** Average Effective Tariff—All CUs (real, in 2018 K/kl, and nominal)

![Graph showing average effective tariff over years](image)

**Source:** NWASCO sector reports, calculated from billing revenue divided by water sales, adjusted for inflation.

**Note:** There may be a discontinuity between the data before and after, 2012/13.

**Figure 5.2.** Operating Cost Coverage Ratio, 2008–18

![Graph showing operating cost coverage ratio over years](image)

**Source:** NWASCO data.

**Note:** CU = commercial utility.
On the other hand, if the objective is for the sector to contribute toward capital costs, then the tariff levels are insufficient. In US dollar terms, the tariffs ranged from 28 to 70 US cents (figure 5.3). The tariffs would need to be closer to $1/kl in order to achieve an OCCR of 1.3 or more and in order to be able to make a significant contribution to capital costs.

5.3 Binding Constraints (Financing Architecture and Cost Recovery)

The level of investment is constrained by the tariff level. There is a direct link between the level of the tariff and the availability of finance. If CUs only recover operating and maintenance costs, and the tariff levels do not contribute to capital costs, then the availability of finance is entirely dependent on government and development partner contributions. Any concessional finance from development partners can only be passed on to the CUs as grants, and hence the repayment of the development partner loans must be paid back through tax revenue. On the other hand, if tariffs allow for a substantially positive OCCR, then a portion of the revenue from the tariffs can be used as the basis to raise additional finance in the form of loans (and/or to make a direct contributions to capital investment). Thus, more finance can be made available to the sector.

The assumption that the tariff level and hence the amount of investment (at current levels) are constrained by affordability is questionable. Experiences in other low-income countries have shown that tariffs of $1/kl or more can be implemented and sustained. In Senegal, for example, there is a high level of access to piped water in urban areas and an average tariff that is above $1/kl. In Zambia, household expenditure on cell phones exceeds that on piped water supply (see chapter 2).

There is a lack of clarity on objectives. The two objectives—universal access and commercial viability—appear to be set up in opposition to one another, whereas they could be complementary. It is assumed that water services cannot be afforded and therefore must be subsidized through fully subsidized
investments and through below-cost tariffs. This creates a dependency on grants and leads to the conclusion that the primary constraint is a lack of investment finance. However, allowing the CUs to operate with a substantially positive cost-coverage ratio will substantially increase the amount of investment finance available to the sector, allowing available grant finance to go further.

The current financing architecture does not link investment and performance; instead, it allows for investment to take place while poor performance persists. This is a significant issue. As stated in chapter 2, the Diagnostic Report estimated that during 2001–17, Zambia’s CUs lost an estimated $858 million due to high levels of NRW and low bill collection efficiency, creating a hidden fiscal burden making it harder to finance the sector. This loss is equivalent to about 20 percent of the total capital invested in NUWSSP to date. It is possible to change the financing architecture to address this problem (see chapter 7).
Chapter 6
Governance and Accountability

6.1 Four Lenses to Assess Governance and Accountability

6.1.1 Principles of Sound Governance

The Organisation for Economic Co-operation and Development (OECD 2016) published 12 principles for water governance in 2016 (figure 6.1). Relevant principles are used here to assess the state of governance in the urban water supply and sanitation subsector in Zambia.1

FIGURE 6.1. Overview of OECD Principles of Water Governance

Source: OECD 2016.
Note: OECD = Organisation for Economic Co-operation and Development.
6.1.2 The Long and Short Routes to Accountability

The World Bank’s (2004) Development Report, *Making Services Work for Poor People*, conceptualized an accountability framework that distinguished between a “long route” to accountability (through politics and citizen voice through elections) and a “short route” to accountability (through citizen and customer engagement with service providers), as shown in figure 6.2. This is used to analyze accountability in Zambia’s urban water supply and sanitation subsector.

6.1.3 Accountability, Transparency, and Accessibility

Naurin (2006) has shown that transparency is a necessary but not sufficient condition for accountability, and argues that accessibility (how information is communicated and publicized) is also important: “The common-sense idea that ‘if people can see what is going on, elite actors will have to shape up their acts’ is too simple a notion of the link between transparency and agency shirking. There is indeed a causal link, but it is a conditional one. Just making information available is not enough to affect agency behavior. There must also be a reasonable chance that the information actually reaches the public/principal and can be used for sanctioning shirking” (emphasis added).

6.1.4 Development Partner Accountability and Incentives

Development partners provide about 80 percent of the resources for capital investment in the WSS sector in Zambia. To what extent are development partners co-responsible and co-accountable for disappointing sector performance? This question is pertinent because 75 percent of the finance provided by development partners is in the form of repayable finance and because the financing architecture has been identified as one of the key binding constraints to improve performance.

6.2 Governance Assessment in Terms of the OECD Governance Principles

An assessment of governance in the urban water sector in Zambia is given with respect to relevant governance principles established by OECD in table 6.1. Green indicates that there is no concern, yellow is a moderate concern, and red is a significant concern with respect to that specific principle.
### TABLE 6.1. Governance Assessment

<table>
<thead>
<tr>
<th>Principle</th>
<th>Application in Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1. Clearly allocate and distinguish roles and responsibilities for water policy making, policy implementation, operational management, and regulation, and foster coordination across these responsible authorities.</td>
<td>There is a clear allocation of roles and responsibilities with separation of policymaking (ministry), regulation (National Water Supply and Sanitation Council, NWASCO), and operations (commercial utilities, CUs). The caveat was allocating a financing function (Devolution Trust Fund) to NWASCO, but the fund is no longer active.</td>
</tr>
<tr>
<td>#2. Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions and foster coordination between the different scales.</td>
<td>The CUs operate at an appropriate regional scale, neither large nor small. All have the potential to be financially viable and sustainable for the provision of urban water supply and sanitation services.</td>
</tr>
<tr>
<td>#3. Encourage policy coherence through effective cross-sectoral coordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning, and land use.</td>
<td>The role of local government does not appear to be well defined, and it appears to have a limited role in financing even though the local government is responsible and owns the CUs (see section 4.3).</td>
</tr>
<tr>
<td>#4. Adapt the level of capacity of responsible authorities to the complexity of water challenges to be met and to the set of competencies required to carry out duties.</td>
<td>The regulator has the necessary capability to fulfill its defined functions, and CUs have the potential to establish sufficient capability.</td>
</tr>
<tr>
<td>#5. Produce, update, and share timely, consistent, comparable, and policy-relevant data and information and use it to guide, assess, and improve policy.</td>
<td>Relatively good data published by the regulator (a significant improvement on the pre-reform situation, but some important gaps in reporting remain) (see section 6.4).</td>
</tr>
<tr>
<td>#6. Ensure that governance arrangements help mobilize water finance and allocate financial resources in an efficient, transparent, and timely manner.</td>
<td>Insufficient finance is mobilized, finance allocation is not transparent, and there is no direct link between finance and sector performance (investments are inefficient) (see sections 2.4 and 5).</td>
</tr>
<tr>
<td>#9. Mainstream integrity and transparency practices across policies, institutions, and governance frameworks for greater accountability and trust in decision-making.</td>
<td>There is room to improve transparency and corporate governance (see section 2.6).</td>
</tr>
<tr>
<td>#10. Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.</td>
<td>There is room to improve stakeholder engagement in planning and investment processes (see section 6.3).</td>
</tr>
<tr>
<td>#11. Encourage frameworks that help manage trade-offs across water users, rural and urban areas, and generations.</td>
<td>Intergenerational trade-offs are not managed due to under-resourced providers. Urban users are subsidized at the expense of poorer rural users (see section 2.4).</td>
</tr>
<tr>
<td>#12. Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments where needed.</td>
<td>There does not appear to be formal reporting and monitoring of sector progress at the national level (N WASCO performance reports only partially fulfill this role; see section 2.5).</td>
</tr>
</tbody>
</table>

### 6.3 Long and Short Routes of Accountability for Service Provision

The accountability framework adapted for the decentralized provision of services (in Zambia) is shown in figure 6.3.

