The State of Water Infrastructure Development in Zimbabwe

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Abstract

The article explores the history of urban water infrastructure management in Zimbabwe focusing on water sector reforms and water infrastructural development strategies. The challenges experienced in the implementation of the water sector reforms in the country by examining the legal and institutional frameworks that guide public private partnerships (PPPs) in general and those that guide PPPs in the water sector, particularly in the development of urban water infrastructure in Zimbabwe are explored. Using the qualitative approach, the article aims to answer research question such as what water reforms and public private partnership projects have been implemented in Zimbabwe? The article presents a discussion of water sector reforms in Zimbabwe and proposed strategies for urban water infrastructural development that include policy frameworks and institutional arrangements proposed a decade ago. Findings explore that there are gaps in research pertaining to the implementation of water sector reforms in Zimbabwe. The study concludes by proposing the implementation of PPP initiatives in Zimbabwe in general and urban water infrastructural PPP initiatives, in particular, as a solution to improve water infrastructure.

Keywords: Public private partnerships, Qualitative, Water infrastructure, Zimbabwe

Introduction

The article identifies and explains the various role players that are involved in urban water infrastructure development, focusing on Acts that serve as frameworks. The United Nations (UN) (2014:1, quoted in Vyas-Doorgapersad 2023:453) issued a warning that the growing population of Africa is hastening the loss of water resources in several African nations. By 2020, Sub-Saharan Africa will have 400 million people living in urban slums, making it the developing area with the highest slum frequency. This statement was stated with understanding that a sizeable fraction of the world's population, particularly in Africa, struggles to get clean water and proper sanitation (Manzungu, Mudenda-Damba, Madyiwa, Dzingirai & Musoni 2016:56-57, referenced in Vyas-Doorgapersad 2023:453-454). The 2013 Millennium Development Goals (MDGs) Report stated that Africa was unlikely to meet the target due to political instability, growing population, and a lack of investment funds, even though the world was on track to reduce the percentage of people without access to safe drinking water by half by 2015 (Manzungu et al. 2016:56–57, cited in Vyas–Doorgapersad 2023:453–454). The article focuses on water infrastructure challenges in the context of Zimbabwe, as a case under study.

In Section 77 of the Zimbabwean Constitution (2013), which lists water as a fundamental human right, it is also stated that the state is required to take reasonable governmental and other measures, within the limits of the resources at its disposal, to gradually realize this right (also see Mutandwa & Vyas-Doorgapersad 2023a:24). Sustainable Development Goal (SDG) 6 requires that all countries have access to clean water (United Nations Development Programme [UNDP] 2020, referenced in Vyas-Doorgapersad 2022b:266), therefore Zimbabwe must fulfill this goal. The article discusses the state of urban water infrastructure, and the related challenges faced in Zimbabwe requiring solutions. These challenges are some of the reasons that Zimbabwe felt the need to opt for PPP arrangements to address the gaps in urban water infrastructure. Several PPP projects in Zimbabwe are explained and those considered to be successful are identified as are those that have raised concerns regarding their implementation levels.

The information is gathered using a qualitative research methodology. According to Zondo (2021: 225), the primary output of qualitative research methodology is descriptive data, which must be evaluated using exacting and systematic techniques for coding, transcribing, and analyzing themes and trends. Golafashani's (2003, quoted in Vyas-Doorgapersad 2017; Vyas-Doorgapersad 2022a:2) assertion is that qualitative research aims to comprehend phenomena in context-specific situations lends credence to the technique as well. A literature review is used to compile the data. According to Boswell and Cannon (2011: 118), a literature review's primary goal is to determine what is known and what is unknown about a phenomenon that has been studied. The management of urban water infrastructure and PPPs was the subject of a general review of the literature.

Some of the pertinent documents used in the literature review relevant to this study included government reports, government publications, journal articles, theses, conference papers, Internet sources, budget statements, books, newspapers, parliamentary reports, published and unpublished dissertations, Acts of parliament, and magazines. The data is analyzed using qualitative content analysis, which, according to Hsieh and Shannon (2005:1277), is a method for systematically classifying and identifying themes, patterns, or codes to subjectively interpret the content of text data. This point of view is backed up by Wonderflow (2019:1), who states that the objective of content analysis (also known as document analytics) is to conduct a qualitative analysis of documents, which may be electronic or printed.

