



SOUTHERN AFRICAN INSTITUTE  
*for* POLICY AND RESEARCH

**Occasional Paper Series**

**Challenges & Opportunities for Improved Water & Sanitation in Peri-  
Urban Lusaka, Zambia: Civic Engagement Amongst Young People**

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July 2022

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## **ABSTRACT**

Peri-urban areas (PUAs) of Zambia's capital, Lusaka, face unique challenges to water supply and sanitation (WSS) provisions. Quality and accessibility of WSS services in these regions are far from ideal, rendering their populations vulnerable to disease outbreaks. Local participation in problem solving and intervention design has been exalted as a condition for sustainable development in sectors such as WSS. Considering that the largest age demographic in Zambia is the youth population, active participation in civic society amongst this group could prove influential. However, youth civic engagement in Zambia appears to be lacking. Therefore, the purpose of this research is to identify ways in which peri-urban young people aged 15-24 can participate in civic engagement to improve WSS delivery in their communities. Findings presented in the study were informed through a literature review and a series of on-site stakeholder interviews. While some recommendations were devised from these findings, further research on this topic remains necessary.

## **ACRONYMS**

CU - Commercial Utilities

DHS - Demographic and Health Survey

LDCs - Least Developed Countries

LWSC - Lusaka Water and Sewerage Company

NDP - National Development Plan

NGO - Non-Governmental Organisation

NWASCO - National Water Supply and Sanitation Council

NWP - National Water Policy

PUA - Peri-Urban Area

SDG - Sustainable Development Goal

UN - United Nations

WASH - Water, Sanitation and Hygiene

WSS - Water Supply and Sanitation Sector

WT - Water Trust

## **INTRODUCTION**

Due to national trends toward urbanisation, Zambia's capital, Lusaka, faces rapid population growth (The Economist Newspaper, 2020). This has led to the establishment of peri-urban settlements—areas of transition from rural to urban that are illegal and inherently unplanned— throughout the city (Simukonda et al., 2018 and Zambia: UN Habitat, n.d.). As such, service provisions for social commodities such as water supply and sanitation (WSS) are far from ideal in such zones.

One solution that many sustainable development models touch upon is active local participation to have communities come up with their own solutions to issues such as WSS. This can also be referred to as civic engagement. In Zambia, the largest demographic is the youth population—those aged 15-24 years old ("Sub-Saharan Africa," 2019). However, rates of civic engagement amongst this group appear to be lacking (Walker et al., 2016). The intersection of these two issues—disparate quality and access to WSS provisions in peri-urban areas (PUAs) and low civic engagement amongst Zambian youth—may hold a unique potential for improvement at both ends of the matter. Thus, this research seeks to identify ways in which peri-urban young people can participate in civic engagement to improve WSS delivery in their communities.

### **Background**

In the UN's 2030 Agenda for Sustainable Development, SDG six aims to "ensure availability and sustainable management of water and sanitation for all" (United Nations Department of Economic and Social Affairs, 2020). As an indicator, target 6.b seeks to increase local participation in water and sanitation management (United Nations Department of Economic and Social Affairs, 2020). However, the goals call for overall local participation, with no specific target or indicators specific to the engagement of youth or young people.

Additionally, out of the UN's list of 46 least developed countries (LDCs), a vast majority are positioned in sub-Saharan Africa (United Nations, 2021), a region with the youngest population globally. Seventy percent of sub-Saharan Africa is under the age of thirty, with

20% of the population falling within the 15-24-year-old age bracket (United Nations Department of Economic and Social Affairs, 2019). Furthermore, the population is growing at 2.7% per year—more than double the rate of South Asia and Latin America (The Economist Newspaper, 2020). Thus, efforts that seek to increase local participation in the improvement of WSS management in the developing world should appeal to the largest age demographic—the youth population.

Along with sub-Saharan Africa's growing population comes a growing demand for water and a growing waste management problem. By 2030, the region's water demand is projected to increase by 238%, with the most stress on urban areas (Mo Ibrahim Foundation, 2015). On top of that, waste generation in sub-Saharan cities could quadruple by 2025, posing threats of a waste management crisis (Mo Ibrahim Foundation, 2015).

It comes as no surprise that the impacts will be greatest on the urban poor (Mo Ibrahim Foundation, 2015). Growing population sizes compounded with trends towards urbanisation contribute to disparate WSS conditions in sub-Saharan cities, particularly the PUAs which tend to be unplanned, densely populated, and poor. As one of the sub-Saharan countries listed on the UN's list of LDCs, Zambia faces water supply and sanitation pressures, intensified by poor governance and inadequate funding of the sector.

## **Brief Overview of Water and Sanitation Governance in Zambia and Lusaka**

### ***Water and Sanitation Governance in Zambia***

Since the 1970s, the Zambian government has passed a series of donor-driven reforms regulating the WSS sector, with large-scale changes in organisation and management taking place from the 1990s to present day (Chitonge, 2011). The National Water Policy (NWP) of 1994 established seven sector principles to guide its implementation, with calls to improve the quality and efficiency of WSS delivery through the principles. These encompass a national goal to decentralise the water sector, separate regulatory and executive authorities, increase budgeting, and improve fiscal efficiency through user charge collection (Chitonge, 2011).

Most notably, though, water gradually became commercialised in Zambia and the country's WSS regulatory authority, the National Water Supply and Sanitation Council (NWASCO), was established in 2000 (Dagdeviren, 2008). In practice, the commercialisation of water in Zambia transformed public assets into private ones with the conversion of the public water departments of local municipalities into commercial utilities (CUs) registered under the Companies Act (Chitonge, 2011). The intent of commercialisation was to increase efficiency and decrease financial burdens to the state through revenue collection of water tariffs, as well as the attraction of external investments, a benefit of having professionals manage WSS (Chitonge, 2011).

Presently, there are eleven CUs that provide WSS services across the urban areas of Zambia's ten provinces and six private schemes (NWASCO, 2021). Rural areas on the other hand are serviced by a separate entity, the Rural WSS Unit, which lies under the Department of Housing and Infrastructure Development in the Ministry of Local Government and Housing (NWASCO, 2021). Despite NWP sector principle three, devolution of authority to local authorities and private enterprises (NWASCO, 2021), effective devolution of authority in Zambia's WSS sector remains a work in progress.

### ***Water and Sanitation Governance in Lusaka***

According to Simukonda et al. (2018), the delivery of water and sanitation services in Lusaka before the 1990s was provided by the Lusaka City Council. However, under this regime, delivery and infrastructure were rapidly deteriorating, forcing the government to commercialise the WSS sector, forming the Lusaka Water and Sewerage Company (LWSC) (Funga, 2020). This made LWSC the first CU to be established under the Companies Act in 1988 (Funga, 2020). Though established in that year, the company commenced operation in 1990 and went on to become a provincial utility as a private limited company in 2008, with Lusaka City, Kafue, Chongwe, and Luangwa Councils being the shareholders (Banda, 2016).

Over the years, there has been an improvement in WSS delivery, with indicators revealing an increase in production capacity, coverage, as well as hours and consistency of supply

(Chitonge, 2011). These improvements have, however, proven to be minor compared to the issues the sector faces. During its foundation, LWSC took control of infrastructure without proper records. This renders the location of some network pipes and junctions unclear, facilitating water theft and leakage in service areas throughout Lusaka (Simukonda et al., 2018). It has also been reported that a substantial amount of water produced by utility companies goes unaccounted for—termed “nonrevenue water” (Chitonge, 2011). Hence it has been difficult to tell whether the increase in production resulted in better coverage of homes in Lusaka. Similarly, in the case of increased coverage, data shows that population pressure exceeds the rate at which water infrastructure is being developed. In fact, between the years 2000 and 2010, LWSC saw a 66% growth in service area, while water production only grew by 27% (Chitonge, 2011).

Many of these issues related to WSS service delivery can be attributed to poor governance due to a lack of a poor institutional and legal framework (Simukonda et al., 2018). This causes an absence of ideal characteristics such as adherence to the rule of law, transparency in dealings, and accountability (Simukonda et al., 2018). Such structural issues manifest in substandard WSS quality and access. Due to the poor demographic of the region, the trickle-down effect on PUAs has been especially detrimental (African Development Fund, 2006).