The voice of citizens through the local government route to accountability appears to be weak, at least as this impacts on water services provision. Service provision is thus only notionally decentralized, as least as this applies to citizens’ voices.
The role of local government appears to be weak with respect to water services provided through the CUs, even though local governments own the CUs. Local governments do not, for example, have performance agreements with the CUs, nor do they play an active role in financing the providers. The regulator licenses the CUs and enters into service-level agreements with them. The national government (the minister) appoints the chair of the boards of the CUs and vets the board members nominated by the local government. Thus, the national government’s role (through the minister and the regulator) appears to be much stronger than the role of the local governments. This is exacerbated by the fact that the responsible minister is the minister responsible for water and not for local government (although previously, it was the minister responsible for local government that played that role).

In contrast to the relatively weak voice of citizens (through the long political routes to accountability), the client power of customers appears to be reasonably strong through the water watch groups (see box 6.1).
**BOX 6.1. Water Watch Groups Increase Citizen Oversight over Performance**

The regulator has established **water watch groups** to protect the interests of consumers, follow up on their complaints, and improve communication between consumers and providers. These are voluntary groups and comprise six to eight customers from a particular service area (typically a town). Their functions include holding public meetings with consumers, holding meetings to review/validate complaints, engaging in outreach and publicity programs, and submitting periodic reports.

The groups receive support from the regulator, including training and some basic administrative support but are not paid. Clear criteria for eligibility have been established. The regulator’s experience with the watch groups has confirmed that consumer involvement is key to the success of water sector reforms. However, the watch group members need to be committed, and must operate in terms of clear objectives. These groups are particularly important in low-income urban areas, where the quality of service provision usually lags behind. The watch groups ensure that consumer complaints are taken seriously. Where utilities fail to do so, the regulator reports this failure publicly and the utility is fined.

### 6.4 Transparency and Accessibility

Notwithstanding the important gains made in the transparency and accessibility of reporting by NWASCO, there are still some important gaps:

- There is a low level of visibility with respect to the CU board, CEO appointment processes, and the status of the boards and CEOs.

- Annual reports and audited financial statements of the CUs are required to be kept at the offices of the CUs, and NWASCO holds copies of these reports, but they are not accessible to the public via the utility websites.

- Criteria for financial allocations and investment decisions are not transparent, and reporting on actual investments is not readily accessible.

### 6.5 Cooperating Partners and Accountability

#### 6.5.1 Development Finance Institutions and Financing Incentives

It could be argued that there is a symbiotic relationship between governments and development finance institutions in light of the point made by Martin Ravallion, namely, that arrangements persist because of the interests they serve (Ravallion, 2016). Incentives operate at both the institutional level as well as within institutions.

The primary modalities of development finance have been around for a long time—sovereign guarantees, concessional loans to the treasury, on-lending (or not) within government and to entities, underpinned in the case of infrastructure by project-based lending and the use of project management units.
within the central government. More recently, the Bank has published a series of papers on urban water sector financing that seeks to address the constraints, and limited impacts of conventional development finance and new financing instruments are being proposed and used (World Bank 2019). For example, the World Bank introduced the Program-for-Results instrument in 2012, emphasizing a programmatic approach, strengthening country institutions, and incentivizing development results.

6.5.2 The Relationship between Cooperating Partners and the Government of Zambia

There are many actors involved in supporting the WSS sector in Zambia, and collectively these actors contribute about 80 percent of the total financing in the sector.2

Recently, a sector coordination framework was developed and finalized (GRZ, 2020). Notably, the extensive list of contributors to the development of the framework did not include the World Bank and the African Development Bank, two very significant contributors to WSS infrastructure finance, particularly with respect to loan finance.

The framework establishes principles of cooperation, structures for dialogue and reporting, processes for monitoring and evaluation, and a menu of financing options. The ministry is to play the lead role.

The framework recognizes that “periodic joint monitoring and evaluation are crucial for determining whether progress is being made and in the right direction” (GRZ, 2020) and commits to undertaking joint monitoring and evaluation but is vague as to the contents of this monitoring framework.

The use of country systems is emphasized: “Partners should commit to fostering national ownership through the Ministry. This includes supporting the Ministry to address all development challenges effectively. Particularly, Partners should aim to minimize conditionalities and create parallel structures and systems but positively contribute to the national effort to build capacity for managing the sector development.” “All programs and projects in the sector should utilize the country systems for planning, accounting, procurement, auditing, monitoring and evaluation or any other relevant procedures, with cooperating partners endeavoring to adhere to this to the maximum extent possible” (GRZ, 2020).

Existing structures and modalities for an engagement at the sector level will largely be sustained under the sector coordination framework but be subject to reviews.

A menu of financing arrangements is set out, including general budget support, sector budget support, basket funds, project finance (earmarked through budget or direct project finance), and public-private partnerships.

Procurement systems: “Government procurement systems will be used to manage procurements in accordance with prevailing Acts such as the Public Procurement Act No. 15 of 2011 and the Procurement and Disposal of Public Assets Act No. 9 of 2005 and their regulations and procedures” (GRZ, 2020).

6.5.3 Comment on the Cooperating Framework

The framework says many of the right things but is short on specifics, and it is too early to assess to what extent this coordination framework will address the concerns highlighted in this report, specifically the absence of a link between investments and performance improvements.
6.6 Overall Assessment of Governance and Accountability

6.6.1 Strong Foundations

From a governance and accountability perspective, the sector reforms starting in 1994 established good foundations, with some caveats.

A professionalized, well-governed regulator. The Water Supply and Sanitation Act (and the more recent Water Supply and Sanitation Services 2019 Bill) sets out clear processes and requirements for the appointment of the council members governing the regulator. This, together with the appointment of suitably qualified CEOs, with a long tenure, has enabled the establishment and ongoing operation of a stable, competent, and effective regulator (operating within its mandate and powers). Caveat: the regulator’s mandate may be too narrow (no reporting on investment), and the same governance principles and practices have not been applied to the CUs.

The regulator sheds light on CUs’ performance. The sector reports are published annually, are available on the regulator’s website, and are of good and consistent quality. Caveat: NWASCO mandate does not extend to reporting on sector financing, and investments and its uniform benchmarks may not be appropriate.

Tariff-setting processes are transparent and consistent. With the publishing of the tariff-setting guidelines in 2014, the tariff process has become more consistent and transparent. Caveat: Tariff setting has not resulted in significantly positive operating cost coverage ratios necessary for the sector to contribute substantially toward the costs of investments.

CUs have been established with governing boards. The CUs are licensed and regulated entities who must report on their performance to the regulator, and who are answerable to their boards, and whose tariffs are set in terms of a transparent and consistent process. Caveat: The process of appointing boards is not transparent, boards frequently have not been active for extended periods of time, and there appear to be no guidelines and requirements to ensure a professional, effective board is in place. (Local governments establish the process in the Companies’ Articles of Association, but these are not readily accessible.)