After the introduction, the article discusses various water sector reforms in Zimbabwe. The article then explains the state of urban water infrastructure and current gaps in urban water infrastructure in Zimbabwe. The findings are analysed under the synthesis, followed by a conclusion that offers recommendations for consideration.

Water Sector Reform in Zimbabwe

The new Zimbabwean government, the African National Union-Patriotic Front (ZANU-PF), decided to implement significant reforms in the water sector in 1980 (Mukurira & Mugumo 2006:147, cited in Mutandwa & Vyas-Doorgapersad 2023a:26). In accordance with the new legislation of the Water Act of 1998, the reforms also aimed to embrace the concepts of integrated water resources management (IWRM). Due to the rationalization of water resource management strategies, the 1998 Water Act was enforced through the establishment of the Zimbabwe National Water Authority (ZINWA) and the seven catchment councils (National Action Committee [NAC] 2010, cited in Dhoba 2022:249; see also Mutandwa & Vyas-Doorgapersad 2023a:26-27).

In Zimbabwe, two distinct concerns led to the beginnings of post-colonial water sector reforms. The first was the urgent need to address colonial injustice in the water sector (Matinenga 1999: 224), and the second was the imperative need to establish a regulatory framework that would guarantee that all Zimbabweans have equal access to water (Mukurira & Mugumo 2006:167). For people in rural areas to have access to water for agricultural production and other uses, the push for equitable access to water was seen as the cornerstone. Water access was unequally distributed along racial lines because of the water alienation that took place during the colonial era. The Global Water Partnership in Southern Africa's promotion of integrated water resource management (IWRM) at the international level informed another aspect of Zimbabwe's water sector (Mtisi 2011). According to the Global Water Partnership (2000: 22), the IWRM aimed to promote integrated management and development of water, land, and related resources, and as Mtisi (2011) emphasised, was done without compromising the sustainability of crucial

ecosystems. This was done to maximize social and economic development while ensuring equity.

The impending water crisis in Zimbabwe, which was blamed on a decline in water supply due to increased demand brought on by increased urbanization, intensified agriculture, and rapid population growth (Mtisi 2011:10), served as the impetus for implementing the IWRM concept. IWRM was viewed as an alternative that would provide an effective decentralized institutional framework for the management of competing water uses in the context of a water crisis (Nilsson & Hammer 1996:12). The IWRM principles, which represented a radical departure from the discriminatory Water Act provisions of 1976, served as the foundation for Zimbabwe's water sector reform (Mukurira & Mugumo 2006:176). The idea of private water underwent significant changes, which led to the state acquiring ownership of the resource. Additionally, the doctrine that guaranteed perpetual water rights and appropriation was abandoned. Today, access to water is granted through a water permit that is issued for a set period and is renewable (Government of Zimbabwe (GoZ) (1998). In theory, this offered a fresh method for distributing water fairly among numerous water users (Mtisi 2011:10). When the government began the process of water sector reform in Zimbabwe in the late 1990s, the country's water policy underwent a significant transformation (Manzungu et al. 2016:66). The nation started its water reforms in 1995, and they ostensibly succeeded in achieving equity in the control over and access to productive water (Manzungu & Machiridza 2005:1; 2004:6). This was essentially an effort to democratize the management of water resources by removing rules that guaranteed privileges to access agricultural water by white farmers, expanding participation beyond holders of water rights, and separating water rights from land rights since most black people lacked land rights (Rakodi 1995:58). As a result of the reforms, integrated water resource management was adopted into the framework for national policy. This idea was founded on the decentralization of water management, the treatment of water as an economic good, stakeholder participation and representation in water management processes, and the use of hydrological boundaries known as sub-catchment and catchment areas (Global Water Partnership [GWP] 2000:3). An effective framework for the management of water in Zimbabwe was believed to be provided by the four IWRM principles—discussed below. According to the Stockholm International Water Institute (SIWI) (2020:18), they were created with the goal of improving livelihoods and reducing poverty, particularly for historically marginalized water users like resettlement, communal residents, and small-scale farmers. They also aimed to involve water users in the decision-making and management of water ((SIWI) (2020:18). The IWRM philosophy, which has had a significant impact on how people perceive the management of water around the world, was in line with the reforms in the water sector (Manzungu 2004:4).

