Some For All, Forever - Investment in Water Infrastructure

Contents

Executive Summary

It is widely recognised that South Africa is facing an increasingly serious water crisis. Unless this is addressed, it will not be possible to achieve South Africa's economic growth and development goals. Traditionally, rising consumption of water has tracked the rate of economic growth. In order to decouple economic growth rates from rising demand for water, in a context of negative climate change impacts on the water supply system, it will be necessary to significantly increase investments in South Africa. This will mean increased capital investments in infrastructure assets, as well as increases in operational expenditure to significantly improve the overall quality of ongoing operations and maintenance. The report outlines three possible scenarios. The first is a 'baseline' scenario that essentially means achieving the water goals outlined in the Sustainable Development Goals (SDGs) and National Development Plan (NDP) using the existing combination of technologies and delivery processes. The total investment required to cover both capital and operational expenditure through to 2050 is R91 billion more per annum than current levels of investment. The second is the 'sustainable scenario', which entails various measures to use water resources more sustainably. The total investment required to cover both capital and operational expenditure for the sustainable scenario through to 2050 is lower than the 'baseline', at R75 billion more per annum than current levels of investment. Finally, a 'worst scenario' was assessed, which would essentially be business-as-usual but under worsening conditions, such as the continued decline of water services delivery at municipal level, or more severe climate impacts. The total investment required to cover both capital and operational expenditure for this 'worst scenario' through to 2050 is significantly higher than the 'baseline' at R149 billion more per annum than current levels of investment. In short, if nothing is done, costs will rise. Ten recommendations are provided to address the challenge of financing the lowest cost options that comprise the sustainable scenario.

Introduction

The 'Dublin Principles' for Integrated Water Resource Management (IWRM) were globally agreed in 1992 and it was no coincidence that when South Africa's first democratic government began formulating water policy in 1994 and published the National Water Act

(NWA) in 1998, the country's legislation resonated with the principles of IWRM (Allen, 2003).

The NWA replaced South Africa's 1956 Water Act, which was founded on European water law, and set out to align water allocations with the country's post-1994 democratic ambition. In support of this ambition, the Department of Water Affairs coined the slogan, "Some for all, forever" to foreground the NWA's balance between economic efficiency, environmental sustainability, and equity. The preamble to the NWA recognises the idea that

> water is a scarce and unevenly distributed national resource which occurs in many different forms which are all part of a unitary, inter-dependent cycle [and]...the need for the integrated management of all aspects of water resources and, where appropriate, the delegation of management functions to a regional or catchment level so as to enable everyone to participate. (1998)

South Africa is a semi-arid country with a severe water crisis, which has adverse implications for basic food consumption, economic productivity, and environmental sustainability. According to the 2023 National State of Water Report, water insecurity has reached critical levels, with nearly 98% of the available freshwater resources already allocated. The water variability is also exacerbated by climate change impacts, with studies showing rising mean temperatures annually and increased rainfall intensity in some parts of the country. This has varying implications for the water sector:

- declining water availability due to reduced surface and groundwater resources;
- higher rates of evaporation due to higher temperatures;
- increased irrigation needs; and
- risks of damage to pipelines, dams, and other water infrastructure subsystems due to flooding.

As the impacts of climate change become increasingly evident, investing in water infrastructure now is more critical than ever. The 2023 National State of Water Report makes it very clear that South Africa is facing a water crisis. If the rate of economic growth is not decoupled from the rate of water use, water will become a binding constraint that hampers future economic growth and undermines development strategies for meeting basic human needs. Furthermore, given that Southern Africa is warming at twice the rate

of the global average, the science reveals very clearly that South Africa faces very serious water challenges in the relatively near future.

Outline of the Water Sector

The South African water sector is governed through a complex multi-level institutional system responsible for the allocation, use, protection, and sustainability of the country's water resources, including drinking water, sanitation, irrigation, and ecosystem services. It involves various spheres of government, state-owned entities, legislation, and stakeholders. The Department of Water and Sanitation (DWS) is the lead department responsible for policy development, regulation, management of national water resources, oversight of infrastructure delivery, and intergovernmental coordination of the sector. Its mandate is defined by Section 27 of the Constitution, the Water Services Act (No. 108 of 1997) and the National Water Act (No. 36 of 1998).

Local governments are responsible for providing water and sanitation services, with the role of provincial governments limited to supporting service delivery and coordinating regional water planning. The water boards, established by the Water Services Act, play a crucial role because they buy water from DWS and sell it to local governments. If the latter cannot pay, the water boards face a serious financial crisis, as is the case at the moment with some having effectively collapsed. There are currently nine water boards that report to the Minister of DWS.

In addition, there are catchment management agencies (CMAs) that were supposed to implement the IWRM approach at local level. CMAs are established under the National Water Act. They are responsible for the planning, implementation, and management of water resources, as well as coordinating the water-related activities of other water management institutions and water users within water management areas.

The Trans-Caledon Tunnel Authority, which was initially established by DWS to manage the investments in the Lesotho Highlands Water Scheme, has branched out into the financing of many other dams and water infrastructures.

The sector faces many serious challenges, including:

- Ageing and failing infrastructure (leakages, non-revenue water makes up more than 40%);

- Inequitable access, especially in rural and informal settlements;
- Municipal underperformance and poor financial management;
- Pollution of rivers and water bodies;
- Climate variability and drought risk;
- Slow rollout of Catchment Management Agencies (of the nine planned, only two are operational);
- Mismanagement of infrastructure by local governments and low levels of payment for water.

The total current investment levels are around R165 billion, inclusive of both capital and operating expenditure.

Investment requirements and scenarios

To address the challenge of water as a binding constraint, it will be necessary to introduce fundamental changes to the way water is regulated, managed and financed. This policy brief focuses on the investment requirements to achieve water security by 2050.

The future investment requirements of three future scenarios are reviewed, namely a baseline scenario, which is essentially business-as-usual, a worst-case scenario, and a recommended sustainable alternative. Each case is analysed using the World Bank's 'Beyond the Gap' methodology to determine future investment requirements compared to current investment levels.

Research approach

The adapted 'Beyond the Gap' framework that was applied in this study comprised five steps (Rozenberg and Fay 2019):

- **Identify objectives:** With support from DWS, the Water Research Commission, and a broader project steering committee (comprised of the Development Bank of Southern Africa (DBSA), SA-TIED, the PCC, and NPC), the NDP and SDG goals were interpreted through the lens of South Africa's national water policy and associated targets. Six sector objectives were applied in the model:
    - Universal access to safe and reliable water and hygiene services based on the SDGs and South African policy (DWS's National Water and Sanitation Master Plan goal of 175 litres per capita per day).