Water watch groups may increase the accountability of the CUs to customers (see box 6.1).

6.6.2 Binding Constraints (Governance and Accountability)

Partial devolution weakens the accountability of local government for service provision. Although responsibility for WSS is devolved to local government (in terms of both policy and law), financing remains highly centralized and is not allocated in transparent and clear processes and criteria. Local governments, therefore, cannot be held fully accountable for outcomes because financing is significantly outside of their control and is not predictable.

The financing architecture does not support the efficient allocation of finance, and there are important shortcomings related to accountability for investment effectiveness and performance. There are no transparent and clear criteria and mechanisms for allocating finance in the sector. Overall sector-wide reporting on outcomes, specifically how investments have been spent, is not readily accessible. And there is little transparency in the reporting on the status of sector debt and how loans are repaid. There is no direct link between financing and CU performance.
There appear to be weaknesses with respect to CU corporate governance. In particular, transparency could be significantly improved. There are no clear national guidelines and regulated procedures for the appointment of CU board members and CEOs, ensuring professionalization and an absence of politicization. The national minister appears to play a significant role even though local governments own the companies. The appointment processes established through the Articles of Association for each company are not readily accessible.

Although a sector coordination framework has recently been finalized, important development financiers were not included in the process, and core issues, such as criteria for the allocation of finance, details on monitoring and evaluation, and associated reporting, were not addressed. It is also too early to assess the efficacy of this coordination framework.

Notes

1. The principles apply to the full water change, from “source to sea”; therefore, not all of the principles are relevant to the urban water supply and sanitation subsector.

2. An overview of sector stakeholders is given in appendix F.

3. Since its operationalization in 2000, NWASCO has had only two CEOs: Oswald Chanda (2000 to 2009) and Kelvin Chitumbo (2010 to date). Annual reports are available on its website from 2004.
Chapter 7
Recommendations

7.1 Solutions Framework and Matrix

A solutions framework and matrix were developed to address the identified constraints and are set out in appendix H. The solutions vary in the degree of political commitment required and the time to implement.

7.2 Main Recommendations

The main recommendation, abstracting from the solutions framework and matrix, are presented below. The recommendations are framed in terms of a relative assessment of the level of political commitment and time required to implement the recommendations (figure 7.1). These recommendations are drawn from a more comprehensive set of possible solutions identified in the main report.

FIGURE 7.1. Recommendations for Consideration

Key
- Policy, legislation, regulations
- Institutional architecture
- Financing architecture
- Managerial and technical
- GRZ
- DFIs

Note: CU = commercial utility; DFI = development finance institution; GRZ = Government of Zambia; TA = technical assistance.
1. **Confine CU mandate to urban areas and establish a clear policy on cost recovery for urban WSS.** The World Bank should engage with GRZ and make a case for the importance of confining the mandate of the CUs to urban areas and establishing a clearly defined policy on cost recovery (with a well-defined practical articulation of setting tariffs and user charges). In the absence of both of these, it is hard to see how the financing of the urban water supply sector could become more financially sustainable, since it will continue to be heavily dependent on donor finance and limited budget allocations from GRZ. This will negatively affect the whole sector. To the extent that the urban sector absorbs limited funds from donors and the government budget, less money will be available for rural WSS. Any loans made to the sector will need to be guaranteed by the Ministry of Finance and will have to be repaid from government tax revenues. The alternative will lead to much better outcomes. It is entirely feasible for the urban water supply and sanitation sector to make a substantial (albeit not full) contribution toward the capital costs of investments in the sector, especially for the rehabilitation and replacement of existing infrastructure. When this contribution is made, it will enable loan finance to be used and repaid, expanding the pool of available finance for the sector. These two reforms are by far the most important and will require a significant level of political commitment because they go against the grain of recent trends in the sector in Zambia. Without these reforms, providing further loan finance will support and perpetuate the unsustainable status quo.

2. **Ensure sound corporate governance of CUs.** The World Bank should engage with GRZ and make a case for the importance of improving the governance of the CUs. The “technical” changes are easy to make—best practices are readily available to emulate, and criteria and processes can be promulgated through regulations. However, these changes will limit the existing discretion and power on the part of the minister responsible for water. Political commitment will be required to put in place appropriate rules and regulations and honor them in practice.

3. **Establish transparent criteria and processes related to the allocation of finance and reporting on investments.** Allocations of finance are ostensibly based on need and equity. There is no link between investments and performance improvements, and very little attention has been given to investment effectiveness and value for money. The World Bank should engage with GRZ to establish criteria and processes for the allocation of finance that meet the dual objectives of both equity and efficiency. While there may be a trade-off between these two objectives, both are important. Consideration could be given, for example, to establishing two separate funding pools and streams, each of which privileges one of these objectives. In other words, a funding pool could be established that is specifically oriented to achieving performance improvements and incentivizing value for money, and another pool for promoting access and equity. Increasing transparency in these processes will likely lead to more accountability and better outcomes. The sector coordination framework needs to be expanded to include the main development finance institutions and needs to be more specific on the monitoring and reporting on actual investments made at the country level.

4. **Create an escrow account (for the capital cost contribution) for each CU and require a proportion of revenue to be deposited in the account. Amend the tariff regulations to specify this.** An observed
phenomenon, not unique to Zambia, is that the additional revenue arising from tariff increases tends to get absorbed by increases in operating costs and that the intended contribution to capital costs, used to justify the tariff in the first place, does not materialize. One way to prevent this from happening is to require a proportion of tariff revenue to be deposited into an escrow account that can only be used for contributions to capital costs (either directly or for the repayment of loans). This mechanism has been used successfully in Jamaica (e.g., OECD 2019). When tariffs are approved, the regulator can determine a factor to be applied to the tariff revenue that is to be set aside as a contribution to capital costs. This would need to be set out in tariff regulations and related regulatory processes. This reform could make a major contribution to improving the sector’s financial sustainability. This is a significant reform and would require a high level of political commitment to implement.

5. **Offer a technical-assistance-led competitive funding mechanism with small, sequenced investments to improve CU performance and establish creditworthiness.** The chronic inefficiencies in the CUs mean that there are “low-hanging fruits” for small investments with high returns that would improve each utility’s performance and move it toward becoming more financially sustainable and eventually creditworthy. The World Bank’s assessment of the efficiency of the CUs indicated that the knowledge and skills to do this were limited. The World Bank should consider working with GRZ to establish a “commercial utility performance fund,” which offers a combination of technical assistance and modest and incremental investment finance on a competitive basis to CUs. Utilities would need to apply for the funding. In order for this fund to be effective, the utilities would need to demonstrate (upfront and/or during the process) a commitment to sound governance and effective management. The aim would be for the fund to work with the utility to put it on a path of financial sustainability and achieve creditworthiness so that it would be able to take up and effectively use larger amounts of investment finance to meet its service goals sustainably. Some precedents for this approach exist: the Azure model in El Salvador, KfW’s Investment Financing Facility, and the Urban Water Catalyst Fund concept.