The International Conference on Water and Environment (ICWE) in Dublin in 1992 and the United Nations Conference on Environment and Development (UNCED) in Rio in 1992,

which both passed resolutions, are the foundations for the four IWRM principles (Manzungu 2004). The four IWRM Dublin Principles are as follows: water is a limited and vulnerable resource that is necessary for life, development, and the environment; water development and management should be based on a participatory approach involving users, planners, and policymakers at all levels; women play a key role in the provision, management, and protection of water; and water has an economic value in all of its competing uses and should be recognized as an economic good (Manzungu 2004).

Particularly in Southern Africa, these IWRM initiatives were highly regarded. To support the protocol on shared watercourses in the SADC countries and the SADC Water Sector Coordinating Unit (WSCU) that was established in Maseru, Lesotho (see SADC WSCU 2001), the Southern African Development Community (SADC) countries, a regional economic grouping, contributed to the popularization of new water management approaches. It was decided to create a SADC Strategic Action Plan for Integrated Water Resources Management (IWRM) for the years 1999 through 2004 (Manzungu 2004:5). This was the SADC Water Sector, 1998 and the Southern Africa Water Vision (Global Water Partnership (GWP 2000). The four main IWRM principles were closely related to Zimbabwe's water reform goals. The first was the assertion that water management must be based on hydrological boundaries because they serve as a river system's natural boundaries (Newson 1997:18), which strengthened the case for decentralization (Marumahoko 2020:16). As a result, decentralized institutions of water management were built on top of the sub-catchment and catchment areas. The argument in favour of a decentralized institutional framework for water management was based on decentralization's theoretical appeal, which is more exposed and suggests a more decentralized framework that is therefore receptive to local aspirations and needs (Crook & Sverisson 2001:5). Decentralization was thought to provide systems for local government oversight of water resources (Menard, Tropp & Jiméne 2017). The idea that the decentralization of water management offers an institutional forum for the promotion of the representation and participation of different water users in the decision-making process was another factor (Taonameso 2021:2). Considerably better water use and revenue generation for funding decentralized water management institutions and development would result from treating water as an economic good with a price attached (Romao & Akhmouch 2019:5).

The IWRM principles and concept were reflected in Zimbabwe's water reforms, but they did not correspond to the country's aspirations or concerns for the sector's changes (Nhapi 2009). To correct the injustices and imbalances caused by colonialism in the water sector was at the heart of the locals' concerns (Matinenga 1999:224). The government was concerned that large-scale commercial agriculture, which continued to enjoy preferential access to water, was at odds with the political system of an independent Zimbabwe (Musemwa 2020:16). Various arguments that were presented indicated the urgent need to reform the water sector and establish a regulatory framework that guaranteed all

Zimbabweans equal access to water (Taonameso, Mudau, Traore & Potgieter 2021:2). The African Finance Ministers' Meeting (2020:1) states that the prerequisites for water sector reform include accountability and transparency through participatory mechanisms appropriate to local realities, wishes, and needs; laws and efficient administration; coordinating and mobilizing the numerous social players involved; responding to citizens' long-term needs by ensuring sustainable management of the resource; and developing and reforming institutional frameworks (Mugumbate & Nyoni 2016:10). According to Mtisi (2011:5), the principles of Zimbabwe's water sector reform include the following: the State would own all underground and surface water; any use of water other than for primary purposes (i.e., domestic) would require State approval; all people with an interest in the use of water would be involved in making decisions about its use and management; and water would be managed by catchment areas because rivers do not match administrative and political boundaries.