- Affordable and financially sustainable water services, which were interpreted in the model to imply the lowest life-cycle cost and a financing arrangement that equitably distributes liability for the cost.
- Reduced demand on freshwater resources through the adoption of efficiency measures.
- Increased catchment and water infrastructure resilience, particularly in the context of climate change and more intense rainfall events.
- Reducing the environmental impact of service delivery through attention to greenhouse gas emissions and resource efficiency. In South Africa, the 'wastewater treatment and discharge' category accounts for 4.5 $MtCO_2e$ per annum, 0.9% of national emissions.
- Aligning with SDG 6.4, the model assumed a 15% improvement in water use efficiency by 2030, as outlined in the National Development Plan: Vision 2030 (NDP).

- **Identify policy choices:** The policy choices that influence the investment required to achieve the described 'objectives' were selected with help from the project steering committee. The options included:
  - Attainment of the NDP and SDG goals for water and sanitation on every property, or alternatively, in line with DWS precedents, allowing for these water services to be shared by up to five properties in some instances.
  - Different water service technology options: conventional (standpipe taps and flush toilets), low-cost (ventilated pit latrines) or alternative (waterless and biodigesting toilets) technologies.
  - Different degrees of water conservation and demand management.
  - Timing – whether the objectives were achieved by 2030 as imagined by the SDGs or by 2040.
  - The extent of invasive alien plant clearing and its impact on run-off in major catchments.

- The size of the water allocation to South Africa's agricultural sector, ranging from an increase of 15% to an increase of 6% or a reduction of 15% from 2020 levels.
- A respective 15% improvement and 15% decline in operational efficiencies at bulk water supplies and inter-basin transfers by 2030, which the model then assumed would be maintained until 2050.

- **Identify exogenous factors:** Attention was given to exogenous factors that are unrelated to water policy but which influence the quantum of required investment to attain the objectives identified in the first step. The extent of anthropogenic warming and its impact in South Africa, and the choice of South Africa's energy sector strategy, were respectively identified as significant on the quantum of required investment in the water sector (DBSA & World Bank, 2022).
- **Estimate investment requirements for achieving objectives:** By combining exogenous factors with policy choices, a set of future scenarios was established. The first involved a Water Services Model that calculated demand for potable water and the cost of providing the water distribution infrastructure, taps and toilets to meet this demand for urban formal, urban informal, rural formal, and rural informal communities respectively between 2023-2050. The second, involved a Water Resources Model that captured the cost of securing additional water, in order to meet demand in each of South Africa's seven major water systems.
- **Estimate the funding gap**: The final step of the 'Beyond the Gap' framework involved calculating the difference between existing flows of investment and the required investment, to report the funding gap for both capital and operating expenditure, under the different scenarios of future water demand. The current investment in both operations and capital investment is R165 billion per annum across the entire value chain, i.e. from bulk water resources through to water services at the municipal level.

Research results

The research looked at three scenarios: a baseline, a sustainable alternative, and a worst case.

- The baseline scenario assumes no policy change, median climate change impacts, maintenance of current energy mix, achieving the NDP and SDG goals by 2030 using conventional technologies only, maintenance of existing levels of invasive alien plant (IAP) clearing, continuation of existing allocations of water to agriculture, and the continuation of existing levels of (in)efficiency in the integrated bulk supply system at current levels.

  Financing the baseline: R256 billion will be required for both operations and capital expenditure annually between 2023-2050 to achieve the NDP and SDG's water sector objectives within this baseline scenario, which is R91 billion more than current investment levels.

- In the sustainable/low alternative scenario it is assumed that a significantly wetter climate will prevail on the eastern side of the country, a meaningful transition away from coal takes place in accordance with IRP2019 and IRP2023, there will be sharing of some water taps in certain communities, aggressive water conservation/demand management, increased clearing of IAPs, reduced allocations of water to agriculture as a result of improve water use technologies, and improved bulk water system efficiencies.

  Financing the sustainable alternative: The annual investment requirement to cover both operating and capital expenditure could be reduced under this scenario to R214 billion per annum, which is R75 billion more than current levels of investment but R16 billion less than maintaining the baseline scenario.

- The worst/high scenario assumes that a much drier climate unfolds across the country, no energy transition takes place to a low-carbon energy system, full conventional water technologies are used, no management of IAPs takes place, there is an increased water allocation to agriculture, and a decline in system efficiencies.

  Financing the worst/high scenario: To achieve the NDP and SDG goals under this worst scenario will require an investment of R314 billion per annum to cover both operational and capital expenditure, which is a funding gap of R149 billion per annum and a nearly 50% increase compared to current levels.

These differences are illustrated in figure 1 below.

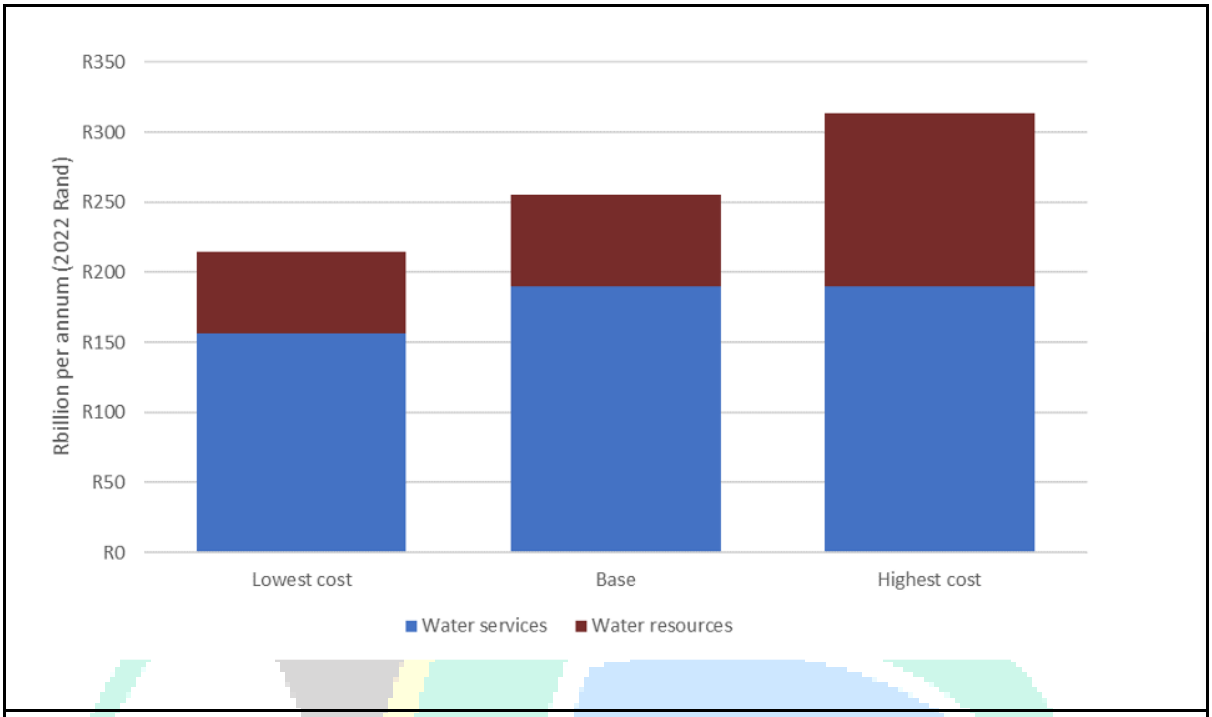


Figure 1: Aggregate estimates of investment need across the baseline, high and low scenarios 2021-2050.