The peri-urban community, which makes up over 70% of Lusaka’s population, is characterised by low income, poor site conditions, high population density, lack of legal land tenure, lack of planning, poor infrastructure, and poor access to reliable and adequate water and sanitation services (Zambia: UN Habitat, n.d., Simukonda et al., 2018 & Kenedy-Walker et al, 2015). Literature shows that the current WSS service strategies have not been effective for PUAs, as such there is a need for a different approach (Allen, 2010).

### **Urbanisation in Zambia and Impact on WSS Delivery**

As a low-middle-income nation, Zambia is one of Sub-Saharan Africa's most highly urbanised countries. More than 40% of the country's population currently lives in urban areas (United Nations Population Division, 2018). However, an estimated 70% of those urban inhabitants currently reside in informal settlements characterised by poor social, economic, and



environmental challenges (Zambia: UN Habitat, n.d.). Specifically, the lack of regulation and rapid urbanisation of these regions has given rise to complex issues in relation to WSS delivery. For instance, many of these unplanned settlements have limited access to secure water and sanitation infrastructure (Hubbard et al., 2020). Because of this, the growing peri-urban population is namely more susceptible to major outbreaks of re-emerging life-threatening diseases (Hubbard et al., 2020). Unfortunately, disproportionate exposures to these devastating consequences of rapid urbanisation are often felt by the urban poor, who tend to live in these lower-income PUAs (Mo Ibrahim Foundation, 2015).

In terms of the country's capital, Lusaka is home to thirty-seven informal peri-urban settlements (Nyambe et al., 2020). These informal housing settlements are often marked by poor site conditions, low income, high population density, absence of legal land ownership, poor infrastructure, and limited access to formal water and sanitation facilities (Kennedy-Walker et al., 2015). Due to the lack of these essential WSS services, households within these settlements are frequently forced to manage their own water and sanitation needs, leading to the usage of unsafe and poorly managed facilities (Kennedy-Walker et al., 2015).

In most developing nations, unplanned settlements provide low-income inhabitants with a feasible and practical housing choice (Portela, 1992). In contrast to the official legal standards imposed by governments in the housing sectors, informal settlements are sometimes far more suited to the local demands, incomes, and resources of the urban poor (Portela, 1992). However, developing houses on such land is illegal and hinders the ability of CUs such as LWSC in Lusaka to efficiently deliver WSS to peri-urban homes (Simukonda et al., 2018). Thus, continuous urban expansion within Lusaka has posed several challenges to essential WSS service provision within these informal PUAs.

## **Civic Engagement**

### ***Defining Civic Engagement and the Importance of Social Inclusion***

Civic engagement "refers to the ways in which citizens participate in the life of a community in order to improve conditions for others or to help shape the community's future" (Adler

and Goggin, 2005). It can take the forms of community service, collective action, political involvement, or social change, and is an inclusive, participatory process (Adler and Goggin, 2005). In turn, its benefits to national and local development are many, including but not limited to: better informed policy, social consensus leading to a positive public image in the eyes of international investors, equitable policies and distributive justice for the vulnerable, an accountable and responsive government, and overall enhanced implementation of policy and programs (Mumba, 2010).

If civic engagement surrounding the improvement of peri-urban WSS service delivery were to be increased, the benefits listed above would likely follow. As stated above, socially inclusive models lead to better implementation. Furthermore, case studies on local participation in water, sanitation and hygiene (WASH) projects in Zambia have demonstrated that inclusion starts with consultation of locals and leads to better participation (Walters, 2016) (see Appendix Figure 1).

### ***Current Inclusion of Young People in Civic Engagement***

Considering the young demographic of the Zambian population, active civic involvement of youth is vital for Zambia to meet SDG six target 6.b of the 2030 Agenda for Sustainable Development. However, Zambian youth report low rates of active and meaningful civic engagement across a variety of different measures (Walker et al., 2016). Specifically, this includes having limited leadership roles in the design and execution process of projects that empower youth to reach their full potential (Walker et al., 2016). This raises concerns because participation is central to promoting more inclusive civil societies and people-centred development in WSS, as well as other sectors.

According to a study examining civil societies and assessing patterns of civic engagement in Zambia, many citizens are often excluded from topics that relate to their political, economic, and social wellbeing for reasons such as lack of education and opportunity as well as factors arising from legacies of highly centralised governments in the country (Mumba & Mumba, 2010). Another report conducting a cross-sector analysis on youth in Zambia assessed the barriers and opportunities for youth engagement in governance processes (International

Youth Foundation, 2014). Their findings suggested that although 70% of Zambia's population comprises people under the age of thirty, most youths are disengaged from or have never participated in any community development services (International Youth Foundation, 2014). The causes for this phenomenon include lack of opportunity and limited understanding of politics and development issues (International Youth Foundation, 2014). Thus, the issue is characterised not by a mere lack of interest but rather by educational opportunity.

## **STATEMENT OF THE PROBLEM**

The current state of WSS governance and infrastructure demands improvement in Zambia's capital, Lusaka, but especially in its PUAs. In conjunction with this, rates of civic engagement, especially among the country's largest demographic, the youth, appear to be lacking. Studies show that policies and interventions are better implemented when the target population can participate directly in their design. Thus, opportunities for improved WSS delivery and for greater participation of youth in civic engagement may exist at the intersection of these two issue areas.

## **PURPOSE OF RESEARCH AND OBJECTIVES**

The purpose of this research is to identify ways in which peri-urban young people aged 15-24 can participate in civic engagement to improve WSS delivery in their communities. We aim to answer the following research questions:

1. What are the challenges with WSS that affect peri-urban youth?
2. How can civic engagement serve as a solution?
3. What are the opportunities for peri-urban youth to participate in the improvement of WSS in their communities?

## **METHODOLOGY**

This research took place in Lusaka, Zambia, over the course of seven weeks in June and July of 2022. The research for this paper was informed by a literature review, a series of interviews with a diverse set of stakeholders relevant to the topic (see Appendix Figure 3), and site visits to various PUAs (see Appendix Figures 4-9).

Several studies were reviewed to compile our literature review. Documents included in the literature review included Zambia's most recent Demographic and Health Survey (DHS), case studies of specific peri-urban settlements in Lusaka, studies on WSS-related disease outbreaks in Lusaka, further information on Lusaka's WSS governance, as well as general studies regarding the theory of civic engagement and sustainable development. Literature informed key issue areas such as the state of water and sanitation in PUAs of Lusaka, the connection of poor water and sanitation to disease outbreaks in Lusaka, peri-urban water and sanitation governance, and the theory of participation in civic engagement as a solution to development issues. The studies included in the review provide several findings on WSS issues and the importance of local participation that can aid the process of reconsidering the mode of WSS service delivery and governance in Lusaka's peri-urban neighbourhoods.

Stakeholder interviews were utilised to fill in the knowledge gaps due to the limited availability of literature specific to PUAs of Lusaka, as well as the lack of literature connecting our topics of choice: peri-urban WSS and civic engagement amongst young people. Stakeholders were affiliated with non-governmental organisations (NGOs), youth organisations, LWSC—the commercial utility company serving Lusaka—as well as local water trusts (WTs) that serve peri-urban communities in Lusaka (See Appendix Figure 3). Six of these semi-structured interviews were conducted during the second half of the research period; two were conducted via zoom, and four were conducted in person at stakeholder offices in different PUAs of Lusaka. The areas we visited for on-site interviews were Garden Compound, Chawama, Chaisa, and Kanyama, and most interviews were followed by a tour of the premises. Photographs from such site visits can be found in the Appendix in (see Figures 4-9).

Detailed consent forms were signed prior to each interview, and stakeholders were given the opportunity to read and consent to information disclosed in the interview findings section prior to the publication of this paper. For photographs taken on-site after interviews, verbal consent was obtained by asking the interviewee for permission to take photos, and none of the photos captured people or faces within the frame.