According to Water Resources Management Services (WRMS) (n.d.) and GoZ (1998), managing water by catchment area is the best way to ensure equitable and effective use of water and promote the preservation and protection of water resources. GoZ (1998a) added that this process of democratising water commenced in 1995 and reached its peak in 1998 with the promulgation of the Zimbabwe National Act (GoZ 1998a) and the Zimbabwe National Water Authority Act (ZINWA Act) (GoZ 1998b). In addition, a supporting policy document titled *Towards Integrated Water Resources Management, Water Resources Strategy for Zimbabwe* (WRMS n.d.) was produced and this recognised stakeholder participation as an important strategy and policy instrument (Taonameso et al. 2021:2). The involvement of stakeholders is supported by the institutional framework of sub-catchment and catchment councils in these 1998 water sector reforms. Based on the main river systems, the nation was divided into seven catchment councils: Manyame, Gwayi, Save, Mazowe, Sanyati, Runde, and Mzingwane (Water Act 1998). Therefore, rather than using river basins to define the sub-catchment councils, the main tributaries are used. A further important point to be made is that all of Zimbabwe's river basins are shared internationally (see African Development Bank (AfDB) n.d.). For the GoZ, the goals of implementing these significant reforms in the water sector were to adopt the Integrated Water Resource Management (IWRM) principles and align them with the Zimbabwe National Water Act of 1998, as well as to align national water regulations with the national goals of resolving unequal access to the country's water resources as embodied in the colonial Water Act of 1976 (Taonameso et al. 2021:2).

The State of Urban Water Infrastructure in Zimbabwe

Despite the water sector reforms in Zimbabwe that were initiated soon after independence in 1980, the water sector in the country continues to grapple with severe water shortages (Marumahoko, Afolabi, Sadie & Nhede 2020). Following the cholera outbreak in 2008–

2009 that infected 4300 people, the majority of whom were in the capital city of Harare, the failure of Zimbabwe's water services made international headlines (Tsiko & Togarepi 2012). Due to the cholera epidemic that claimed thousands of lives in Zimbabwe between 2008 and 2009, the need for funding to facilitate water and sewerage reticulation became urgent (Mutandwa & Zinyama 2015:111). Mutandwa and Zinyama (2015) opine that the lack of investment and economic collapse in Zimbabwe's water sector negated all the economic progress made in the 1990s. A severe cholera outbreak with 100 000 reported cases and an estimated 4280 deaths occurred in 2008 as a result of the water and sewage services' gradual decline (Mutandwa & Zinyama 2015:111). The poor condition of the water and sewer reticulation infrastructure under local government control is blamed for the epidemic. Urban water supply continues to be unreliable, of poor quality, and inconsistent (Zimbabwe Economic Policy Analysis and Research Unit [ZEPARU] 2011:16). The issue has been attributed to the limited ability to replace and repair water pumps, the inability to obtain sufficient chemicals to purify water, and the failure to replace the deteriorating water supply network, which has resulted in a sizable amount of water being lost through leaks. Harare is thought to be losing 40% of the little treated water that is available (Zimbabwe National Chamber of Commerce [ZNCC] 2009:9).

A serious decline in services has resulted from a failure to maintain and repair an infrastructure that is already old. Urban settlement reports, including those from growth centers, consistently paint a picture of unaccounted-for water, damaged distribution systems, and effluent and raw sewage outflows into rivers and dams, which are frequently the main sources of the nation's bulk water supply (Nhapi 2009:221). Many water treatment facilities are inoperable, lack the power to consistently pump water, or lack chemicals. One of the main contributing factors is the water services' intermittent power supply (Central Statistical Office [CSO] 2015:22). Zimbabwe’s urban water infrastructure has deteriorated, and water-dependent business has been adversely affected. In support of the foregoing discussion, the African Ministers’ Council on Water (AMCOW) (2011:22) notes that in the last two decades, Zimbabwe's urban water infrastructure has significantly declined from its once-high standards. Services have drastically decreased because of local authorities' failure to maintain and repair the infrastructure, which was already deteriorating. It is also noted by Makwara and Tavuyanago (2012:151) that cities still have a lot of non-revenue water, and their water distribution systems need repair or a complete overhaul. Dams and rivers that provide bulk water supply receive raw sewage outflows. In Zimbabwe's urban centers, many water treatment facilities are inoperable, lack the power to operate reliably, and lack the chemicals needed to treat the water, according to Makwara and Tavuyanago (2012:151). Urbanization is suffocating Zimbabwe's cities, and the country's water infrastructure is deteriorating and prone to failure. Millions of people's lives are at risk from consuming contaminated water, including water pumped from underground sources, because of the major urban centers' water and sewer systems being on the verge of collapse (Makwara & Tavuyanago 2012:151).