(Source: DBSA et al. 2023)

The report made specific recommendations to close the funding gap, including:

i) establishing an economic regulator for water services;
ii) making appropriate service-level choices;
iii) strengthening all links in the revenue value chain;
iv) passing Development Charges legislation;
v) requiring reporting on the allocation of the Equitable Share to services; and
vi) mobilising public and private sector investments.

To mobilise public and private sector investments, the research advocated a series of formal contacts between government water policymakers and the finance sector. The goal will be to provide the most effective institutional frameworks for driving significant increases in private sector co-funding for water and sanitation projects until 2050. A Water Infrastructure Investment dialogue was convened on 29 November 2024 to implement this recommendation. The outcomes of the dialogue have been incorporated into this report, with the full report attached as Annexure A.

Water Sector Reform Agenda

Water sector reform in South Africa primarily focuses on increasing investment in water infrastructure maintenance and construction, improving water quality, and strengthening regulations and system performance. The water sector reform process forms part of broader reforms coordinated by Operation Vulindlela, a joint initiative by the Presidency and National Treasury aimed at accelerating structural changes to support economic recovery.

The different components of the water sector reform agenda that emerged from prior research and from presentations during the dialogue can be summarised as follows:

1. Establishment of catchment management agencies to coordinate the best use of water resources within South Africa's catchment areas.
2. Establishment of the National Water Resource Infrastructure Agency to streamline the management of national water assets and oversee large-scale water infrastructure development to ensure sufficient bulk water supply for the country and to drive investment through the amalgamation of the Trans-Caledon Tunnel Authority and the Water Trading Entity.
3. Improve the water-use license application process and ensure implementation across all sectors.
4. Revive the Green, Blue and No-Drop water quality monitoring system.
5. Strengthen the regulation of water pricing and service standards.
6. Implement a viable cost-reflective raw water pricing strategy.
7. Resolve the inefficiencies of metropolitan municipalities' water and sanitation services by ring-fencing revenue from the provision of water and sanitation services for exclusive use of these services. Appoint water trading services managers with responsibilities for the full value chain to act as a single point of accountability. Use conditional grants as incentives to drive change.
8. Stabilise the system in the short term by addressing municipal non-revenue water challenges.

9. Explore the separation of the municipal water authority and water service provider.
10. Strengthen the Water Partnerships Office (WPO), a partnership between DWS, DBSA, and the South African Local Government Association (SALGA), to coordinate private sector participation.
11. Mobilise co-investments for water infrastructure projects via the DBSA-managed Infrastructure Fund.
12. Establish an independent water services regulator, equivalent to the role that the National Energy Regulator of South Africa plays in the energy industry.
13. Streamline the public-private partnership framework to enable greater private sector participation.
14. Address inefficiencies in the procurement system.
15. Address the culture of non-payment amongst consumers.

Valuable information on water services reform processes at the municipal level was obtained from SALGA during the water dialogue. It is included here to provide a full picture of the water sector reform process.

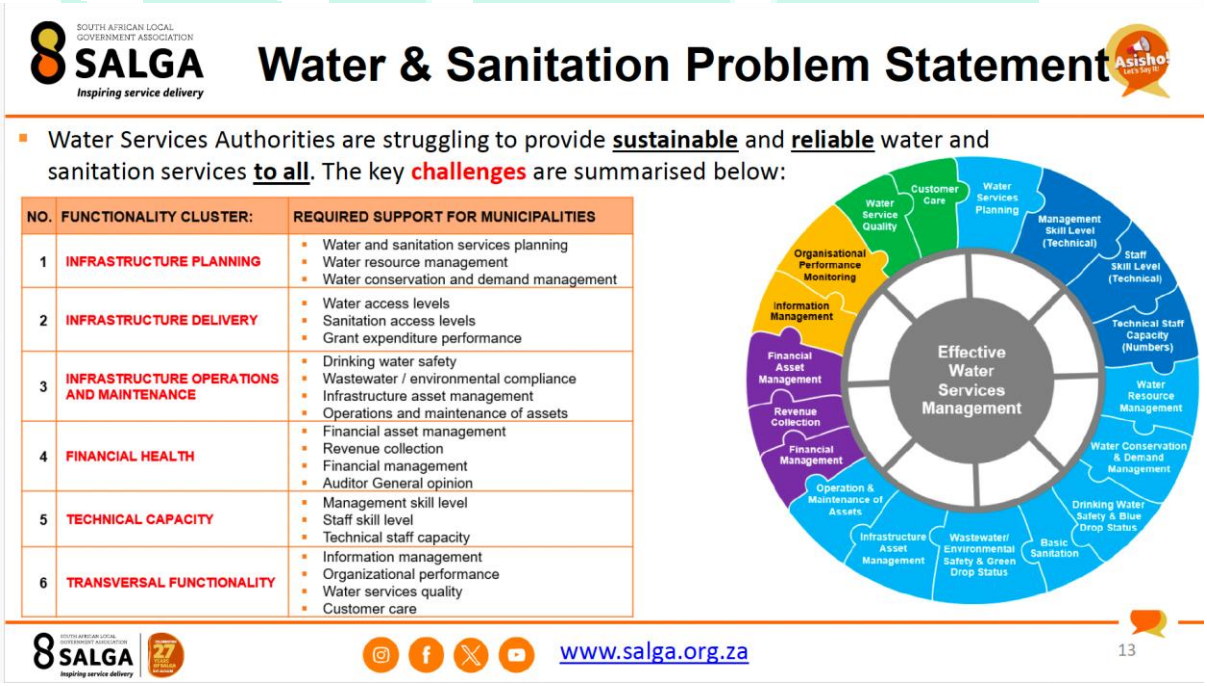
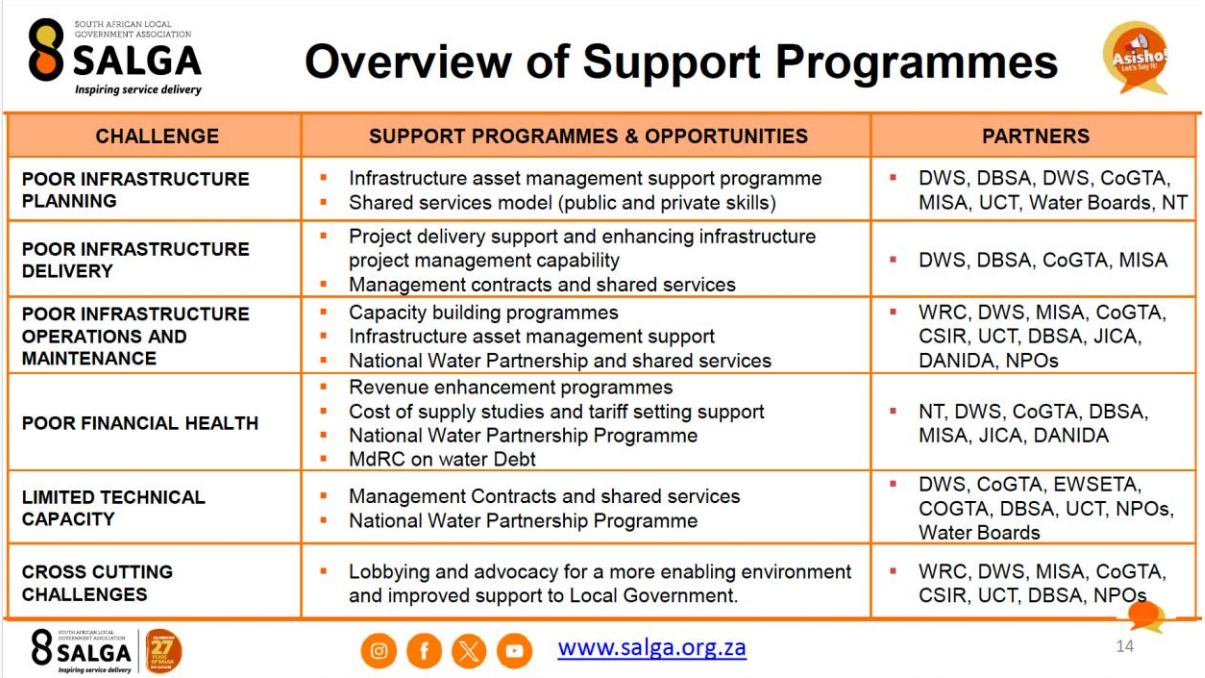