## **LITERATURE REVIEW**

The available literature regarding the state of peri-urban WSS, the disease burdens this current state imposes on Lusaka's PUAs, the extent of civic engagement amongst Zambian youth, the lack of good governance, and the need for increased local participation clearly characterise the two-fold issue at hand. WSS service provisions in PUAs are inadequate to meet the social and health-related needs of the peri-urban population. Furthermore, while literature suggests that such problems can be improved through active local participation, such engagement is sorely lacking amongst the nation's largest age demographic—the youth.

### **The State of Peri-Urban WSS Provisions in Lusaka**

The last DHS in Zambia, conducted in 2018, revealed that 98% of Lusaka had access to improved drinking water, but 6.5% had limited access to water services (Zambia Statistics Agency et al., 2020). In terms of sanitation, 80% of Lusaka's population has access to improved sanitation facilities, with access being limited for 45.5% of people in Lusaka (Zambia Statistics Agency et al., 2020). Although these numbers are relatively high compared to Zambia as a whole, the same study revealed that the proportion of households with unimproved WSS services decreased with increasing household income (Zambia Statistics Agency et al., 2020). This finding has negative implications for Lusaka's poorest areas—PUAs—considering that water and sanitation quality levels are stratified by socioeconomic status. Additional studies expand upon the gap in WSS services between Zambia's wealthiest and poorest population sects nationally, as well as the rural-urban gap, but demographic data on this issue in Lusaka specifically appears to be non-existent.

Regardless, it is strikingly clear that standards of WSS service are significantly lower in Lusaka's PUAs. A study conducted on the willingness of tenants to pay for improved sanitation services in the Bauleni Compound of Lusaka, a peri-urban neighbourhood, revealed additional important characteristic information on the state of informal settlements of Lusaka—where an estimated 70% of Lusaka's residents live as discussed in the introduction.

In this compound, landowners of plots intended for one household rent out space to a median of three tenants who pay a bundled rent payment, inclusive of WSS provisions, with at least one shared toilet (Tidwell, 2020). The study found that 87% of toilets on these plots were improved but shared amongst tenants and were unhygienic and structurally poor (Tidwell, 2020). In addition, levels of sanitation were inadequate to the extent that peri-urban tenants using shared sanitation facilities expressed substantial willingness to pay more, outside of their monthly rent payments, to access better facilities (Tidwell, 2020).

Socioeconomic and geographic variables have a significant impact on the action to construct water and sanitation systems within these PUAs of the city. Manifestations of these factors can be found in the Kanyama compound, as well. Kanyama is one of Lusaka's largest unplanned settlements, housing over 200,000 individuals (Water and Sanitation for the Urban Poor, 2018). Residents in Kanyama must contend with major water and sanitation-related problems due to a lack of planning, sewer networks, drainage systems, and toilets (United Nations Office for the Coordination of Humanitarian Affairs, 2011). In turn, people living in this area are threatened by annual waves of disease epidemics like cholera (Leo, 2020). Thus, the absence of basic sanitation facilities poses a serious public health risk to PUAs such as Kanyama—most of these outbreaks have been attributed to the consumption of contaminated water and poor sanitation management in the area (Leo, 2020).

According to a 2018 publication analysing the sanitation profile and hygiene behaviour in Kanyama, upwards of 12,000 household toilets were found to be pit latrines in physically impractical conditions (Water and Sanitation for the Urban Poor, 2018). These "included ventilated improved pits (VIP), lined and unlined pits, and disused and/or buried pits."

Findings from this study have also revealed that most toilets within this peri-urban setting are frequently shared by more than six people. The authors point out that this phenomenon presents a challenging sanitation problem as filling capacities are overwhelmed when pit latrines are heavily shared and left untended. They also found that in terms of technology and maintenance, only 7% of household toilets in Kanyama had been upgraded or emptied in the past two years since the date of publication (Water and Sanitation for the Urban Poor, 2018). Given the impoverished nature of peri-urban communities, these numbers are just another indication of the state of water and sanitation that this population can afford. When on-site systems are compounded by constant sludge accumulation, outbreaks of illnesses and disease become more prominent and render toilets unusable—leaving households without even basic levels of sanitation.

Another case study analysed the crisis of poor water supply, sanitation, and chronic groundwater pollution facing one of Lusaka's peri-urban communities—Kanyama (Fair Water Futures Programme, n.d.). According to this study, Kanyama's inability to afford sustainable sanitation systems has threatened groundwater networks within this region, making them highly susceptible to contamination by pathogenic material, especially from inadequate sewerage provision and poor solid waste management. As the authors elaborate, the release of human waste from poorly designed sanitation systems into communal water structures has severely degraded the health and water quality that many peri-urban dwellers rely on. Furthermore, as stated in this article, the majority of Kanyama residents cannot afford a tap in their homes, so, alternatively, they must depend on communal taps and water kiosks operated by the partnership between Kanyama Water Trust and LWSC. While this is not a viable option for all, considering that people still must pay for these resources, "residents are often forced to seek out water of inferior quality from private boreholes, and unprotected sources such as shallow wells" (Fair Water Futures Programme, n.d.).

### **Poor WSS Provisions Lead to Disease Outbreaks in PUAs of Lusaka**

A large volume of literature has been published regarding the problem of disease outbreaks attributed to poor water and sanitation in Lusaka. As mentioned, Kanyama's high prevalence

of waterborne diseases is directly linked to the usage of contaminated water from shallow wells. Previous studies assessing the impact of drainage networks on cholera outbreaks in Lusaka have reported that the frequency of cholera in PUA is “statistically associated with lower coverage of effective drainage systems and latrines” (Sasaki et al., 2009). This indicates that frequent outbreaks of cholera in the city are a consequence of contaminated shallow well water from pit latrines and poor sewage systems. While several water enactments already exist to protect these resources, certain legislators have not been playing an adequate role in explicitly protecting and mandating the safety and health of the community (Fair Water Futures Programme, n.d.). This shows that many PUAs in Lusaka urgently need intentional, community-driven planning, investment, and action to enhance the delivery of water supply and sanitation services.

Two studies on anonymous sections of peri-urban Lusaka were included in our review that discuss diarrheal diseases in general as they relate to WSS conditions. Both studies were published in 2020 and assessed the prevalence of shared sanitation facilities and their various associations with disease outcomes. The larger of the two studies, a cross-sectional household survey conducted predominantly by researchers at the Centre for Disease Control and Prevention (CDC), assessed over 16,000 households in various unnamed PUAs of Lusaka (Hubbard et al., 2020). The smaller study conducted by researchers at Hokkaido University, Japan, included survey responses from 205 households in one anonymous PUA of Lusaka (Nyambe et al., 2020).

Only the larger study conducted by CDC researchers was able to find a statistically significant correlation between unimproved sanitation facility usage and diarrheal disease (Hubbard et al., 2020). However, a common theme across both studies was the high instance of heavily shared toilets in PUAs and the association between toilet sharing and diarrheal disease. In the cross-sectional study that encompassed multiple peri-urban settlements, 21% of households shared toilets with 18 or more people (Hubbard et al., 2020). Within the smaller study concentrated on one specific PUA, 50.7% of households utilised toilets shared by ten or more people (Nyambe et al., 2020). Although these two papers utilise different metrics for defining the term “heavily shared,” they both found heavy sharing of sanitation facilities to



be a statistically significant risk factor for household reports of diarrhoea (Hubbard et al., 2020 & Nyambe et al., 2020).

While toilet sharing can be a useful strategy for increasing access and affordability of improved sanitation for the peri-urban poor, the data reveals that the number of toilet users should be controlled to prevent the faecal contamination that causes diarrheal disease (Nyambe et al., 2020). Furthermore, both studies reported most of the improved sanitation facility usage—93.9% and 76.3%—but improved sanitation was only correlated with lower diarrhoea outcomes in the larger study’s findings (Hubbard et al., 2020). In the publication by Hokkaido University researchers, findings revealed high levels of *E. coli* contamination in a subsection of households (Nyambe et al., 2020). Overall, these results suggest that the mere ability to access improved sanitation is not enough to serve the needs of peri-urban populations and that heavy toilet sharing often undermines the aims of access to improved facilities. Education on proper usage and maintenance of sanitation facilities should be equally considered in improving peri-urban sanitation (Nyambe et al., 2020).