6. **Offer technical assistance in the form of capacity building and training related to management and systems improvements, investment appraisal, optimization and related areas.** The 2019 bill states that “the board of water supply and sanitation utilities shall ensure the water supply and sanitation utility builds sufficient human resource and technical capacity for an efficient undertaking of the utility’s business.” The World Bank could offer or arrange technical assistance in the form of capacity building and training to support this. The training could focus on management training, investment proposal development and appraisal, utility operational efficiencies, systems improvement, and related organizational and technical matters. The CU efficiency assessment recommended a specific training program to create the necessary hydraulic modelling, monitoring, and GIS capabilities in the CUs. This training could be complemented with, or substituted by, other initiatives such as water operator partnerships.

7. **Deepening fiscal decentralization.** Legislative decentralization has not been accompanied by any significant fiscal decentralization in Zambia (ICLD 2019). Consequently, local authorities have the
legal responsibility for WSS but do not receive resources from the national government to implement this mandate to any significant extent. While the Local Government Equalisation Fund is intended to support fiscal decentralization, the fund does not play this role in practice, at least with respect to WSS. Deepening fiscal decentralization in Zambia through structural reforms beyond the Local Government Equalisation Fund is a major reform exercise and would require a high level of political commitment. The World Bank could engage with GRZ on the merits of further fiscal decentralization as part of an urban reform agenda that would, in turn, affect the urban WSS sector.

Notes
1. The Devolution Trust Fund was intended to facilitate value for money investments in improving access to WSS through a competitive selection process.

2. The World Bank assessment of CU efficiency recommended the development of a “funding package to empower the CUs to prioritize, program and design appropriate and cost-effective interventions which yield tangible economic benefits which can fund other efficiency-yielding interventions in the future without the need to resort to expensive external consultants.”


6. See, for example, GWOPA (https://gwopa.org) and WaterWorx (https://www.vei.nl/projects/waterworx).

7. “Provision is made in the constitution for a Local Government Equalisation Fund, to which the national government is to contribute, to provide for such grants. An amendment to the Act has been proposed to give effect to that provision, and would require at least 5 percent of national revenues to be paid into the fund; this amendment has, however, after many years in the pipeline, still not been passed” (ICLD 2019).
References


Appendix A
Access to Piped Water in Urban Areas

**Figure A.1. Access to Piped Water in Urban Areas**

![Water connections per 100 people served](image1)

- **Mulonga**
- **Southern**
- **NorthWestern**

![Water connections per 100 people served](image2)

- **Lusaka**
- **Nakana**
- **Eastern**

![Water connections per 100 people served](image3)

- **Kafubu**
- **Lukanga**
- **Chambesi**
- **Western**
- **Luapula**
- **Average all CUs**

**Population served**

- **Total (All CUs)**

**Domestic water connections**

- **Total (All CUs)**

Source: NWASCO.
### TABLE A.1. Access to Piped Water in Urban Areas

<table>
<thead>
<tr>
<th>Source</th>
<th>Type</th>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHS02</td>
<td>Survey</td>
<td>2002</td>
<td>82</td>
</tr>
<tr>
<td>LCMS02</td>
<td>Survey</td>
<td>2002</td>
<td>80</td>
</tr>
<tr>
<td>WHS03</td>
<td>Survey</td>
<td>2003</td>
<td>76</td>
</tr>
<tr>
<td>LCMS04</td>
<td>Survey</td>
<td>2004</td>
<td>76</td>
</tr>
<tr>
<td>LCMS06</td>
<td>Survey</td>
<td>2006</td>
<td>79</td>
</tr>
<tr>
<td>MIS06</td>
<td>Survey</td>
<td>2006</td>
<td>84</td>
</tr>
<tr>
<td>DHS07</td>
<td>Survey</td>
<td>2007</td>
<td>76</td>
</tr>
<tr>
<td>MIS08</td>
<td>Survey</td>
<td>2008</td>
<td>73</td>
</tr>
<tr>
<td>ZSB509</td>
<td>Survey</td>
<td>2009</td>
<td>76</td>
</tr>
<tr>
<td>LCMS10</td>
<td>Survey</td>
<td>2010</td>
<td>71</td>
</tr>
<tr>
<td>CEN10</td>
<td>Census</td>
<td>2010</td>
<td>66</td>
</tr>
<tr>
<td>MIS10</td>
<td>Survey</td>
<td>2010</td>
<td>78</td>
</tr>
<tr>
<td>DHS14</td>
<td>Survey</td>
<td>2014</td>
<td>73</td>
</tr>
<tr>
<td>LCMS15</td>
<td>Survey</td>
<td>2015</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: JMP survey data.
Appendix B
Sector Budgets and Cooperating Partner Contributions

**TABLE B.1. Zambian Government Budget Allocation to Water Supply and Sanitation**

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget (K million)</th>
<th>7th National Development Plan (required)</th>
<th>% National Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>126</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>285</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>541</td>
<td></td>
<td>1.2</td>
</tr>
<tr>
<td>2016</td>
<td>284</td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>2017</td>
<td>392</td>
<td></td>
<td>0.6</td>
</tr>
<tr>
<td>2018</td>
<td>565</td>
<td>818</td>
<td>0.8</td>
</tr>
<tr>
<td>2019</td>
<td>1,980</td>
<td>817</td>
<td>2.3</td>
</tr>
<tr>
<td>2020</td>
<td>2,620</td>
<td>3,800</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: GRZ budget.

*Note: Includes some but not all development partner contributions.*

**TABLE B.2. Allocations and Disbursements by Cooperating Partner for Urban and Rural WSS ($)**

<table>
<thead>
<tr>
<th>Implementing/Funding Entity</th>
<th>2015-17</th>
<th>2018-22</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plan 2017-22</td>
<td>Actual</td>
</tr>
<tr>
<td>ADRA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFD</td>
<td>69,184,853</td>
<td></td>
</tr>
<tr>
<td>BADEA</td>
<td>22,700,000</td>
<td></td>
</tr>
<tr>
<td>BORDA</td>
<td>220,000</td>
<td>194,700</td>
</tr>
<tr>
<td>CARE International</td>
<td>531,795</td>
<td>531,795</td>
</tr>
<tr>
<td>Chinese Government</td>
<td>21,019,563</td>
<td></td>
</tr>
<tr>
<td>CRIDF</td>
<td></td>
<td>5,000,000</td>
</tr>
<tr>
<td>DANIDA</td>
<td>78,000,000</td>
<td></td>
</tr>
<tr>
<td>DTF</td>
<td>16,279,070</td>
<td></td>
</tr>
<tr>
<td>Dutch Government</td>
<td>533,333</td>
<td></td>
</tr>
<tr>
<td>Exim Bank of China</td>
<td>119,500,000</td>
<td>104,000,000</td>
</tr>
<tr>
<td>GIZ</td>
<td>2,674,419</td>
<td>2,674,419</td>
</tr>
<tr>
<td>GRZ</td>
<td>114,000,000</td>
<td></td>
</tr>
<tr>
<td>ILO</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>JICA</td>
<td>743,090</td>
<td>743,090</td>
</tr>
<tr>
<td>Keepers Zambia</td>
<td>680,000</td>
<td></td>
</tr>
</tbody>
</table>