Figure 2: Water and sanitation problem statement at the municipal level.



SOUTH AFRICAN LOCAL GOVERNMENT ASSOCIATION
SALGA
Inspiring service delivery

Overview of Support Programmes

CHALLENGE	SUPPORT PROGRAMMES & OPPORTUNITIES	PARTNERS
POOR INFRASTRUCTURE PLANNING	▪ Infrastructure asset management support programme ▪ Shared services model (public and private skills)	▪ DWS, DBSA, DWS, CoGTA, MISA, UCT, Water Boards, NT
POOR INFRASTRUCTURE DELIVERY	▪ Project delivery support and enhancing infrastructure project management capability ▪ Management contracts and shared services	▪ DWS, DBSA, CoGTA, MISA
POOR INFRASTRUCTURE OPERATIONS AND MAINTENANCE	▪ Capacity building programmes ▪ Infrastructure asset management support ▪ National Water Partnership and shared services	▪ WRC, DWS, MISA, CoGTA, CSIR, UCT, DBSA, JICA, DANIDA, NPOs
POOR FINANCIAL HEALTH	▪ Revenue enhancement programmes ▪ Cost of supply studies and tariff setting support ▪ National Water Partnership Programme ▪ MdRC on water Debt	▪ NT, DWS, CoGTA, DBSA, MISA, JICA, DANIDA
LIMITED TECHNICAL CAPACITY	▪ Management Contracts and shared services ▪ National Water Partnership Programme	▪ DWS, CoGTA, EWSETA, COGTA, DBSA, UCT, NPOs, Water Boards
CROSS CUTTING CHALLENGES	▪ Lobbying and advocacy for a more enabling environment and improved support to Local Government.	▪ WRC, DWS, MISA, CoGTA, CSIR, UCT, DBSA, NPOs

SALGA www.salga.org.za 14

Figure 3: Overview of support programmes at municipal level.

Recommendations

The following are the specific recommendations that flow from the above findings and the November 2024 dialogue session:

1. Take a strategic and policy decision to define the sustainable alternative as the preferred future scenario, not least because it is the most affordable.
2. Translate the sustainable alternative into an integrated water policy framework that includes upstream water resources and downstream water services, with a focus on both operating and capital investment requirements.
3. Engage the financial sector to ascertain the conditions under which it will be possible to significantly increase private sector investments in the provision of water as a public good for the benefit of all.
4. Address the capacity constraints in the water sector across all spheres of government, with particular focus on the municipal level, where it might be necessary to adopt creative institutional solutions to address the many challenges that have emerged at that government level.
5. Consider elevating engagements between the water sector, the private sector, and local government to the level of a 'national crisis committee for water,' like the

National Energy Crisis Committee (NECOM), which coordinates the work of over 100 high-level officials from across government and Eskom, in collaboration with business and other social partners. This will streamline and enhance collaborative efforts at the policy, model, and pipeline levels, and bring in additional capacity.

6. Convene a dialogue between the water and municipal sector that includes the appropriate senior policymakers, practitioners, and researchers. This should be aligned to the local government reform process currently underway.
7. Improve communication about anticipated water sector reforms by engaging in more regular activities to connect, communicate, and collaborate (the '3Cs' of effective partnering for implementation).
8. Differentiate between short-term interventions to stabilise the water delivery system and longer-term policy, governance, institutional and financial system reforms, and align the two processes.
9. Focus on developing trusted relationships and mutual accountability with communities. Improved relational governance can boost market and investor confidence while increasing customer confidence in the water delivery system, thus simultaneously addressing how infrastructure can be financed and repaid.
10. Create a water sector reform knowledge sharing and learning network to promote adaptive processes and solutions: act, test, pause, reflect, learn, adjust, and repeat.

Government and the private finance sector

There is an emerging common agenda for collaborative action between the public water and private finance sectors. There is no shortage of interest from the private sector, but potential investors want to see stability and consistency, particularly in municipal water.

The existing reform process should be expanded and find ways to jointly reinforce and amplify change processes such as the Cities Support Programme, Metro Trading Services reforms and the Water Partnerships Office's priority programmes that focus on non-revenue water and water reuse projects with municipalities.

The private sector should identify ways to support changemakers and reformers within government, as institutions in the authorising environment have limited capability and some reforms may face opposition. The partners should develop ways to improve mutual accountability for reform processes and bring in expertise from outside the government.

Private sector involvement in water services is already in evident in South Africa, albeit in a limited way. Some water service authorities are now run by private sector operators (e.g. Queenstown, Stutterheim, Nelspruit). The untapped potential of blended finance solutions is being addressed by the DBSA, which has established the Infrastructure Fund as a vehicle for blending grants from the national fiscus with private sector funding provided mainly by the pension funds (DBSA, 2022). The Infrastructure Fund works with the newly created National Water Resources Infrastructure Agency (established by the DWS) to coordinate blended finance solutions in the water sector. These institutional innovations offer important potential but need to be complemented by an enabling financing paradigm if they are to unlock private sector financial flows for universal access to safe and reliable water services.