Only the larger cross-sectional study also considered aspects of peri-urban water supply. Interestingly, unimproved drinking water sources were not found to be a statistically significant risk factor for diarrhoea, but higher levels of water intake for all purposes were (Hubbard et al., 2020). The research drew a connection between the high levels of *E. coli* referenced in the paragraph above and the low consumption of water as protective against diarrhoea. Furthermore, most households in the study population had to store water, and those storing water without covered containers experienced a higher risk for diarrheal disease. Overall, this publication identified three risk factors as the largest culprits of diarrheal disease: having a young child under five years of age, unimproved sanitation provisions, and heavy sharing of toilets (Hubbard et al., 2020).

Studies on the burden of the diarrheal disease of cholera, specifically on PUAs of Lusaka, were abundant. This could be because the disease runs rampant in such communities cyclically. As a result, the Zambian government has committed itself to eliminating disease deaths by launching an emergency relief initiative titled ‘The Zambia Cholera Elimination

Roadmap to 2025’—a national multi-sectoral action plan targeted at reducing and preventing the spread of cholera in the country by the year 2025 (The Government of the Republic of Zambia et al., 2019). In line with the Global Roadmap to 2030 for cholera elimination, this country-wide initiative aims to reduce cholera morbidity and mortality by placing a strong emphasis on supporting vulnerable communities in the delivery and continuity of key WASH infrastructure (The Government of the Republic of Zambia et al., 2019).

As the plan iterates, the latest wave of disease to afflict regions of the country occurred from October 2017 to June 2018, when health departments reported 5,935 infections and 114 fatalities (The Government of the Republic of Zambia et al., 2019). Of those reported cases, 92% were attributed to the Lusaka district, where most of the population lives in densely populated peri-urban settlements and relies on pit-latrines and contaminated groundwater for onsite waste management and drinking water. The government report states that cholera cases remain endemic to many peri-urban parts of the city as they emanate from communities with low socioeconomic backgrounds that lack safely managed water and sanitation services. As a result, the prevalence of poor drainage networks in most PUAs of Lusaka has substantially raised the risk of spreading illnesses, like cholera, that are prone to generating epidemics (The Government of the Republic of Zambia et al., 2019).

According to a study that attempted to identify the risk factors for epidemic cholera outbreaks in Lusaka, the spread of the disease tended to persist in most PUAs because the availability of piped water was intermittent for less than a few hours per day (Nanzaluka et al., 2020). Findings of this study also suggest that the prevalence of this intermittent water supply system often forces people in these areas to rely heavily on unsafe boreholes, shallow wells, and pit latrines, which contribute to the spread of cholera through leakage and cross contamination of groundwater. As stated above, the proximity of pit latrines to wells and boreholes increases the vulnerability of groundwater supply to faecal contamination and the spread of disease (Nanzaluka et al., 2020). Consequently, cholera will remain a fatal public health threat until adequate infrastructure for centralised and sustainable water supply and

sanitation systems are distributed in appropriate volumes to peri-urban inhabitants of Lusaka.

### **The Ideal of 'Good Governance' to Improve WSS Falls Short in PUAs of Lusaka**

Overall, the literature reviewed in this study indicates that there is much work to be done to improve the state of peri-urban WSS provisions in Lusaka, Zambia. To make strides towards this goal, good governance will be necessary. Zambia's Eighth National Development Plan (8th NDP) defines the term as "creating a conducive environment characterised by participation, rule of law, transparency, accountability, consensus-building, responsiveness, equity and inclusiveness, effectiveness and efficiency" (Ministry of Finance and National Development, 2022). This concept of 'good governance is believed to be a precondition necessary to tackle the issues of inadequate access to social amenities—which include water and sanitation—and to achieve SDG six (Ali, 2015 & Punyaratabandh, 2004).

Thus, good governance is indispensable to improving water and sanitation. In development practice, good WSS governance takes the form of decentralised water governance with an emphasis on small-scale solutions (Groot & Bayrak, 2019). In fact, insufficient decentralisation has been identified as a deep-rooted cause of economic and social inequalities in Zambia as a nation (Resnick et al., 2019). Thorough decentralisation is considered a useful method for the effective implementation of WSS interventions because it enables an environment for increased local participation (Taiwo, 2020)—a sub-target for SDG six (United Nations Department of Economic and Social Affairs, 2020). As a direct result of this approach to governance, the process of management is made more efficient as the needs and preferences of communities are better identified (Resnick, 2019).

However, decentralisation on its own does not lead to better quality service (Dick-Sagoe, 2020). Factors such as partial decentralisation, corruption, and political influence can hamper effective service provision of local governments (World Bank, 2013). In addition, the capacity of staff at the local government level, lack of policy coherence, low local participation, and inadequate monitoring and evaluation have limited the success of decentralisation programmes in service delivery of WSS in developing countries (Indranil,

2009). Nevertheless, the surge of democracy and the growth of the media have encouraged citizens to demand greater transparency, accountability, and inclusivity from their local authorities (Lerebours, 2016).

Horman Chitonge's 2011 study on WSS reform in Zambia asserts that the emergence of decentralisation and commercialisation of the WSS in Zambia came with a positive reorganisation of the sector, certainty of service and reduced political interference. As the paper also reveals, however, this has not been the case with peri-urban and urban poor areas of Zambia. There are reported cases of CUs focusing their service provision in high-income suburban areas, forsaking the low-income areas that are really in need. In their defence, CUs claim there are less profits and high risk of vandalism due to high levels of poverty. Despite financial incentives offered through the Devolution Trust Fund—a fund offered to CUs through NWASCO to combat this problem—service delivery is still poor and inconsistent in these areas. This can be seen in the difference in time it takes to respond to complaints in the two different areas (Chitonge, 2011). Furthermore, the central government has completely disappeared from water service provision stating that that is the role of the CUs, and its role is merely to regulate and be a benefactor to CUs, resulting in reduced investment and detrimental conditions of infrastructure (Chitonge, 2011).

To address these issues, public-private partnerships were implemented to provide services to Lusaka's PUAs through the water trust model (Patole, 2010). As one case study published by researchers at Loughborough University delves into, the partnerships between LWSC, local community members and NGOs allow WTs to reach areas that the CU cannot—providing better quality and lower cost water supply to Lusaka's PUAs (Kayaga et al., 2019). To promote local participation, WTs are supplied by the CU, but managed by community members themselves. WTs mainly deliver water supply to PUAs through more affordable communal water taps, but also reach a smaller proportion of the population through direct water taps in their homes. The case study revealed that low-income areas serviced by the WTs as opposed to LWSC alone experienced significantly higher accessibility of water supply in terms of travel distance, collection time, price, and amount of water drawn (Kayaga et al.,

2019) (see Appendix: Figure 2). Thus, WTs present a model for which water supply can be improved in PUAs of Lusaka through the collaboration of CUs, local communities, and NGOs.

The WT model does, however, face its own set of challenges. The main issue with water trusts, according to Patole (2010), has been sustenance. Following the provision of initial capital by NGOs and CUs, WTs are left to fund operations and maintenance through tariffs, and bill collection is insufficient to sustain infrastructure (Patole, 2010). Other issues include a lack of additional space to build infrastructure, people's attitudes toward sanitation and their individual unwillingness to pay for sanitation, and finally, corruption (Nkonkomalimba & Mumba, 2014). Thus, while the ideal of achieving good governance through decentralisation proves to be effective in areas with adequate capacities, deeper-rooted manifestations of inequality in Lusaka's PUAs render the current efforts of decentralising the WSS governing system insufficient.