*Continued*
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KfW</td>
<td>76,041,000</td>
<td>30,657,800</td>
<td>9,656,000</td>
<td>149,551</td>
</tr>
<tr>
<td>Living Water Int.</td>
<td>3,010,886</td>
<td>149,551</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA</td>
<td>292,000,000</td>
<td>73,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OXFAM</td>
<td>8,800,000</td>
<td>8,800,000</td>
<td>6,600,000</td>
<td>1,100,000</td>
</tr>
<tr>
<td>Plan International</td>
<td>995,950</td>
<td>695,926</td>
<td>4,473,600</td>
<td>486,352</td>
</tr>
<tr>
<td>PPHPZ</td>
<td>2,560,000</td>
<td>1,290,000</td>
<td>480,000</td>
<td>220,000</td>
</tr>
<tr>
<td>ROCS</td>
<td>1,300,000</td>
<td>1,300,000</td>
<td>740,000</td>
<td>600,000</td>
</tr>
<tr>
<td>SNV</td>
<td>4,142,825</td>
<td>4,142,825</td>
<td>1,119,070</td>
<td>1,119,070</td>
</tr>
<tr>
<td>UNICEF</td>
<td>25,000,000</td>
<td>0</td>
<td>5,000,000</td>
<td></td>
</tr>
<tr>
<td>USAID</td>
<td></td>
<td></td>
<td>4,000,000</td>
<td></td>
</tr>
<tr>
<td>Village Water, Zambia</td>
<td>589,081</td>
<td>65,148</td>
<td>461,959</td>
<td>409,178</td>
</tr>
<tr>
<td>WASAZA</td>
<td></td>
<td></td>
<td>360,000</td>
<td>260,000</td>
</tr>
<tr>
<td>WaterAid</td>
<td></td>
<td></td>
<td>350,000</td>
<td></td>
</tr>
<tr>
<td>World Vision International</td>
<td>28,600,000</td>
<td>28,600,000</td>
<td>24,000,000</td>
<td>5,400,000</td>
</tr>
<tr>
<td>World Bank</td>
<td>15,000,000</td>
<td>15,000,000</td>
<td>50,000,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td>WSUP</td>
<td>1,644,052</td>
<td>1,442,342</td>
<td>893,727</td>
<td>331,947</td>
</tr>
<tr>
<td>Zambia Red Cross</td>
<td>477,110</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIB and AFD</td>
<td>87,790,698</td>
<td>87,790,698</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIB</td>
<td>47,674,400</td>
<td>71,511,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1,038,001,237</strong></td>
<td><strong>200,138,044</strong></td>
<td><strong>1,663,297,676</strong></td>
<td><strong>21,395,352</strong></td>
</tr>
</tbody>
</table>

Source: Updated Water Supply and Sanitation Sub-Sector Partner Mapping (GIZ 2018). (ADDED TO ACRONYMS)

Limitations:

- Among the participating stakeholders who submitted their responses, there are incidences of funds by one partner being implemented by another partner, and there could be duplication.
- While most respondents submitted their committed financial resources, most did not have a breakdown by component supported and did not submit the funds disbursed.
- Nearly all respondents submitted block committed amounts for multiyear projects, not year-by-year amounts.
### Appendix C

**Evolution of Water Policy in Zambia**

<table>
<thead>
<tr>
<th>Year</th>
<th>Policy</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>A water policy statement was issued by the Water Ministry, calling for changes in water management.</td>
<td>NWASCO 2004</td>
</tr>
<tr>
<td>1991</td>
<td>Review of International Drinking Water Supply and Sanitation Decade in Zambia by National Action Committee led to recommendations for reforms.</td>
<td>NWASCO 2004</td>
</tr>
<tr>
<td>1994</td>
<td>Launch of Water Policy which sets out the seven guiding principles for the water sector (see main text).</td>
<td>NWASCO 2004, GRZ 1994</td>
</tr>
<tr>
<td>2002</td>
<td>Decentralization policy, confirming the devolution of water supply and sanitation (WSS) functions to local authorities.</td>
<td>UNDP 2009</td>
</tr>
<tr>
<td>2006</td>
<td>In Zambia’s Vision 2030 long-term development plan, the Government of Zambia clearly articulates access to quality water services as a priority issue for economic development and poverty reduction.</td>
<td>GRZ 2006</td>
</tr>
<tr>
<td>2006</td>
<td>With urban WSS successfully commercialized, WSS in the rural areas was under the purview of local authorities. A National Rural Water Supply and Sanitation Programme (NRWSSP) was developed from 2006 to 2015 to cater to the provision of water and sanitation services in rural areas.</td>
<td>NWASCO 2018</td>
</tr>
<tr>
<td>2010</td>
<td>Revision of the 1994 National Water Policy. The policy was revised but kept its core principles. The revision primarily looked at water resources management and entailed the provision of a comprehensive framework for sustainable development, management, and utilization of water resources.</td>
<td>GRZ 2010</td>
</tr>
<tr>
<td>2010</td>
<td>National Urban Water Supply and Sanitation Programme (NUWSSP) for the period 2011 to 2030. The program consists of a set of institutional and sector support activities aimed at developing and sustaining water supply, sanitation, solid waste management, and drainage infrastructure and services in the urban areas of Zambia (no policy changes).</td>
<td>NWASCO 2018</td>
</tr>
<tr>
<td>2015</td>
<td>National Water Supply and Sanitation Capacity Development Strategy (2015 – 2020). To operationalize the Capacity Development components of the NRWSSP and NUWSSP, the Ministry of Local Government and Housing has taken the initiative to develop a Capacity Development Strategy to guide the implementation of Water Supply, Sanitation and Solid Waste capacity development activities</td>
<td>GRZ 2015b</td>
</tr>
<tr>
<td>2017</td>
<td>7th National Development Plan 2017-21: The third development outcome in the plan calls for “improved access to water supply and sanitation” (no policy changes).</td>
<td>GRZ 2017</td>
</tr>
<tr>
<td>2018</td>
<td>The NRWSSP, which was implemented from 2006 to 2015, was replaced with a new framework—Rural Water Supply and Sanitation: Framework for Provision and Regulation.</td>
<td>NWASCO 2018</td>
</tr>
<tr>
<td>2018</td>
<td>The Urban Onsite and Faecal Sludge Management Framework for Provision and Regulation.</td>
<td>NWASCO 2018b</td>
</tr>
<tr>
<td>2019</td>
<td>National Rural Water Supply and Sanitation Programme (NRWSSP) 2019 - 2030. The program builds on the successes of the first phase of the National Rural Water Supply and Sanitation Programme from 2006 to 2015. The overall objective of NRWSSP 2019 to 2030 is to ensure “sustainable and equitable access to safe water supply and adequate sanitation to meet basic needs for improved health and poverty alleviation among Zambia’s rural population in line with the Vision 2030 and the Sustainable Development Goals.”</td>
<td>GRZ 2019</td>
</tr>
</tbody>
</table>
Appendix D
The Evolution of Legislation and Statutory Instruments

Legislation and statutory instruments are set out in table D.1.

The Statutory Instrument No. 63 mandated NWASCO to establish guidelines for the tariffs charged for water supply and sanitation services. A further amendment was made in 2003 that introduced monthly license fees for noncommercial utility providers.

A statutory instrument was passed in 2011 to mandate local authorities to undertake activities related to solid waste management. Providing further for sanitation-related issues, the Environmental Management Act No. 12 set up the Zambia Environmental Management Agency (ZEMA) and laid out regulations for wastewater treatment and discharge. In 2013, a statutory instrument under the Environmental Management Act was issued to further mandate ZEMA to regulate the transport and disposal of wastewater into the environment.