Water sector reform and local government

Municipal water reform is a priority issue for both the government and business. However, it is unclear whether the water sector and local authorities have a shared goal for collaborative action. There is an urgent need for policy interactions about anticipated institutional and financial changes in the water sector that would influence the municipal system. This should be coordinated with the broader local government reform procedures being driven by the Department of Cooperative Governance and Traditional Affairs, Operation Vulindlela and the Local Government White Paper Review process.

Conclusion

In a context of conservative fiscal and monetary policies that are unlikely to change in the near future, effective blending of public and private financial flows to support the

attainment of the NDP/SDG and NIP2050 water goals will become essential. This will not only unlock the multiple significant benefits of universal access to water services but also serve as a critical exemplar of how to achieve other NDP/SDG and NIP2050 goals that are currently at risk of under-investment.

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Annexure A

Report of SA-TIED Water Infrastructure Investment Dialogue, held at the DBSA on 29 Nov 2024

Prepared by: Prof. Andrew Boraine, Independent Partnering Practitioner, & Alboricah Bathupetsane, Centre for Sustainability Transitions (CST), University of Stellenbosch.

05 Feb 2025

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Introduction

South Africa is a semi-arid country with a severe water crisis, which has adverse implications for basic food consumption, economic productivity, and environmental sustainability. According to the 2023 National State of Water Report, water insecurity has reached critical levels, with nearly 98% of the available freshwater resources already allocated. The water variability is also exacerbated by climate change impacts, with studies showing rising mean temperatures annually and increased rainfall intensity in some parts of the country. This has varying implications for the water sector: declining water availability due to reduced surface and groundwater resources, higher rates of evaporation due to higher temperatures, increased irrigation needs, and risks to damage to pipelines, dams, and other water infrastructure subsystems due to flooding. Now, as the impacts of climate change become increasingly evident, investing in water infrastructure is more critical than ever.

Investment in water infrastructure currently sits at R165 billion per annum for both capital and operation expenses. The research paper 'South Africa's water sector investment requirements to 2050' published by the SA-TIED research collaboration shows that current investment levels are insufficient for meeting national water security goals. The study assessed investment requirements from three scenarios, and the estimated funding gap ranged from R75 to R149 billion per year on average between 2023 and 2050 (actual 2022 Rands). With the approximate investment requirements now identified, the next big task becomes identifying available public and private sources of funding for financing infrastructure and the means through which this funding can be redirected towards a pipeline of water projects.

The SA-TIED report made specific recommendations to close the financial gap, including: (i) establishing an economic regulator for water services; (ii) making appropriate service-level choices; (iii) strengthening all links in the revenue value chain; (iv) passing Development Charges legislation; (v) requiring reporting on the allocation of the Equitable Share to services; and (vi) *mobilising public and private sector investments*.

To mobilise public and private sector investments, the research advocated *a series of formal contacts between government water policymakers and the finance sector. The goal will be to provide the most effective institutional frameworks for driving significant increases in private sector co-funding for water and sanitation projects until 2050*. The Water Infrastructure Investment Dialogue was convened to implement this recommendation.

The mandate to convene the Water Dialogue came from SA-TIED work stream five: Food, energy, and water in the context of climate change. Additional partners were brought on board to broaden the mandate and ensure buy-in across the authorising environment, including the National Planning Commission, the Department of Water and Sanitation, the Water Partnerships Office, National Treasury, Operation Vulindlela in the Presidency, and the Presidential Climate Commission.

The Water Infrastructure Investment Dialogue

To facilitate an effective dialogue aimed at generating actionable outcomes, the convening team applied the following criteria:

1. The dialogue must be located within the wider water sector policy, legislative and regulatory environment, and institutional reform processes aimed at improving the management of water services and reducing water demand.
2. The discussion is mandated and supported by major drivers of water sector reform processes in the authorising environment.
3. The 'right people' need to be in the room, including policymakers, practitioners, and researchers who have the appropriate authority and experience, as well as an understanding of what is happening in the water system and sentiments in the private financial sector.
4. The discussions should focus on water projects and pipeline opportunities, not just the financial gap.
5. The discussions should build on reform processes already underway in the water sector, including previous discussions with the private sector.
6. It should not be a ‘once off’ meeting but contribute to the unfolding process.

Water sector and financial sector ecosystem engagements

The initial phase in the process was to identify the important players, stakeholders, and possible collaborators in the South African water infrastructure ecosystem and the private financial sector. Consultations with relevant individuals were launched to gain a knowledge of the institutional landscape in the water and private finance sectors, including:

- Bongani Nqwababa, DBSA Board member
- Adi Enthoven, Executive Chair, Yellowwoods
- Peter Montalto and Roy Havemann, Krutham
- Stephen Smith, Association for Savings and Investment South Africa (ASISA)
- Dr Sean Phillips, DG, Department of Water and Sanitation
- Rudi Dicks, Presidency
- Johan Lubbe, Head, Water Partnerships Office

- Mike Webster, 2030 Water Resource Group
- Dr Miriam Altman, World Bank and Platform for a Water Secure Gauteng
- Anthea Stevens, City Support Programme
- Ulrike Brittons, National Treasury
- Rolfe Eberhard, Regulatory Commission
- Sithole Mbanga, South African Local Government Association (SALGA)
- Jean de la Harpe, SALGA
- Marcel Golding, South African Water Works
- Association of Water and Sanitation Institutions of South Africa (AWSISA).

In addition, a workshop was held with the Association of Water and Sanitation Institutions of South Africa (AWSISA), including the Water Research Commission, to understand the needs of the Water Boards, and a presentation was made to the Strategy and Policy Committee of the Association for Savings and Investment South Africa (ASISA).

Emphasis was placed on understanding current water sector reforms, as well as existing combined public-private sector programmes in place to support the reforms. It was seen as critical to be able to build the Water Dialogue on existing projects and processes rather than beginning from scratch.

Mapping water research initiatives and issues

A review of important local and global water sector and financial sector research reports, articles, and policy suggestions was conducted to ensure that the Water Dialogue was informed by a diverse set of ideas and propositions from various system actors. *See Annexure A for a list of relevant articles, policy documents, presentations and research papers.*

Furthermore, the Water Dialogue approach considered some of the present short-term water-related challenges. This was part of a larger effort to provide a framework for distinguishing between possible short-term crisis remedies and long-term water sector policy improvements. *See Annexure B for links to examples of articles about current water-related crises.*

Focus of Water Dialogue

Following various consultations with key stakeholders, the Water Infrastructure Investment Dialogue was convened on 29 November 2024 at the DBSA. It was structured as a ‘can do’ meeting to enhance the role of the private sector in water infrastructure

investment and was well attended by representatives from government and the private financial sector.

The Water Dialogue focused on four outcomes:

1. Establish a *common understanding* of current reform processes in the water sector.
2. Identify ways to *jointly create* the conditions for private participation and investment in water infrastructure delivery.
3. *Work together* to accelerate the pipeline of water infrastructure projects.
4. Strengthen *partnering and partnerships* in the water sector.