### **Local Participation as a Necessary Component to Sustainable Development in WSS**

Current theoretical frameworks for sustainable development suggest that a sufficient model of decentralisation would include cohesive local participation in WSS interventions. As mentioned in the background section, SDG target 6.b seeks to increase local participation in water and sanitation management (United Nations Department of Economic and Social Affairs, 2020). This emphasis on local participation comes from a contemporary movement led by development scholars and practitioners to include the poor in the design of interventions meant to improve their quality of life (Mubita et al., 2017). Interestingly, this is a direct effect of the failure of top-down approaches for development, and this paradigm shift has led to better programme results and tends to produce outputs that better meet local expectations (Mubita et al., 2017). As defined above, civic engagement can be thought of as "the ways in which citizens participate in the life of a community in order to improve conditions for others or to help shape the community's future" (Adler and Goggin, 2005). While many understandings of civic engagement exist in literature, by nature, civic engagement encompasses the ideal of local participation that the UN associates with sustainable development.

Multiple studies included in this literature review argue that consultation and participation of locals in development projects lead to a sense of program ownership and accountability amongst participating citizens to see that projects are well-implemented and well-maintained (Walters, 2016 & Mubita et al., 2017). This notion has been referred to as the theory of change in some development literature (see Appendix Figure 1). One study published after the implementation of a WASH project in urban Zambia and South Africa reflects that the act of consulting local beneficiaries on projects ignites civic engagement amongst them (Walters, 2016).

Once again, considering that Zambia has a growing young population (United Nations Department of Economic and Social Affairs, 2019), youth inclusion is necessary to optimize local participation's effects. Unfortunately, literature regarding this concept is lacking. However, Zambia's current NDP reveals that the nation faces low youth participation in governance at any level (Ministry of Finance and National Development, 2022). In turn, the plan places emphasis on the importance of youth inclusion in bottom-up approaches to national development, as well as calls to increase the currently lacking apprenticeship opportunities and presence in Parliament (Ministry of Finance and National Development, 2022).

## **DISCUSSION OF FINDINGS**

### **The Current State of Peri-Urban WSS**

#### ***Water Supply Challenges Affecting Peri-Urban Youth***

Multiple interviewees indicated that household heads tend to be in the youth demographic and, hence, are highly impacted by issues related to water accessibility and household sanitation. Many youths face a financial barrier to accessing proper WSS provisions, as water must be paid for prior to collection at WTs. Based on our interviews with a Superintendent of Sanitation at LWSC and two managers of WTs in Chaisa and Kanyama, issues related to water availability and accessibility are not related to a problem of scarcity. On the contrary, since the introduction of a larger water line that leads from Kafue River to LWSC's service

areas in 2018, water supply is abundant, even in compounds that rely on boreholes to supply their water trusts, such as Chaisa and Kanyama.

However, as Isaac Kamwendo, a general manager at Kanyama WT, conveys, the fight lies in protecting these water sources from contamination—any scarcity at hand is driven by instances of pollution. Mr. Kamwendo relayed that peri-urban communities such as Kanyama sit on a hefty supply of groundwater, but as residents turn to makeshift sanitation technologies such as unlined pit latrines, they pollute the water. Such high levels of pollution only add to the cost of water production, which grows when water must be heavily treated to combat contamination.

While Kanyama's WT can rely on some boreholes within the compound, others must be located outside of Kanyama's borders. This is to prevent contamination from unlined pit latrines, which, according to managers at both WTs that were visited, a sweeping majority of peri-urban residents rely on as toilets. In Chaisa, all the area's boreholes supplying the WT are located outside of the compound's borders, and water from these external sources is pumped into the settlement. Furthermore, Chaisa's WT faces another driver of apparent scarcity: the lack of purchasing power to secure a water storage tank in addition to distribution tanks, which would increase Chaisa WT's capacity to supply water during periods of power outages.

According to Lason Kapata from CARE International in Zambia, WSS infrastructures are adequate in urban areas, but in PUAs it is an entirely different picture due to the unplanned nature of such areas and associated lack of space to separate facilities. In these densely populated PUAs of Lusaka, such as Kanyama and Chaisa, among others, toilet facilities are found near water supply sources and people rely on shallow wells—which are highly vulnerable to contamination. While some of the reliance on shallow wells has gone down with the introduction of WTs, water supply at these trusts can be intermittent, according to Mr. Kapata. This is important to note, considering that most residents in the PUAs with WTs rely on water points, also referred to as kiosks, to draw their water.

Communities always need water—hence, in the hours where water kiosks are not operating, community members may turn to shallow wells or boreholes for water. This, as Mr. Kapata explains, presents a two-fold issue. Not only are these water sources not as sanitary as the treated water from communal taps, but WTs also lose income when people turn to alternative sources. Furthermore, seeking water from shallow wells or boreholes increases the risk for water-borne disease, as described previously. Stakeholder SN from Hokkaido University Japan, whose research on peri-urban WASH in Lusaka facilitated the creation and founding of the Dziko Langa Club, emphasised the interactions water access has with other social determinants of health. Using the 2018 cholera outbreak in Lusaka's PUAs as an example, she pointed out how outbreaks of water-borne illness have far-reaching implications for young people when measures such as school closures must be taken to deal with WSS-related public health crises.

For the lesser proportion of homes that do have a direct tap supplying their water, a characteristic of peri-urban households introduced in the literature review is the tendency for homeowners to rent out extra space to many tenants. Chaisa's WT manager Henry Zimba added that these landlords often come to the WT and ask for a waterline to be set up to make the home more attractive to tenants. Subsequently, they then divert their responsibility—paying the monthly water bill—to tenants. He also relayed that this issue is worsened by the reality that many landlords do not reside in PUAs themselves. This culminates in the frustrating reality of many of these rented homes having to be disconnected after consecutive missed payments—which costs the WT additional time, labour, and money.

In addition, education surrounding the importance of infrastructure such as water lines appears to be limited, based on our conversation with Mr. Kamwendo. The WT he manages, serving Kanyama Ward 13, has historically faced issues of homeowners exercising their property rights and requesting for the removal of water lines that infringe on their property for the construction of personal structures such as fences. Mr. Kamwendo described a struggle of pleading with such homeowners and the challenge of getting them to grasp the importance of these structures for not just themselves but the good of the community at large.



### ***Sanitation Challenges Affecting Peri-Urban Youth***

According to Stakeholder X from LWSC, "you cannot talk about improving people's lives without talking about sanitation." As touched on above, sanitation affects important aspects of people's quality of life, and PUAs present unique challenges to sanitation that affect all of their residents, including the youth. PUAs in Lusaka face the challenge of a culture where waste is thrown anywhere and everywhere, according to Susan Mwelwa, a youth who serves as secretary for Dziko Langa Club, a youth-led organisation in Lusaka's Chawama Compound. She shared that such practices are largely common amongst youth, a theme that our stakeholder at LWSC also brought up. The prominence of such practices amongst youth, who, as stated above, tend to be household heads, raises the issue of young people passing down habits to younger generations in the household.

In terms of sewer networks in PUAs, they are practically non-existent, according to our Stakeholder X, a Superintendent of Sanitation at LWSC. While some areas are seeing the introduction of such networks, most currently lack them. Limited access to safe sanitation facilities poses a challenge to peri-urban youths, especially young women, who bear this burden the most, according to stakeholder Lason Kapata. As the manager at Chaisa WT shared with us, the unplanned nature of PUAs in Lusaka render the construction of new sewer lines near impossible from a logistical standpoint, albeit LWSC is trying to accomplish this in certain areas. Mr. Kamwendo at Kanyama's Ward 13 Water Trust added that the high costs associated with the lack of planning in PUAs add yet another barrier to the introduction of both water and sewer lines. Such construction would involve a large price tag and even resettling certain people due to the locations of their current homes. Instead, the current strategy in Mr. Kamwendo's jurisdiction is the joint effort between Kanyama WT and the Bill and Melinda Gates Foundation to construct highly subsidised, waterproof pit latrines that are safe in the sense that they do not contaminate groundwater (See Appendix Figure).

Mr. Kamwendo also revealed that due to the unplanned nature of PUAs such as Kanyama, vacuum tankers cannot go directly to houses to collect human waste. This sustains a human waste crisis—when seasons of heavy rain hits, entire neighbourhoods are flooded with both

rainwater and a spillover of sludge. However, recent innovations tackling this sanitation problem can potentially improve the overall peri-urban sanitation faecal sludge management and treatment. Within this system, trucks operated by the WT (see Appendix Figure 8) go house to house to empty pit latrines into barrels and deliver barrels to a dumping or treatment site. Stakeholder X from LWSC indicated that such faecal sludge treatment plants are beginning to be constructed in PUAs.