Large-scale blockages occur in the sewerage systems, water treatment facilities are inoperable, and numerous distribution systems are in poor condition (Kanyepi & Tanyanyiwa 2021:2). The operational issues have been made worse and the system's collapse has been facilitated by the electric power systems' inability to deliver a consistent and reliable supply of electricity (Chigudu 2015:14). Water supply fluctuations have reduced industrial output and increased outbreaks of waterborne diseases, which are made worse by overburdened infrastructure. Typhoid and diarrhea outbreaks, for example, have been brought on by the inadequate hygiene services, according to the Ministry of Health and Child Care (MoHCC) (2020). According to the MoHCC (2020), there was an outbreak of typhoid in 2020 that infected 722 people and resulted in 10 deaths. In the same year, there was another outbreak of diarrhoea that affected 256 281 people with 115 deaths (MoHCC 2020). The Greater Harare Water and Sanitation Report (GHWSR) (2014:1, cited in Mutandwa & Vyas-Doorgapersad 2023b), reports that in almost every city and growth area in Zimbabwe, the lack of water infrastructure has resulted in inconsistent water supply, with major cities like Greater Harare and Bulawayo being the worst affected. Ecosystems, industrial growth, food security, as well as the well-being and health of people, have all been put in danger. Harare and Chitungwiza both experienced severe waterborne illnesses like typhoid and cholera because of the patchy water supply, which was made worse by the poor water quality. The main water supply for Harare was built in 1953 for a small population, but it now serves Norton, Chitungwiza, and Ruwa, and the city's aging infrastructure cannot keep up with the population growth (GHWSR 2014:2, cited in Mutandwa & Vyas-Doorgapersad 2023b).

On the policy front, there is not a single piece of legislation that addresses the administration of water and sanitation. Several Acts of Parliament have covered a variety of policy issues as well as the structuring and management of services in the water sector (Muchadenyika & Williums 2016:3). These pieces of legislation include the Water Act and the National Water Authority Act, both promulgated in 1998 and the Environmental Management Act of 2002.

Lack of funding hampered efforts to build new dams, renovate old ones, and build treatment facilities (Jonga 2014:84). According to estimates, it would cost USD 2.2 billion over ten years to construct new dams and treatment facilities; of that amount, USD 820 million would come from the national budget, ZINWA, and external donors (AMCOW 2015:24). A private investment of USD1.38 billion was suggested for the building and/or rehabilitation of dams and water transportation facilities under PPP agreements with ZINWA (Asian Development Bank [ADB] 2011:33). New projects, through PPP, were implemented in Zimbabwe, namely the New Limpopo Bridge, the Beitbridge Bulawayo Railway, the Newlands Bypass, to state a few (refer to Zimbabwe Economic Policy Analysis Research Unit [ZEPARU] 2011:51).

It could be said that there have been a lot of lame games. Local councils blame a lack of electricity while the central government accuses them of failing. The inability to obtain chemicals could give rise to some worry. Future publications might explore these topics.

Current Gaps in Urban Water Infrastructure in Zimbabwe

The water sector collapsed within a decade, according to the Zimbabwe Water Resources and Infrastructure Summit held on October 22 and 23, 2013. Without enough consideration for sustainability, the sector was established with funding from donors and state subsidies. If the political climate is favorable, there is a significant financial injection, and the sector is prioritized, a rapid recovery may be possible (ADB 2011:23). The sector needs a second wave of changes, as well as better leadership, role allocation, sector governance, capacity building, and stakeholder consultation. A strategy like this would shift the government's role from one of implementer to one of facilitator, addressing crucial policy gaps and amending policies to improve sustainability, assisting service providers in becoming financially viable, and setting up sector monitoring and evaluation and annual evaluation processes (refer to African Development Bank [AfDB] n.d.). By 2008, only 46% of Zimbabweans had access to safe water and 3% to adequate sanitation (World Bank [WB] (2011). The bleak scenario assumes that foreign resources are restricted to humanitarian aid alone and that budgetary allocations for water and sanitation are tokenistic. This implies that Zimbabwe is 'off-track' in addressing sanitation and clean water under Sustainable Development Goal (SDG) 6 even in the optimistic situation (Zimbabwe Report 2016:126).