<table>
<thead>
<tr>
<th>Year</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>Water Act 1949 (1949) consolidates the law concerning the ownership, control, and use of water. Its sphere of influence excluded the Western Province, the Zambezi and Luapula rivers, and a portion of Luangwa River.</td>
</tr>
<tr>
<td>1991</td>
<td>Local Government Act Cap 281 of the Laws of Zambia (1991) confers the responsibility for providing sanitation to the local authorities. The law states that the government shall make specific grants from the national coffers to local authorities to discharge its functions, whereby the law specifically mentions water supply and sanitation (WSS) as one of the functions.</td>
</tr>
<tr>
<td>1995</td>
<td>The Public Health Act Chapter 295 of the Laws of Zambia (Part IX) (1995) states that it is the duty of local authorities to take all lawful, necessary, and reasonably practicable measures regarding water and food supplies.</td>
</tr>
<tr>
<td>1997</td>
<td>Water Supply and Sanitation Act No. 28 (1997) establishes the National Water and Sanitation Council (NWASCO) and defines its functions: to provide for the establishment of local authorities of WSS utilities, licensing of utilities, and sustainable WSS. The act also mandates NWASCO to regulate WSS provision in urban, peri-urban, and rural areas.</td>
</tr>
<tr>
<td>2000</td>
<td>Statutory Instrument No. 63 under the Water Supply and Sanitation Act (2000) set out the regulations on the licensing of WSS utilities and service providers. These regulations stipulate various general license conditions, which apply to all WSS service providers. Also, the regulations require NWASCO to establish guidelines for the tariffs charged for WSS services.</td>
</tr>
<tr>
<td>2011</td>
<td>The Water Resource Management Act No. 21 of 2011 (2011) establishes the Water Resources Management Authority and defines its functions and powers: to provide for the management, development, conservation, protection, and preservation of the water resource and its ecosystems; and to provide for the equitable, reasonable, and sustainable utilization of water resources.</td>
</tr>
</tbody>
</table>

Continued
<table>
<thead>
<tr>
<th>Year</th>
<th>Legislation</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Statutory Instrument No. 100 of 2011 provides for local authorities to undertake activities related to solid waste management.</td>
<td>GRZ 2011</td>
</tr>
<tr>
<td>2011</td>
<td>Environmental Management Act No. 12 lays some of the groundwork for regulating wastewater. The act maintains that local authorities shall ensure that &quot;waste effluents are treated or are so modified as to comply with prescribed standards before final disposal.&quot; Besides, the act renamed the existing Environmental Council to the Zambia Environmental Management Agency (ZEMA), which is the agency responsible for regulating wastewater by certifying inspectors and administering fines when established effluent standards are not followed.</td>
<td>GRZ 2011</td>
</tr>
<tr>
<td>2013</td>
<td>Statutory Instrument No. 112 of 2013, under the Environmental Management Act, gives ZEMA the mandate to regulate the transport and disposal of wastewater into the environment and set criteria for effluent classification. The statutory instrument also establishes that ZEMA may set requirements and standards for effluent treatment facilities, particularly to ensure that effluent discharge operations &quot;are conducted in a manner that protects human health.&quot;</td>
<td>GRZ 2013, p.751</td>
</tr>
<tr>
<td>2017</td>
<td>Companies Act No. 10 of 2017 replaces the Companies Act Cap 388. The commercial utilities are established in terms of the Companies Act. The generic qualification to be a director is set out in the Companies Act, and further qualifications can be set out in the individual company’s articles of association.</td>
<td>GRZ 2017</td>
</tr>
</tbody>
</table>
Appendix E
The Tariff-Setting Process for Commercial Utilities

The criteria to be considered in proposing and approving tariffs are set out in the 2019 Bill and are described in section 3.2. The process and guidelines below will need to be revised in light of the 2019 Bill.

NWASCO is mandated to develop tariff-setting guidelines, vet tariff applications, and make subsequent approvals. NWASCO issued comprehensive tariff setting guidelines in 2014. The guidelines outline the principles of tariff setting, the application process to be followed by providers, and how tariff proposals are assessed (NWASCO 2014). Comprehensive tariff applications can be approved for one to three years (NWASCO 2018).

The following objectives inform the process:

1. **Financial sustainability of utilities**—providing enough revenues to cover the justified cost obligations for sustainable WSS service provision.

2. **Distributive justice and affordability of WSS**—ensuring a minimum quantity of water is accessible at an affordable price, particularly to low-income consumers.

3. **Consumer protection, economic efficiency, and fair pricing**—protecting consumers from paying for inefficiencies of service providers and unfair charges and ensuring value for money.

4. **Transparency of the process**—ensuring it is simple to understand and predictable.

There are 15 steps to be undertaken within a period of one year in the application, processing, review, and approval of the tariff application (figure E.1).
FIGURE E.1. The Tariff Application and Approval Process

- Notify NWASCO of intent to submit tariff adjustment proposal.
- Adjust tariffs based on the outcome of stage 2.
- First screening of proposal by NWASCO.
- CU presents proposal to NWASCO management. Feedback provided.
- Amendment and submission. Additional documents added in needed.
- Undertake consumer consultations and negotiate with non-domestic consumers.
- NWASCO presents proposal to the AFC.
- Communication of council decision to the CU.
- CU is informed of the recommendation to be made to the Administration and Finance Committee (AFC) for their comments.
- NWASCO takes into consideration the recommendations of the AFC.
- CU advertises new tariffs in electronic and print media. At least 30 days before implementation.
- An appeal will be considered within 30 days. If appeal is rejected, CU can appeal to the water Ministry.

Note: CU = commercial utility; NWASCO = National Water Supply and Sanitation Council.
Appendix F
Stakeholders

The mapping of stakeholders involved in the WSS sector is illustrated in figures F.1 and F.2.

**FIGURE F.1. Stakeholder Mapping**

<table>
<thead>
<tr>
<th>STATE/GOVERNMENT INSTITUTIONS</th>
<th>NON-STATE/GOVERNMENT INSTITUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International actors</strong></td>
<td></td>
</tr>
<tr>
<td>Chinese government</td>
<td>Bi/Multi-lateral institutions</td>
</tr>
<tr>
<td>Dutch government</td>
<td></td>
</tr>
<tr>
<td>Auxiliary ministries (MoH, MoE etc.)</td>
<td></td>
</tr>
<tr>
<td>MWDSEP</td>
<td>NGOs</td>
</tr>
<tr>
<td>NWASCO</td>
<td>Academic institutions</td>
</tr>
<tr>
<td>MLG</td>
<td></td>
</tr>
<tr>
<td>WSS</td>
<td></td>
</tr>
<tr>
<td><strong>National actors</strong></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td><strong>Provincial actors</strong></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Local actors</strong></td>
<td></td>
</tr>
<tr>
<td>Local government authorities (LGAs)</td>
<td></td>
</tr>
<tr>
<td>V-WASHE</td>
<td>Commercial utilities (CU)</td>
</tr>
<tr>
<td>D-WASHE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: CBO = community-based organization; DANIDA = Danish International Development Agency; D-WASHE = district water, sanitation and hygiene; MLG = Ministry of Local Government; MoE = Ministry of Energy; MoH = Ministry of Health; MWDSEP = Ministry of Water Development, Sanitation and Environmental Protection; NGO = nongovernmental organization; NWASCO = National Water Supply and Sanitation Council; USAID = United States Agency for International Development; V-WASHE = village water, sanitation and hygiene; WSS = water supply and sanitation.
These mappings can be used to identify stakeholders to consult with on the findings of this report and the recommendations made.