Mr. Kamwendo also explained how Kanyama's residents manage to finance such waste collection services—a concept referred to as "tariff bundling." This cost-effective system works easily for those already subscribed to the WT's services—when they make their payment for water supply, utility customers are asked to contribute an extra 30 kwacha to be allocated towards the service. While this system seems like an easy fix to the unique sanitation issues that PUAs face in Lusaka, there are many challenges that come along with the service area. For one, users who do not already pay for the WT to deliver water directly to their homes through a tap are not as easily subscribed to the benefit of tariff bundling, which hinders their access to proper waste disposal, Kamwendo pointed out. Additionally, motor vehicle breakdowns due to the rocky, sometimes flooded, and unpaved nature of Kanyama's roads are frequent.

### ***Impact of Public-Private Partnerships on Peri-Urban WSS Improvement***

Following the introduction of WTs, improvements in the delivery of WSS services in PUAs have come about. In terms of water supply, as stated above, the concept of community-led WTs assists CUs like LWSC in Lusaka in reaching peri-urban populations that were not previously covered by LWSC's jurisdiction. The introduction of WTs has brought both improved quality and accessibility to water supply provisions in PUAs where they are present (Kayaga & Kadimba-Mwanamwambwa, 2019) (See appendix: Figure 2).

In terms of water health and quality, as Stakeholder X from LWSC explained, WTs provide an effective means of preventing contamination of water supply in PUAs by ensuring proper infrastructure set up and a separation of toilets from drinking water. Furthermore, WTs have made strides in achieving water accessibility by ensuring water affordability for the

communities that they serve. For most WT customers who rely on communal water kiosks, they can pay with small coins for a certain number of hours per day, depending on their location's hours of operation. In Chaisa, according to Mr. Zimba, such points are in operation for eight hours in a day consistently, which he states is a large enough window to free up time for residents compared to previous times when communal taps were operating inconsistently. For those with direct connections, water is supplied for 24 hours per day.

WTs have been so impactful in improving water access that, according to our interviewees, they have increased water supply to 100% in Chaisa and 60-70% of Kanyama's Ward 13, respectively. In Kanyama, out of the 60,000 households served by the trust, 7500 have piped water into their homes, while the rest draw from communal taps using containers. The remaining percentage not served by water trusts source their water from shallow wells and personal boreholes, which, as mentioned above, poses a continuous threat to the WT's own water supply. Mr. Zimba estimated that 80% of the population served gets its water from water points with records showing that only two personal boreholes in the area.

The introduction of WTs has also brought about improvements for peri-urban sanitation, though there is much work to be done in this sector. As stated previously, most peri-urban residents rely on pit latrines for toilets, which, if not installed and lined properly, can contaminate groundwater sources. This leads WTs to outsource water from boreholes located outside of the communities themselves at times. Through joint efforts with the private sector, such as the Bill and Melinda Gates Foundation initiative described above, WTs in Kanyama and Chazanga have been able to improve the structural safety of toilets and prevent the issue of groundwater contamination. However, such partnerships are lacking in other PUAs.

Improvements driven by the effective public-private partnerships in PUAs have evidently had a positive impact on residents. Interviewees at both WTs and LWSC conveyed that since their introduction, the PUAs that WTs serve have seen a drastic reduction of diseases such as cholera, dysentery, and typhoid because more people are now able to access properly treated and affordable water, and gradually rely on safer sanitation methods.

### ***Shortcomings of Public-Private Partnerships Despite Decentralisation***

Despite the improvements brought in by public-private partnerships such as the WTs, there are several external factors impeding them from achieving maximum levels of operation in terms of full treatment of water supply and ideal sanitation management. Urbanisation has been identified as one root cause of challenges in WT WSS delivery. Mr. Zimba stated that Chaisa is among several PUAs that have experienced heavy population growth due to their proximity to the Central Business District. Such rapid settlement has left no service land to set up adequate water pipelines and sanitation infrastructure such as sewer networks.

To date, most PUAs have been legalised through the implementation of the Housing (Statutory and Improvement Areas) Act of 1975, which permits the development of PUAs, enabling validation of structures and issuance of title deeds—a move that permits the recognition of PUAs as legal settlements. However, illegal settlements are constantly mushrooming making it difficult to determine the legal boundaries of service provision. This situation puts WSS delivery in a paradox. WTs are mandated to service the area under their jurisdiction by the WSS Act of 1997. On the other hand, they are forbidden from serving settlements recognised as illegal by the Local Government Act 1991 and Town and Country Planning Act 1997 (Patole, 2010).

Mr. Kamwendo expressed that one possible solution for this issue is to demolish houses to set up water and sanitation infrastructure and resettle or compensate those affected. This, according to the manager of Kanyama WT, is a very costly approach, and not only financially. It would result in social distress and decreased political popularity by government bodies overseeing the sector. Reduced popularity in PUAs would be fatal, considering the high number of eligible voters residing in these areas—of which a significant portion are the youths aged 15-24 (United Nations Department of Economic and Social Affairs, Population Division, 2019).

Despite the intent of WTs to be wall fenced from political interference, Mr. Kamwendo indicated that he notices political interference, stating, "there is no trust that does not face political interference because water trusts are actually found in the communities, and

politicians are interested in them too much... political interference is something you can't run away from." Considering that this is the situation in all 12 WTs in Lusaka, the above mode of intervention is highly unlikely to proceed as no party would opt to take this risk. In effect, Mr. Kamwendo revealed that the current resolution by WTs is to set up water and sewerage infrastructure on private land. Yet, this poses a different risk because landowners who may want the infrastructure removed from their premises for one reason or the other have the legal right to demolish the structures.

Cultivating a civic-minded, politically active youth population in these PUAs, which are vulnerable to political interference and exploitation, could prove impactful in this sense. If politics are put aside in this scenario, the health and well-being of peri-urban communities could reap the benefits of improved WSS systems.

Lastly, according to the literature, the Peri-Urban Water Supply and Sanitation Strategy of 2001 recognised community participation as one of the problems of PUA WSS service provision (Patole, 2010). Mr. Kamwendo elaborated that with the WT being community-based, it is mandatory that there is a representative from the community on the Board of Trustees. However, he revealed that usually, these community members are not qualified to fully comprehend the functionalities and mandate of the trusts. He further stated that youths are not usually involved in policy formulation and decision-making due to a lack of concern which calls for increased sensitization. Thus, while the ideal of community leadership remains imperative community members are not fully qualified, and age groups are not adequately represented. Therefore, inclusion efforts alone do not accomplish the goal of improving governance when local capacity is not up to par and participation is lacking among certain groups.

### **Challenges and Opportunities for Youth Engagement**

#### **Inconsistencies in the Extent of Civic Engagement Amongst Peri-Urban Youth**

To some extent, many of the respondents interviewed had contrasting views on the levels of youth civic engagement in peri-urban Lusaka. For example, some reported a strong sense of youth civic engagement within their communities, whereas others outlined various levels of

inconsistencies—especially civic engagement related to WSS. Overarchingly, our findings indicate that a lack of youth civic engagement is tied to a lack of understanding of one's rights, civic responsibilities, and awareness of existing opportunities to become involved. Furthermore, cultural barriers also play a role, which is expanded upon below.

According to stakeholder SN, peri-urban youth are limited in their capacity to understand bureaucratic language, which is often a necessary first step to interacting with public officials and stakeholder organisations. This presents a barrier to community-driven change when young citizens cannot communicate with leaders directly. Individual competencies are crucial to producing citizen-centred outcomes during the decision-making processes of WSS improvements. Additionally, limited capacity often renders youth unaware of their civic obligations and rights as citizens, disengaging them from local law-making processes and policy development.