For water and sanitation, the annual investment shortfall is predicted to be as high as USD 365 million and USD 336 million, respectively. A significant portion of the investment is needed to repair the current, extensive, but crumbling infrastructure (Zimbabwe Infrastructure Report (ZIR) 2018). The Ministry of Water Resources Development and Management has taken the lead. According to the Reserve Bank of Zimbabwe (RBZ) (2016:47), the priority projects in the water sector include the National Matabeleland Zambezi Water supply. The project involves the construction of a pipeline from the Zambezi River to Gwayi Shangani Dam and from the Gwayi Shangani Dam to Bulawayo (RBZ 2016:47). Other new dam projects include the Kunzvi Musami Dam (Harare), the Muda Dam (Chitungwiza), the Semwa Dam (Bindura), the Connemara Dam (Gweru), the Runde-Tende Dam (Masvingo) and the Condo Dam (Mutare) (RBZ 2016:47). The water infrastructure gaps in almost all urban centres in Zimbabwe generally indicate a significant challenge in water service provision in the country. Given the fiscal challenges the country is facing, it might be a long time before the country resolves its water challenges in urban areas.

Synthesis

Zimbabwe, because of its colonial history, inherited a segregated water management system. Water segregation between whites and blacks was embedded in the Water Act of 1976. The water system was designed to advance the interests of the colonial masters in urban areas and rural commercial lands but extensive water reforms to address the inherited imbalances were implemented by the ZANU-PF Government after independence was gained in 1980. The Water Act of 1976 was amended and the new Water Act that was enacted in 1998 introduced the Integrated Water Resources Management (IWRM) principles. Regardless of these reforms, water challenges in Zimbabwe's urban areas persisted and the ageing water infrastructure continued to deteriorate. Zimbabwe's water situation hasn't entirely changed. The major one is the population growth since the period before independence, although there may be other factors as well. Conflicts between the national government and local city/town councils could be another factor. One may wonder whether this type of factor has an impact on water management governance. Due to its comprehensive approach, this aspect might be explored in the future studies.

The study discussed several of the water sector reforms that were considered in Zimbabwe that were triggered by the need to address the colonial imbalances and introduce a comprehensive legal framework that would ensure equitable access to water. Several of the reforms were necessitated by global dynamics such as the Integrated Water Resources Management (IWRM) promoted by the Global Water Partnership in Southern Africa (refer to Mehta, Movik, Bolding, Derman & Manzungu 2016). The water sector reforms resulted in a paradigm shift in which the ownership of private water was abolished. Water ownership was then vested in the State.

The study explored the state of urban water infrastructure in Zimbabwe and indicated that, despite Zimbabwe's water reform efforts since independence, water shortages persist and are worsening. Water challenges in Zimbabwe became global news in 2008 and 2009 when the country experienced a cholera outbreak that claimed the lives of many people. The water woes are attributed to ZINWA and urban local authorities' lack of capacity and inability to revamp the water infrastructure. The extant water infrastructure is old and struggles to sustain urbanisation-induced water demands. The failure to revamp the water infrastructure has resulted in water losses through leakages. Several of the strategic water treatment plants are no longer operational and those that are operational are not operating at their full capacity. There are also reports of frequent breakdowns at water treatment plants. The GoZ has developed several strategies to ameliorate the severe water challenges. These included the development of the financing strategy for replacing the ageing infrastructure; updating the tariff and energy policies; building capacity in the urban councils and encouraging private sector participation through PPPs. All these efforts failed to improve the water situation. This highlights the need for government commitment in

the implementation of PPPs. If properly implemented, PPPs can potentially address the capacity gaps and improve the water situation that has hounded Zimbabwe for decades.

The study established that the PPP approach is not new to Zimbabwe. The country enacted the Zimbabwe Development Agency (ZIDA) PPP Act of 2020 to encourage the uptake of PPPs. Prior to ZIDA, Zimbabwe had enacted pieces of legislation such as the Joint Venture Act of 2016, the 2010 PPP Act and a cocktail of blueprints that operationalised the use of PPPs, the most popular being STERP I (2009) and STERP II (2010-2013), Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZIMASSET) (2013), and Transitional Stabilisation Programme (TSP) (2018). The country has used them in road infrastructure, water infrastructure — although on a small scale — rail infrastructure, health services and housing, electricity generation, among others.