Water Sector Reform Agenda

Water sector reform in South Africa primarily focuses on increasing investment in water infrastructure maintenance and construction, improving water quality, and strengthening regulations and system performance. The water sector reform process forms part of broader reforms under Operation Vulindlela, a joint initiative by the Presidency and National Treasury aimed at accelerating structural changes to support economic recovery.

The different components of the water sector reform agenda that emerged from prior research and from presentations during the Dialogue can be summarised as follows:

16. Establishment of catchment management agencies.
17. Establishment of the National Water Resource Infrastructure Agency (NWRIA) to streamline the management of national water assets and oversee large-scale water infrastructure development to ensure sufficient bulk water supply for the country and to drive investment through the amalgamation of the Trans-Caledon Tunnel Authority (TCTA) and the Water Trading Entity.
18. Improve the water-use license application process.
19. Revive the Green, Blue and No-Drop water quality monitoring system.
20. Strengthen the regulation of water pricing and service standards.
21. Implement a viable cost-reflective raw water pricing strategy.
22. Resolve the inefficiencies of Metro water and sanitation services by ring-fencing revenues from the provision of water and sanitation services for exclusive use of these services; appoint water trading services managers with responsibilities for the full value chain to act as a single point of accountability; use conditional grants as incentives to drive change.
23. Stabilise the system in the short term by addressing municipal non-revenue water challenges.
24. Explore the separation of the municipal water authority and water service provider.

25. Strengthen the Water Partnerships Office (WPO), a partnership between DWS, DBSA, and SALGA, to coordinate private sector participation.
26. Mobilise co-investments for water infrastructure projects via the Infrastructure Fund.
27. Establish an independent water services regulator, like NERSA in the energy industry.
28. Streamline the PPP framework.
29. Address inefficiencies in the procurement system.
30. Address the culture of nonpayment amongst consumers.

Note: Valuable information on water services reform processes at the municipal level was obtained after the Water Dialogue. It is included here to provide a full picture of the water sector reform process.

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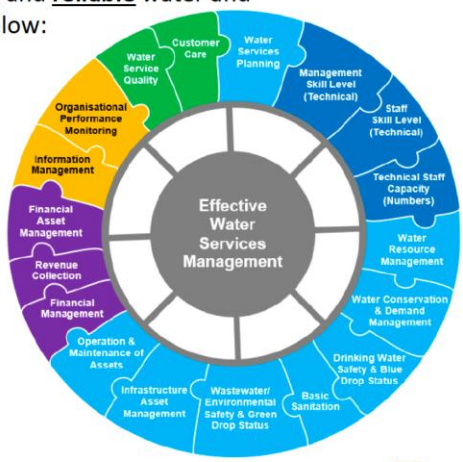
Water & Sanitation Problem Statement

- Water Services Authorities are struggling to provide **sustainable** and **reliable** water and sanitation services **to all**. The key **challenges** are summarised below:

NO.	FUNCTIONALITY CLUSTER:	REQUIRED SUPPORT FOR MUNICIPALITIES
1	INFRASTRUCTURE PLANNING	▪ Water and sanitation services planning ▪ Water resource management ▪ Water conservation and demand management
2	INFRASTRUCTURE DELIVERY	▪ Water access levels ▪ Sanitation access levels ▪ Grant expenditure performance
3	INFRASTRUCTURE OPERATIONS AND MAINTENANCE	▪ Drinking water safety ▪ Wastewater / environmental compliance ▪ Infrastructure asset management ▪ Operations and maintenance of assets
4	FINANCIAL HEALTH	▪ Financial asset management ▪ Revenue collection ▪ Financial management ▪ Auditor General opinion
5	TECHNICAL CAPACITY	▪ Management skill level ▪ Staff skill level ▪ Technical staff capacity
6	TRANSVERSAL FUNCTIONALITY	▪ Information management ▪ Organizational performance ▪ Water services quality ▪ Customer care



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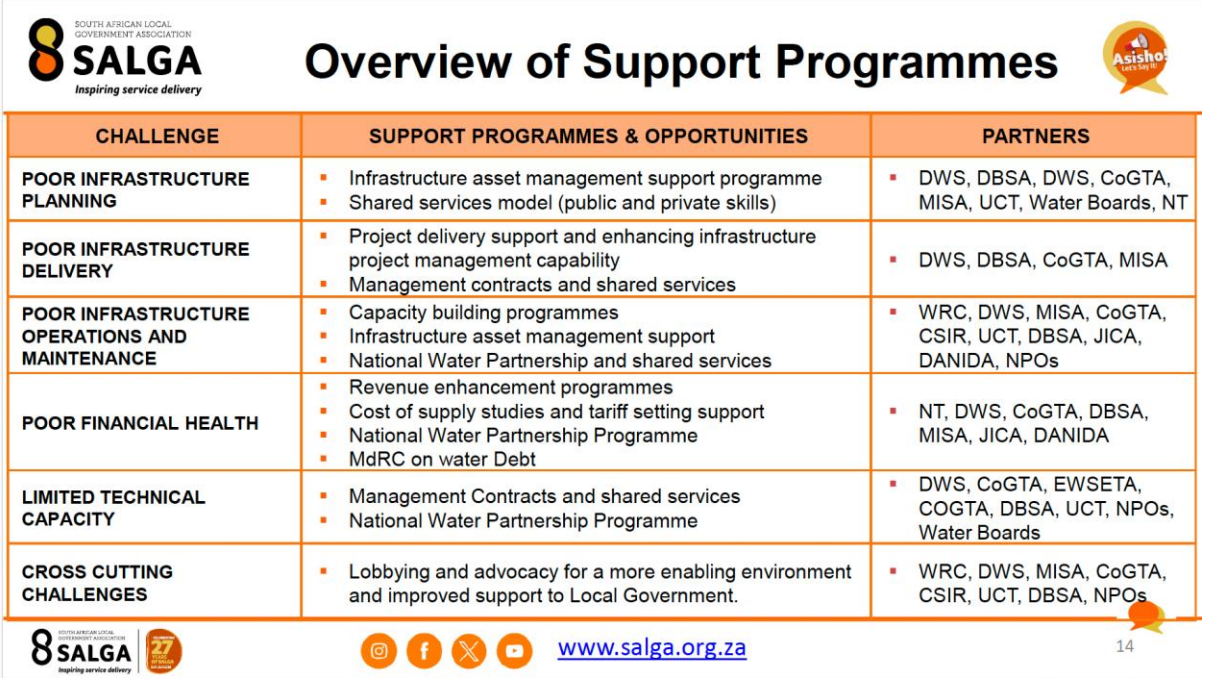

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Overview of Support Programmes