This lack of awareness, compounded with a lack of emphasis on capacity building within communities, facilitates the creation of an aid-dependent society, as SN elaborated. Such societies are less effective in terms of change-making, as expanded upon above because the needs of the community are not directly communicated by beneficiaries of change. As multiple interviewees at Dziko Langa conveyed, when youth are not at the forefront but rely on outside aid to provide solutions to communal challenges such as WSS, accountability is diverted. Instead of an accountable youth population, the phenomenon of "finger pointing" occurs in which blame can easily be placed on outsiders instead of community members and youth themselves when improvements fall short of expectations.

In terms of cultural barriers to a civically engaged youth population, the issue arises from the high prevalence of a "side-line culture." One respondent from ZYP reported that in Zambia, culture is crafted in such a way that young people are often deliberately excluded from conversations that pertain to decision-making, including those that affect their health and well-being. This reinforces mindsets such as the one that Secretary Susan Mwelwa from Dziko Langa described in reference to approaching civic leaders: "I've grown up with the culture of saying, who am I to approach them? Who am I to talk to them?"

Furthermore, stakeholder SN described how these culturally instilled mindsets, with the help of bureaucracies, present a barrier to achieving a civically engaged youth population by facilitating a divide between leaders and citizens. Such frameworks make citizens, especially young people who are taught to respect their elders, question whether they even have the right to approach their leaders, as made evident in the quotation presented above. Clearly, this mindset poses a significant obstacle towards achieving an actively engaged youth population in Zambia, but especially in PUAs, as local youth's capacities to navigate the divide are disparately challenged due to lower educational attainments and civic awareness.

### **Challenges in Improving WSS Through Youth Civic Engagement Practices**

When it comes to civic engagement and the improvement of peri-urban WSS, multiple interviewees expressed that low rates of engagement are exacerbated by a lack of effective WSS education and information on the burden of improper WSS practices. When educational information is disseminated, the barriers of language and local youth capacity, as described above, hinder their effectiveness.

Of course, educational attainment should work to alleviate some of these barriers to youth comprehension of WSS-related literature. However, as mentioned previously, many peri-urban compounds in Lusaka are susceptible to outbreaks of cholera. During these local epidemics, government officials are prompted to delay the opening of schools. In effect, as stakeholder SN indicated, pre-existing disparities within the education system are further compounded and disproportionately affect most marginalised youths living in these communities. With lost learning time and increased impediments to youth critical learning, young people are oftentimes deprived of future possibilities for growth and development that include learning opportunities on proper attitudes and practices of WSS.

Considering the prominence of disease outbreaks and constant interruptions of formal education in these peri-urban areas, youth engagement in WSS work is often inhibited by their lack of literacy skills. As stakeholder SN underlined, "language is one very big barrier in terms of young people actually being involved in what's happening or actually taking up

opportunities." Given that most people in these communities are more familiar with the local dialects such as Nyanja and Bemba, language barriers can be considered a major obstacle to WSS learning and training, especially when information is primarily presented in English. While knowledge of major indigenous languages is a common practice among individuals in Zambia, the English language, as SN iterates, remains a challenge for many young people—especially when language is highly bureaucratic. Given that problems with literacy have been attributed to barriers of individual prosperity, young individuals are often unable to read or comprehend important health material pertaining to their rights and civic duties. Unfortunately, deficiencies in sensitization and education often push people to engage in high-risk sanitation behaviours.

## **CONCLUSION**

The purpose of this research was to analyse the convergence of two key issues in the context of peri-urban Lusaka—the poor quality and accessibility of WSS in peri-urban areas (PUAs) and low civic involvement among Zambian youth. We were able to assess the current state of peri-urban WSS in Lusaka and identify challenges and opportunities for youth to engage in bettering this state. We did so by first conducting a literature review, identifying gaps in the available literature, and conducting site visits and stakeholder interviews. Our findings made evident the WSS challenges—including those arising from a lack of governance—afflicting the health and well-being of youth who reside in PUAs. Additionally, they shed light on how these challenges can be overcome through public-private partnerships and increased opportunities for youth civic engagement.

As one stakeholder, Andrew Simataa from ZYP, stated, "the youth of today are the future leaders of tomorrow. Engaging them today is the only way that they will have the capacity to take over one day." Thus, after understanding the challenges in engaging Lusaka's peri-urban youth to improve WSS provisions as described above in our findings, we also deemed it necessary to compile some recommendations for further research efforts looking to engage this youth population.



## **RECOMMENDATIONS**

To present recommendations for increasing youth engagement for the improvement of WSS in PUAs of Lusaka, information was primarily drawn from stakeholder interviews, with some literature and case studies to provide context. According to SDG six and in line with the theory of change, local participation in WSS interventions is a necessary component of sustainable development (Walters, 2016 & UN Water, 2018). Proper consultation of local youth will lead to participation, and participation in development projects leads to a sense of program ownership and accountability (Walters, 2016 & Mubita et al., 2017). However, based on our findings, additional steps may be necessary prior to the consultation of youth to ensure full participation in civic engagement for the improvement of peri-urban WSS.

Overwhelmingly, it is clear, in the words of stakeholder Ian Saungweme, that "there is no quick fix" for any of the challenges presented in this paper. Nonetheless, some recommendations can be made with the acknowledgment that further research on this topic remains crucial.

### **The Need for Sensitisation and Deliberate Engagement of Youth**

Multiple interviewees conveyed an overall need for sensitisation regarding the importance of safe and sustainable WSS provisions in PUAs of Lusaka. Initially, when asked how youth could serve as a potential solution to improving WSS services in their communities, our stakeholder at LWSC's initial reaction was that youth are the problem to the current rise of an unsustainable sanitation culture. As he expressed, the implications of this unsustainable sanitation threat can be regarded as a cause of lack of education that can, potentially, be combated with proper sensitization of local youth to be able to work with the infrastructure that is at their disposal.

Similarly, stakeholder Isaac Kamwendo addressed concerns of youths being viewed as a problem contributing to unsafe WSS, attributing most vandalism of WSS infrastructure to youths not understanding the importance and value of having potable water in their homes. He stated that this could be a different story in the future, with programs to enable

community engagement and sensitization of the youths. According to him, youths have the potential to take up a positive active role if they are educated and deliberately involved, but for youths to participate, they need to feel included in programs. Such education and sensitisation would increase the likelihood that youths will protect WSS infrastructures in their communities and could open the potential for youths to be at the forefront of reporting vandalism, he envisions.

Overall, the importance of sensitisation through education and distribution of accessible educational materials was included in the bulk of recommendations compiled. Further, stakeholder SN suggested that such materials be printed not just in English. Instead, information should also be printed in indigenous languages, making it more accessible for some peri-urban residents.

### **Increasing Awareness through Literacy and Capacity Building**

In addition to the need for WSS-related sensitisation is a need for increased awareness amongst youth regarding their rights and existing opportunities for them to be involved in WSS governance. This is in response to our findings that civic engagement amongst young people in Zambia is often tied to limited access to information which causes a lack of awareness of available structures to participate in, of how to claim one's rights, of knowledge of one's civic duties, and of what is going on socially and politically outside of one's own community.

More research will be necessary to further expand upon culturally sensitive methods of capacity building amongst peri-urban youths. Such efforts will assist them in developing a working understanding of their rights and articulate to local as well as higher levels of government what needs their communities face in terms of improving WSS quality and accessibility. Based on findings from our interview with ZYP, the more youths that are given both the tools to effectively communicate and the platforms to amplify their voices, the more effective a youth-led transformative agenda for peri-urban WSS will be. Additionally, better awareness amongst older populations, researchers, leaders, and other stakeholders is needed surrounding the importance of youth inclusion

### **Empowering and Investing in Existing Youth-Centred Organisations and Policies**

It is important to note that there are existing youth-led organisations and opportunities for peri-urban youth to gain involvement in governance more broadly, as well as in local WSS governance specifically—though these are fewer. For instance, organisations that we interviewed, such as ZYP and Dziko Langa Club, both deliberately engage youth in opportunities that foster their development. However, many of these institutions are meant to be youth-focused non-profit and voluntary NGOs. Meaning that they lack political recognition and support in institutions and processes such as parliament and policy development.