**FIGURE F.2. Stakeholder Interaction**

Note: CBO = community-based organization; D-WASHE = district water, sanitation, and hygiene; MLG = Ministry of Local Government; MWDSEP = Ministry of Water Development, Sanitation and Environmental Protection; NGO = nongovernmental organization; NWASCO = National Water Supply and Sanitation Council; V-WASHE = village water, sanitation, and hygiene; WSS = water supply and sanitation.
Appendix G
Diagnostic Report Financing Recommendations

**Conditional financing.** For the National Urban Water Supply and Sanitation Program (NUWSSP), concessional financing could include carefully conceived conditions to overhaul the operational and financial performance of commercial utilities (CUs) to make them able to leverage concessional financing. For example, for each dollar received by CUs as concessional financing, they should undertake operational and financial turnaround actions to contribute to the funding of investments, with their own contributions plus (nonguaranteed by the Government of Zambia [GRZ]) loans based on their cash flows. If the conditions of concessional financing are well designed, and relevant agreements (policies and laws) with government authorities are obtained to improve the operational performance of the CUs, for example, as part of a Program-for-Results operation, it is estimated that CUs as a whole could increase their revenues to $88 million per year (0.4 percent of the gross domestic product), by reducing non-revenue water to 25 percent and improving collection efficiency to above 90 percent. This means the remaining NUWSSP capital could be financed by two concessional financing operations of $205 million each over the next 10 years, plus funding based on the cash flows of the CUs ($880 million).

**Methodology for prioritizing infrastructure investments.** Such a method is especially required for the urban program, which appears heavily skewed toward bulk water production, with limited attention to sanitation, water distribution network improvements, and reduction of losses. In this regard, GRZ should consider an investment policy that prioritizes investments in reducing water losses. One practical way to operationalize such a strategy is to require CUs seeking public financing to define investment packages that balance leakage reduction against the development of new production sources. Further, to improve public health impact, GRZ should make use of public health data to target and prioritize WSS investments that yield the most significant reduction in public health risks. A recent study of WSS investment scenarios in Lusaka found that improving the targeting of interventions (together with optimal choice of technology) results in a higher cholera risk reduction of between 35 and 51 percent, compared to the baseline scenario (see Box 5.1). There are many other examples of improved targeting and prioritization of WSS investments that GRZ should emulate. The Government of Tanzania, for example, used stunting data to develop the Tanzania Rural Water Supply and Sanitation Program-for-Results, which targets areas with high stunting rates. Haiti has an ongoing program that targets “cholera hotspots” around the country for water and sanitation infrastructure investment. Given the limited financial resources available, the need for prioritization and targeting is especially relevant for the Zambia programs. Helping CUs develop inventories is a practical step that can help prioritize and improve asset management.

**A credible sector financing strategy and funding mechanism are urgently needed to address the funding shortfalls,** especially in rural programs. Given that GRZ has minimal fiscal space for new loans, a credible financing strategy for both programs must contribute to the creation of fiscal space. Such a strategy may include, for instance, mobilizing donor grants to fund the National Rural Water Supply and Sanitation
Programme (NRWSSP) or combining the two programs into one program and blending donor grants with concessional and non-concessional financing. GRZ will also need to develop coordinated and flexible funding arrangements to improve the efficiency of external donor financing by bringing the greater share of funding on-budget through pooled financing, using sector investment plans to strengthen prioritization, traceability of funds, and reporting. Both programs need to put in place credible strategies to improve budget allocation in the National Development Plans, the annual Ministry of Finance budgets, and on predictability and control of budget spending. Both programs have well-documented costs. However, their unit costs are in the high range, especially the NRWSSP, which can affect expenditure efficiency. Available funding for both the NRWSSP and the NUWSSP needs to be complemented with new commitments, especially in the rural WSS sector.

The policy direction for both NRWSSP and NUWSSP should be to promote alternative ways of financing, including basket funding and public-private partnerships (PPPs). The Devolution Trust Fund (DTF) and PPPs could be explored as alternative sources of financing. The DTF is a basket financing instrument to provide a source of additional funds for the CUs to extend their services to the urban poor. The DTF mainly promotes the extension of public water distribution systems and on-site sanitation in low-income areas. Its intervention has benefited Zambia’s poor—more than 1 million people. While its current operation is under review, the fund could be used to bring in alternative sources of funding to the sector/programs. Zambia has a robust PPP legal and institutional framework that could be used to explore PPPs for major water and sanitation infrastructure.

For urban water supply, GRZ should have a deliberate strategy to use public finance to incentivize efficiency improvements in CUs by linking financing to verifiable improvement in operational efficiency. Future concessional funding to CUs under NUWSSP should be linked to improvements in operational efficiency. Improvements in operational efficiency would improve financial performance and enable CUs to contribute to capital investments through improved cash flows. Data from NWASCO shows that average tariffs for CUs in Zambia are well above average operation and maintenance costs and can cover some financial costs. However, high levels of losses and operational inefficiencies are preventing CUs from accessing private capital. The solutions to the efficiency challenges are known and can be prioritized based on the payback period or financial parameters. Therefore, any future capital injection by GRZ in NUWSSP must consider interventions to improve the efficiency of CUs, which would make them more creditworthy and thus increase their chances of mobilizing private capital. In short, our analysis provides overwhelming evidence to support a shift in the focus of NUWSSP toward efficiency improvement.

Sanitation will require new public financing mechanisms that recognize the public good aspects of sanitation. Currently, sanitation is predominantly financed by households. However, this financing model has failed to close the access gap. Moreover, significant public investments will soon be required as people move up the sanitation ladder, especially in small towns. The ongoing Lusaka Sanitation Program is currently the only large-scale public investment in sanitation in Zambia. However, the unprecedented capital injection ($300 million) will require a rethink of existing financing mechanisms
for urban sanitation services to ensure sustainability. To begin with, CUs need to start accounting separately for the costs of providing sanitation services. NWASCO has developed new sanitation regulation tools based on a clear separation of costs. Currently, sewerage services are charged at only 35 percent of the water tariff, with no clear linkage to the actual costs of providing the service. NWASCO has, in the past, allowed some CUs (notably Lusaka Water Supply & Sanitation Company) to surcharge an additional 2.5 percent of the water bill for all customers, regardless of whether they are connected to the sewer network. CUs use the funds generated from the surcharge to finance WSS projects in peri-urban areas as approved by NWASCO. The regulator should consider formalizing the surcharge as a public financing mechanism for the public good aspects of urban sanitation, such as maintaining trunk sewers and treatment plants. A recent financial analysis of the urban sanitation service chain in Lusaka showed that the surcharge is a critical part of the financing needed to make urban sanitation services financially viable for Lusaka Water Supply & Sanitation Company over the next 10 years, in addition to tariff increases and an aggressive efficiency improvement program.
Appendix H
Solutions Framework and Matrix

Solutions Framework

The following questions inform the generation of possible solutions:

- **What is the domain of the problem being addressed?** Policy change, legislative change, institutional design, financing architecture, governance and accountability?

- **What is the nature of the solution/intervention proposed?** Political, financial, administrative/managerial, technical?

- **Who needs to champion the solution?** Government of Zambia (ministry, regulator, local government, CUs), World Bank (and/or other financiers), or other (for example, civil society)?

- **What is the time frame for the solution?** Short, medium, or long-term?