CHALLENGE	SUPPORT PROGRAMMES & OPPORTUNITIES	PARTNERS
POOR INFRASTRUCTURE PLANNING	▪ Infrastructure asset management support programme ▪ Shared services model (public and private skills)	▪ DWS, DBSA, DWS, CoGTA, MISA, UCT, Water Boards, NT
POOR INFRASTRUCTURE DELIVERY	▪ Project delivery support and enhancing infrastructure project management capability ▪ Management contracts and shared services	▪ DWS, DBSA, CoGTA, MISA
POOR INFRASTRUCTURE OPERATIONS AND MAINTENANCE	▪ Capacity building programmes ▪ Infrastructure asset management support ▪ National Water Partnership and shared services	▪ WRC, DWS, MISA, CoGTA, CSIR, UCT, DBSA, JICA, DANIDA, NPOs
POOR FINANCIAL HEALTH	▪ Revenue enhancement programmes ▪ Cost of supply studies and tariff setting support ▪ National Water Partnership Programme ▪ MdRC on water Debt	▪ NT, DWS, CoGTA, DBSA, MISA, JICA, DANIDA
LIMITED TECHNICAL CAPACITY	▪ Management Contracts and shared services ▪ National Water Partnership Programme	▪ DWS, CoGTA, EWSETA, COGTA, DBSA, UCT, NPOs, Water Boards
CROSS CUTTING CHALLENGES	▪ Lobbying and advocacy for a more enabling environment and improved support to Local Government.	▪ WRC, DWS, MISA, CoGTA, CSIR, UCT, DBSA, NPOs

Insights gained from the Dialogue

General observations

It was observed in relation to the current water sector reform process that:

1. The reform process is complex, with many interconnected and moving pieces, many of which carry significant risk. The various reform initiatives must be effectively coordinated, aligned, and sequenced to ensure coherency and to avoid unintended consequences.
2. Not enough people in government and the corporate sector are aware of the water industry's policy, regulatory, and institutional improvements and reform processes. There is a need for better and more coordinated communications. In the private sector, the discourse should focus on the people who own the capital and not just the institutions.
3. There is a need to find a new narrative about water infrastructure investment rather than traditional 'public/private' language.
4. Water sector changes must be implemented with increased urgency and velocity. To strengthen the credibility of the reform process, timetables and specific accountability should be identified and disclosed for each reform. The current national water crisis should be leveraged to rally support for rapid and significant reforms.
5. The local government voice was missing from the room, preventing proper engagement on municipal water service improvements. A substantial effort was

made to get key local government representatives to the Water Dialogue. However, many were unable to attend due to a local government meeting hosted by the Minister of Cooperative Governance taking place at the same time. It was reiterated in the Dialogue that the proposed corporatisation of municipal water services may have a negative impact on local revenue systems and the delivery of other municipal services, and on the local government system in general, if it is not well thought through and skilfully implemented.

6. There is much to learn from successful private sector water concessions, where payment for water has increased because of enhanced service delivery and increased accountability and responsiveness to consumer needs.
7. There is a need to improve municipal water retail operations. To make the municipal water industry more 'investable', it is important to distinguish between how infrastructure is financed and paid for.
8. A starting point at the municipal level is to make the existing funding work better'.
9. There is a need to consider the numerous vested political, institutional, and financial interests in the water system that may oppose reform.
10. In general, for change procedures to be supported, they must be perceived and experienced as (i) essential, (ii) effective, and (iii) fair.
11. An adaptive approach to reform implementation, that is, implementing as quickly as possible through pilot projects, then reflecting, learning, adapting, and adjusting, rather than waiting for the 'ideal policy framework' was appreciated. However, reproducible models on a large scale are required.
12. To strengthen the municipal project pipeline, additional capacity, referred to as 'boots on the ground', may be necessary. It was suggested that this may take the shape of a 'Siyenza Manje' ('we are doing it now') for the municipal water sector, referring to the DBSA's successful local government service delivery support initiative in the late 2000s.
13. The Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) offers valuable principles and lessons. However, water sector reform is likely to be significantly more complicated.

Table-level discussions

At the conclusion of each of the morning sessions, participants were given the opportunity to explore their views and ideas in further detail at table level. This is an overview of the contributions from the table-level conversations.

Session Info	Perspectives and ideas from the roundtables
Session title: South African Water	• Water should be considered a basic human right and accessible to both the rich and poor.

System: Challenges and Opportunities. Speakers: Water Partnerships Office and Operation Vulindlela	• Unique to water: there will be a necessary social/grant component (conditional grant, equitable share). • The culture of non-payment is not just among the poor. Language needs to change around this. It is political; there is also a culture of non-collection. • There needs to be a relational way of dealing with people and communities. • Is it a question of ownership and accountability? Can water be managed at a grassroots level (cooperative or municipality-level local solutions with wide community involvement)? • End-user perspective to address non-payment (i.e. Colombia social solidarity around infrastructure) & tariffs for cross-subsidy. • There is no government accountability. • The experience of the successful, ongoing concessions is important for obtaining lessons. • PPP processes are burdensome and will not address the problem of delivery. There is a need for bespoke partnering solutions for the water sector. • PPP issues with acceptance at local level – labour doesn't want to operate under private sector conditions in terms of performance expectations. • Procurement processes are very challenging and severely hamper the fast-tracking of water infrastructure projects.
Strengthening the Enabling Environment through Water Sector Reforms. Speakers from National Treasury	• Risk allocation (need platform for derisking; investing into bonds = infrastructure; control of returns, which requires legislative change not just financial). Why only PPPs? • Radical from NT: Take away money for non-performance (change in grant system). • A 'SANRAL for Water' to fix municipalities. • Like a grant system/a token system. Put money in the hands of the end-user. • There's a need to bridge the trust gap between the private and public sectors. • Velocity is the lag between decision-making and implementation (we need to use climate change impacts to gain momentum). • Avoid funding incompetent institutions.

	• NT can't just provide guarantees. Role of DFIs/Just Transition (JT). • How can the government be supported to enforce reform? • Building confidence requires finding alliances between the willing and the competent ('coalition of the willing'). • There's a need for proper regulation & technical capacity. • Separate water authority from provider. • Responsible fiduciary duty on the pricing. • Private sector involvement in billing and collection. • Reclamation must be default. • Credit support and enhancement. • Innovation needed for non-revenue water–maybe performance-based contracts? • Mandate use of grey water. • Need for a strong regulator.
Accelerating the Water Infrastructure Pipeline. Speakers from the Water Partnerships Office, Infrastructure Fund and ASISA.	• Clear collaboration models are required. • Clear returns on investment. • REIPPPP as an example of a collaborative effort. • Project preparation funding is required. • Political will and mindset change of municipalities is required. • Detailed 'ground up' assessment of investment requirements. • Centralized planning and procurement – can it work better than the current system? • Find the right, contextual incentives for the different municipalities (e.g. in rural areas, economic incentives are small, so it requires a different model). • Different instruments for different risk management (i.e. engagement of different private sector actors to share the risks). • Capacity building for the enforcement of guidelines within the water sector – build capacity to provide capacity. • Address capabilities for revenue collection. • Municipalities must give up control. • Impose long-term ROI so that private sector can't just come in, build and leave without building capacity.