There is also a discussion concerning the implementation of PPPs in Zimbabwe, highlighting that the GoZ's several commitments toward PPPs that are linked to the Policy Guidelines of 2004. The Short-Term Economic Recovery Programme (STERP) of 2009 made provisions for the private sector to become involved in infrastructure development through PPPs. The ZIMASSET of 2013 also prioritised PPPs in infrastructure development. These policy reforms resulted in the adoption of several PPPs in the health, water, and transport sectors. For instance, in 2012, the Chitungwiza Central Hospital initiated a 5-year PPP with Baines Imaging Group, which rehabilitated the operating theatre and the renal and radiology departments, the mortuary and the pharmacy. In the water sector, Tongaat Hullet was involved in a build-operate-transfer (BOT) PPP arrangement to rehabilitate the Chiredzi Water Treatment Plant; the Muzhu Dam Rehabilitation Project to improve bulk water supply to Chiredzi was achieved through a BOT arrangement; ZB Water Augmentation employed a BT arrangement to address the bulk water supply to Ruwa; the Zimre Properties' water and sewerage were completed through a BT arrangement; the Damafalls water augmentation was achieved through a 25-year BOT arrangement. The preceding evidence testifies that, if properly implemented, PPPs can be a viable course of action for addressing the water challenges in Zimbabwe.

Conclusion

The article explored gaps in the legal and institutional frameworks and identified the ideal environment that would be conducive to PPP, taking cognisance of the literature that was reviewed and the research findings. There is a dearth of literature on the possibility of using the PPP model for urban water infrastructural development that this study sought to address. A dearth of fiscal space in the public sector is a motivating factor for PPP uptake. It is also explored how Zimbabwe implemented its reforms in the water sector in the early 90s in line with the IWRM principles and aligned its legal and institutional framework guided by the Water Act and the ZINWA Act. Despite the significant reforms, the urban

water service provision continues to deteriorate to critical standards thus threatening the lives of millions of citizens in urban centres. The outbreaks of cholera and typhoid in 2008-2009 and the subsequent outbreak of diarrhoea and typhoid in 2020 illustrate the urban water challenges in Zimbabwe (MoHCC 2020). This study observed that the main challenge facing urban water institutions is a lack of finances to repair, maintain and/or construct new urban water infrastructure. The possibility of using PPPs for large urban infrastructure could be a solution.

For PPPs to address the urban water challenges in Zimbabwe, the study recommends effective PPP legal, policy and institutional frameworks. The findings revealed that there are too many laws governing the water sector and PPPs in Zimbabwe. Multiple laws complicate investment in the water sector. The study proposes that the GoZ realigns the PPP legislative framework and that through the Office of the President and Cabinet (OPC), critically analyse the legislative framework governing PPPs and address the gaps in the law. The alignment of laws should result in the development of a PPP policy, which is important, as it will provide a clear vision to guide the adoption and implementation of PPPs. The study highlighted that Zimbabwe does not have a PPP policy and the absence of such raises several questions about the government's commitment to PPPs. The OPC must perform a leading role in initiating a PPP policy.

Effective and unambiguous communication has an important role in facilitating PPP implementation. PPPs involve various actors playing different but complementary roles. In such a situation, leaders with effective communication skills are required for successful PPP implementation. This is even more critical in Zimbabwe's water sector governance, given the numerous stakeholders. Effective and unambiguous communication must therefore be at the core of PPP project implementation. Effective communication structures are required to facilitate the sharing of important information. Stakeholders must receive timely feedback on how the PPP project is progressing. Transparency and effective sharing of information keep stakeholders au courant with the project thereby motivating them and maintaining their buy-in. The PPP project leader must strive to ensure that stakeholders within and outside the partnership have the information they need. This can only be achieved if the host organisation establishes feedback mechanisms between the various stakeholders, including the policymakers. The host organisation must, therefore, develop effective reporting structures to transmit relevant information among the stakeholders.

Note

This article is based on an unpublished PhD thesis titled Mutandwa, H. 2023 - Urban water infrastructure development in Zimbabwe: The role of Public Private Partnerships at UJ under the supervision of Prof S Vyas-Doorgapersad. Unpublished Thesis. Johannesburg: University of Johannesburg.

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