Additionally, as stakeholder SN indicated, a bulk of youth-led research organisations like Dziko Langa rely on funding from outside researchers—an unsustainable model when looking to the future where ideally, such youth-led organisations could run self-sufficiently. Additionally, there is an issue of outside, oftentimes foreign-led initiatives that compete for funding with community-led organisations. Thus, further research efforts could brainstorm potential ways for such youth-led organisations to run independently of aid from outside researchers. Such solutions could even further motivate youth involvement if not only the social benefit is present, but the financial one, as well.

Building on findings presented above, there is a need for more research to empower the creative potential of young people, nurture more tangible platforms for youth civic engagement, and support existing local youth networks or initiatives that aim at empowering young people in pursuing Zambia's unique culture and continuing their community development. For instance, goals laid out in Zambia's Eighth NDP currently call for enhancing youth inclusion in Zambia's legal framework and engaging them in parliamentary committees, including youth advisory councils.

Hence, as our stakeholders at ZYP and Dziko Langa recommended, empowering youth-led organisations with financial resources and technical support would be a simple yet impactful step to promoting civic engagement amongst peri-urban youth. As stakeholder Justin Somi

mentioned, sometimes young people struggle to know what to do in his experience working with youth on issues of peri-urban WSS. Thus, collaborations between youth and more experienced adult community members can ensure the quality of youth led WSS interventions while also accomplishing goals of youth capacity building. Additionally, building and investing in youth leadership programs that engage youth in opportunities that elevate their voices to influence the direction of their societies will provide them with the potential to serve as future leaders for sustainable development.

### **Engagement Fosters Infrastructure and Program Ownership**

Referring once more to the theory of change, the local participation the SDG six calls for requires a sense of program and infrastructure ownership. Consistent, deliberate youth engagement, participation, and program ownership operate in a positive feedback loop based on our findings.

Stakeholders at both WTs that we visited, as well as LWSC, indicated that infrastructure ownership is imperative to the longevity of current WSS provisions. To accomplish this goal, our stakeholder at Chaisa Water Trust remarked that it is important to consistently engage youths, and not only when there is a problem. One can consider the case of the Dziko Langa Club, where all board members are peri-urban youth and adults provide a more supportive, technical role. Future collaborative research efforts could take a similar approach to consistent engagement. However, additional, more comprehensive research efforts on how to foster such a sense of ownership in youth led WSS projects would be beneficial to inform how to meet this need.

## **LIMITATIONS**

This research largely faced limitations regarding a short timeframe. The entire study was conducted over a period of seven weeks, which challenged our ability to identify and contact enough stakeholders to inform our literature gap. Thus, some perspectives, such as a central government perspective, are missing. Additionally, there were a limited number of stakeholders with expertise in both of our issue areas, most were experts in one or the other, but still with abundant knowledge to share. However, this reiterates calls for more research and stakeholder investments on this specific multi-sectoral issue.

## **ACKNOWLEDGEMENTS**

We would like to thank the Southern African Institute for Policy and Research (SAIPAR), Cornell University's Global Health Program, and Zambart for making this research possible. Specifically, we wish to express our gratitude to Dr. Marja Hinfelaar, Director of Research and Programmes at SAIPAR, Dr. Tinenenji Banda, Associate Director of the Legal Division, and Ginny Bond, Director of Zambart, for their guidance and support throughout the research process.

We would also like to extend thanks to our expert stakeholders from the following organisations for their willingness to share their time, expertise, experiences, and perspectives: Lusaka Water and Sanitation Company, Dziko Langa Club, CARE international, Kanyama Water Trust and Zambia Youth Platform.

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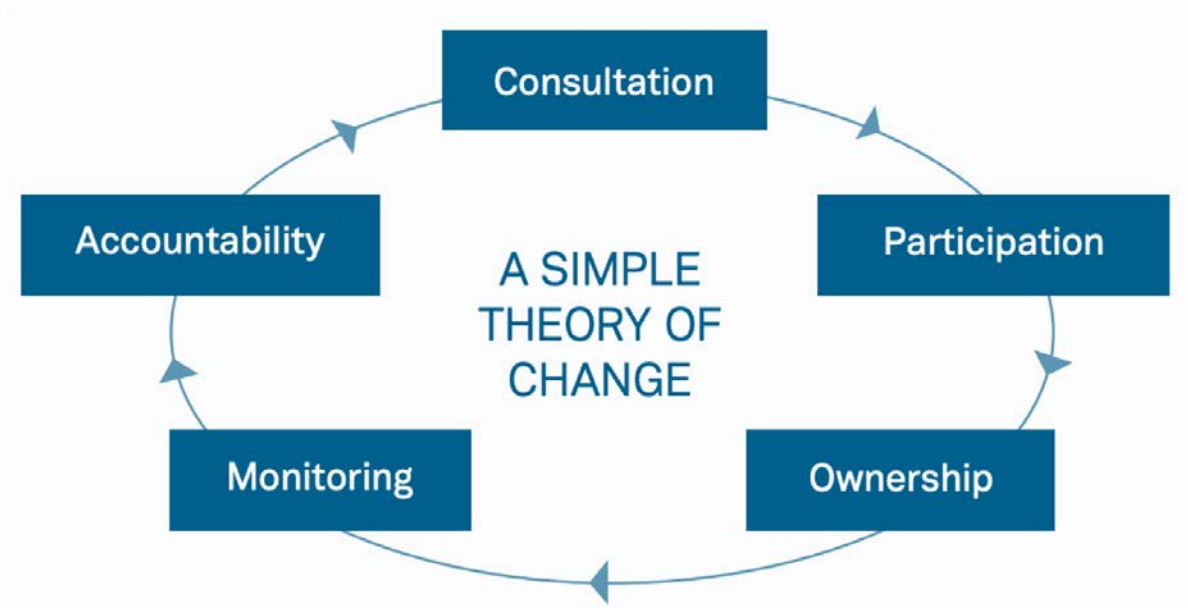
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## APPENDIX



**Figure 1:** A graphic demonstrating the Theory of Change (Walters, 2016).

Attribute	Variable	Frequency	
		Study group (n = 801): %	Comparison group (n = 300): %
Distance travelled to the water point	Not more than 100 m	74	29
How long does the round trip to collect water take?	Less than 20 min	90	25
What is the price of water?	0–K50 per 20 litre bucket	73	16
Where do you draw water for drinking/cooking?	From the Trust water points	94	0
	From LWSC water points	0	65
	From shallow wells	6	35
Where do you draw water for other household chores?	From the Trust water points	77	0
	From LWSC water points	0	63
	From shallow wells	23	37

Table 2. Key results of the evaluation study of the PROSPECT water project<sup>10</sup>

**Figure 2:** Results of a study comparing accessibility of WSS in PUAs served by WTs versus those without WTs (Kayaga & Kadimba-Mwanamwambwa, 2019).

**Figure 3:** List of interviewees in the study

<b>Name</b>	<b>Role, Organisation</b>
Stakeholder X	Superintendent of Sanitation, Lusaka Water and Sewerage Company (LWSC)
Lason Kapata	MEAL Advisor, CARE International Zambia
Enock Ntoka	Head of Programs, Zambian Youth Platform (ZYP)
Andrew Smith Simataa	Senior Programs Officer, ZYP
Stakeholder SN	Assistant Professor, Hokkaido University Japan
Susan Mwelwa	Secretary, Dziko Langa Club
Ian Saungweme	Dziko Langa Club
Justin Somi	Dziko Langa Club
Isaac Kamwendo	General Manager, Kanyama WT
Henry Zimba	Manager, Chaisa WT



**Figure 4:** Entrance to Kanyama Water Trust



**Figure 5:** A broken down communal water tap in Chawama of Lusaka



**Figure 6:** Safe pit latrines in Kanyama, constructed for residents through the partnership between Kanyama WT and the Bill and Melinda Gates Foundation



**Figure 7:** The inside of a safe pit latrine in Kanyama



**Figure 8:** A faecal waste collection truck at Kanyama WT



**Figure 9:** The lined pit of a safe pit latrine in Kanyama