Solutions Matrix

A summary of the constraints identified in this report, together with possible solutions, as set out in table H.1. The level of uptake of the possible solutions on the part of both the Bank and GRZ remains uncertain. Drawing from this list, recommendations are set out in the executive summary.

It should be noted that there is considerable variety as to the level of political commitment required, the complexity and extent of the interventions required to implement a solution, as well as the time and resource requirements. The recommendations are made with this in mind.

For completeness, the World Bank’s Diagnostic Report recommendations are included in Appendix G. These proposals should also be considered in light of the above.

The development of more detailed proposals in relation to the above is beyond the scope of this report. Some possibilities that could be explored further in relation to alternative financing mechanisms are suggested in the following section.

Possible Alternative Funding Mechanisms

*Note: Detailed proposals are beyond the scope of work in this report. What is proposed here is conceptual only. The proposed alternatives are not mutually exclusive.*

**Development policy loan.** Provide finance linked to key sector reforms and outcomes (such as the solutions set out in table H.1).

**Program-for-results financing.** Linking disbursement of funds directly to the achievement of specific program results.
TABLE H.1. Summary of Constraints and Potential Solutions

<table>
<thead>
<tr>
<th>Constraint (organized by domain)</th>
<th>Solution (champion, nature of intervention, indicative time frame)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy</strong></td>
<td></td>
</tr>
<tr>
<td>#1 Lack of policy clarity (overall)</td>
<td>Write an urban water and sanitation policy document. (GRZ, political and administrative, one or two years)</td>
</tr>
</tbody>
</table>
| #2 Lack of policy clarity on the cost-recovery objective | Make a convincing case for the necessity of the urban sector contributing to capital costs (World Bank, technical, six months)  
Develop a clear policy position on cost recovery in the urban water sector (GRZ, one year) |
| #3 Expansion of CU mandate to rural areas undermines cost recovery and financial sustainability of the urban water sector | Make a convincing case for why the mandate of CUs needs to be restricted to urban areas (World Bank, technical, six months)  
Undertake case study of the Water Utility Corporation (Botswana) (and others?) to inform the above (World Bank, technical, six months) |
| #4 Absence of a policy on allocation of finance | Develop proposals to create clear and transparent criteria and processes for the allocation of investment finance leading to more effective and efficient use of scarce investment finance (World Bank, technical, six months)  
Develop a policy position of investment allocation (GRZ, one year) |
| #5 Weak monitoring of and reporting on policy implementation | Make specific proposals on how to strengthen sector reporting to monitor policy implementation and sector performance, building on the sector coordination framework (World Bank, technical, six months)  
Agree on and adopt a policy monitoring and sector performance reporting process and template (GRZ, one year) |
| #6 Lack of clarity on the role of local government with respect to urban water services | Clarify the role of local government vis-à-vis commercial utilities beyond ownership and appointment of boards, specifically with respect to financing (GRZ, political, one year)  
See also Financing #3 |
| **Legislation (and regulations)** |                                                               |
| #1 Absence of regulations and guidelines on transparent processes and reporting related to corporate governance of CUs | Make proposals for improvements in corporate governance of CUs, based on a review of international practices (World Bank, technical, six months) |
| **Institutional design** |                                                               |
| #1 Proposal to expand the mandate of CUs to include rural areas | See Policy #3 |
| #2 Devolution Trust Fund managed by the regulator | See Financing Architecture #2 |
| **Financing architecture** |                                                               |
| #1 The financing architecture does not support the efficient allocation of finance, and there are important shortcomings related to accountability for investment effectiveness and performance | Explore alternative funding mechanisms that strengthen the link between investment and performance (World Bank, technical, six months)  
See also Policy #6 and Financing Architecture #2 and #3 |

Continued
## TABLE H.1. Continued

<table>
<thead>
<tr>
<th>Constraint (organized by domain)</th>
<th>Solution (champion, nature of intervention, indicative time frame)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2 Devolution Trust Fund is not active</td>
<td>Explore funding mechanisms and governance structures for the equitable allocation of grants to support the sector’s social objectives (<em>World Bank, technical, one year</em>)&lt;br&gt;See also #3.&lt;br&gt;Adopt a funding mechanism and a governance structure for the Devolution Trust Fund (or its replacement) that meet both government and development partner requirements (<em>GRZ, political-administrative, one year</em>)</td>
</tr>
<tr>
<td>#3 Funds are not devolved to local government</td>
<td>Explore and propose mechanisms to distribute public finance equitably across local governments for investment in water services to meet social objectives (<em>World Bank, technical, one year</em>)&lt;br&gt;See also #2&lt;br&gt;Devolve financing to local government (<em>GRZ, political, three years</em>)&lt;br&gt;See also #2</td>
</tr>
<tr>
<td>#4 Lack of clarity on financing mechanisms for sanitation</td>
<td>Explore the range of public financing mechanisms for sanitation that recognize the public good aspects of sanitation and make a proposal (<em>World Bank, technical, six months</em>)</td>
</tr>
</tbody>
</table>

### Governance and accountability

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Weak reporting on actual investments made, investment outcomes, and status of sector debt</td>
<td>See Policy #5 (Include details on investments and sector debt as part of reporting template)</td>
</tr>
<tr>
<td>#2 Partial devolution weakens the accountability of local government</td>
<td>See Policy #6 and Financing Architecture #3</td>
</tr>
<tr>
<td>#3 Lack of transparency with respect to corporate governance</td>
<td>See Legislation #1</td>
</tr>
<tr>
<td>#4 Lack of inclusiveness in sector coordination framework</td>
<td>Incorporate perspectives of major development finance institutions into sector coordination framework (<em>GRZ, political, 6 months</em>)</td>
</tr>
</tbody>
</table>

### Managerial and technical

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Information on which to base performance improvement and investment decisions at the CU level is lacking</td>
<td>Develop a technical assistance proposal to educate and train management on approaches to system and investment optimization (see CU Efficiency Assessment) (<em>World Bank, technical, 6 months</em>)</td>
</tr>
<tr>
<td>#2 CU technical staff lack the knowledge and information required to optimize systems</td>
<td>Develop a technical assistance proposal to educate and train technical staff on tools to optimize systems and to make appropriate investment and operational change proposals, and to implement these (see CU Efficiency Assessment) (<em>World Bank, technical, 6 months</em>)&lt;br&gt;Develop a financing/funding mechanism to make available funds to improve the information base and to implement appropriate management and information systems (<em>World Bank, technical, 6 months</em>)</td>
</tr>
</tbody>
</table>

Note: CU = commercial utility; GRZ = Government of Zambia.
Direct lending to utilities. Provision of loans directly to CUs.

Competitive allocation of loan finance. Money goes where it can best be used, together with an equitable pro-poor distributive mechanism such as the Devolution Trust Fund.

Infrastructure finance follows utility turnarounds. Lead with technical assistance funding to support utility governance and management improvements, followed by incremental finance released when performance thresholds have been met. A feasibility study for the Urban Water Catalyst Fund, which uses this approach, is being undertaken by KfW.¹

Covenants. Include governance and transparency requirements in financing covenants.

Guarantees. Consider alternative uses of guarantees linked to direct lending to the CUs.

Conditional lending. Require concessionary finance to leverage own contributions (from CUs), domestic, commercial finance, and matching funds from GRZ.

Note

¹. This approach has also been used in Eastern Europe, where the World Bank has provided the funding to start a turnaround and KfW has provided financial support on the back of this.