Conditions for Increased Private Sector Participation. Speaker: DWS Director General, followed by facilitated discussion	• Any solution needs to be sustainable in the long term (avoid short-termism). • Ringfence revenue stream and security. • Non-revenue water funding model. • Asset management system: smart monitoring. • There is a need for a clear budget directed towards development of water sector. • Joint coordinated approach and alignment to national- level initiatives. • Relational governance: building trusting relationships. • Convergence of efforts amongst actors. • WPA/WSP will work overtime.

Building a common agenda for joint action.

Government and the private finance sector

There is an emerging common agenda for collaborative action between the water and private finance sectors. There is no shortage of interest from the private sector, but potential investors want to see stability and consistency, particularly in municipal water.

There is a need to build on the existing reform process and find ways to jointly reinforce and amplify change processes such as the City Support Programme Metro Trading Services reforms and the Water Partnerships Office's priority programmes that focus on non-revenue water and water reuse projects with municipalities.

There is a need for the private sector to identify ways to support changemakers and reformers within government, as institutions in the authorising environment have limited capability and some reforms may face opposition. The partners should develop ways to improve mutual accountability for reform processes and bring in expertise from outside the government.

Water sector reform and local government

Municipal water reform is a top issue for both the government and business. However, it is unclear whether the water sector and local authorities have a shared goal for collaborative action. There is an urgent need for policy interactions about anticipated institutional and financial changes in the water sector that would influence the municipal

system. This should be coordinated with the broader local government reform procedures being driven by CoGTA, Operation Vulindlela and the Local Government White Paper Review process.

Recommendations

1. **Elevate water sector reform process coordination**: Consider elevating engagements between the water sector, the private sector, and local government to the level of a 'national crisis committee for water,' like the National Energy Crisis Committee (NECOM), which coordinates the work of over 100 high-level officials from across government and Eskom, in collaboration with business and other social partners. This will streamline and enhance collaborative efforts at the policy, model, and pipeline levels, and bring in additional capacity.
2. **Water-Municipal Dialogue**: Convene a follow-up engagement between the water and municipal sector. This discussion requires the presence of the 'right people', namely policymakers, practitioners, and researchers from both the water and municipal sectors. This should be aligned to the local government reform process currently underway.
3. **Communications**: Improve communication about anticipated water sector reforms by engaging in more regular activities to 'connect, communicate, and collaborate', the '3Cs' of effective partnering for implementation.
4. **Link system stabilisation and reform processes**: Differentiate between short-term interventions to *stabilise* the water delivery system and longer-term policy, governance, institutional and financial *system reforms*, and align the two processes together.
5. **Relationships and accountability**: Focus on developing trusted relationships and mutual accountability with communities. Improved relational governance can boost market and investor confidence while also increasing customer confidence in the water delivery system, thus addressing how infrastructure can be financed and paid for at the same time.
6. **Learning by doing**: Create a water sector reform knowledge sharing and learning network to promote adaptive processes and solutions: act, test, pause, reflect, learn, adjust, and repeat.

Annexure A: List of relevant articles, policy documents, presentations and research papers on water sector reform and related processes

- Anton Cartwright, Mark Swilling, James Cullis, Kim Walsh, Amanda Gcanga, 'Some for all, forever': investing in universal access to water services in a warming world—the case of South Africa, draft article, Oct 2024.
- Palmer Development Group & Zutari, 'South Africa's water sector investment requirements to 2050.' SATIED Report, December 2023.
- ASISA, Water Overview presentation, Jul 2024.
- AWSISA, Presentation, Introduction to the Association of Water and Sanitation Institutions in South Africa (AWSISA) to the Water Services Authorities Summit and possible areas of collaboration, Jan 2023.
- Boitumelo Mashilo, Presentation, Institutional Reforms and Governance for Strategic Infrastructure Delivery, National Treasury Climate Resilience Symposium 2024.
- Bureau for Economic Research, Masibe Nempumelelo—let us be successful. What we need to jump-start economic success, Oct 2024.
- Cornelius Ruiters, Funding models for financing water infrastructure in South Africa: Framework and critical analysis of alternatives, Water SA vol.39 n.2 Pretoria Jan. 2013
- DBSA and The World Bank, Going beyond the infrastructure funding gap: A South African perspective, 2023.
- Department of Public Works and Infrastructure, National Infrastructure Plan 2050 ("NIP 2050"), Government Gazette, Aug 2021.
- Department of Water and Sanitation, Concept Note: 3-sector Climate Readiness Study. Adaptation readiness in South Africa's water value chain, Sep 2024.
- Department of Water and Sanitation, Imvelo Yethu Nobuntu. Our Nature and Humanity, as part of the just energy transition. Submission to MTEF for Presidential Employment Stimulus Funding, 2024.
- Global Commission on the Economics of Water, The Economics of Water: Valuing the hydrological cycle as a global common good, 2024.
- Heather Mackay, Water Policies and Practices, 2003.
- Infrastructure South Africa, Infrastructure development scenarios for south Africa towards 2050, 2023.
- Joel Kolker, 'Four mistakes we're making on water finance in the global South', Global Water Intelligence, 5 Aug 2024.
- Luyaba L, Moyo P, Mbhele N, Mochotlhoane M. *Unwilling or unable? A critical reflection on the state of municipal water services*, 2019–2024. S Afr J Sci. 2024;120 (11/12)
- Mark Swilling, 'We didn't waste the load shedding crisis, but did we need to wait for it to happen?' Daily Maverick Op-ed, 01 Dec 2024.
- Mo Ibrahim Foundation, Financing Africa: Where is the money? Forum Report, June 2024.

- National Planning Commission, Advisory on NDP 2024-2029 Priorities, 14 Aug 2024.
- National Planning Commission, Policy Brief: Investing in Water Security, Sep 2024.
- National Treasury (CSP), Developing and implementing municipal water business turnaround strategies, Mar 2024.
- National Treasury, Guidance Note: Metro preparations for the introduction of trading services infrastructure financing reforms, starting in 2024/25 with water and sanitation, Apr 2024.
- National Treasury, Guidance Note 2: Assessment Criteria, Process and Timeframes, Aug 2024.
- National Treasury, Guidance Note 3: Institutional Arrangements for Reforming Metro Trading Services, Sep 2024.
- National Treasury, Medium Term Budget Policy Statement 2024, Oct 2024.
- Operation Vulindlela, Phase One Review: Progress in driving economic reform, 2020-2024, May 2024.
- Peter Montalto and Matthew le Cordeur, Scale and pace – sustainable finance to drive infrastructure, Krutham, 9 Sep 2024.
- Platform for a Water Secure Gauteng, Introduction to the dashboard for a water secure Gauteng, 2024.
- Platform for a Water Secure Gauteng, Presentation, Platform for a Water Secure Gauteng, CID forum, 06 Aug 2024.
- Presidential Climate Commission, The State of Climate Action in South Africa: Priorities for Action for the Government of National Unity, Jul 2024.
- Regulator Commission, Memorandum to the Minister of Water and Sanitation, 02 Feb 2023.
- Rochi Khemka and Asa Knudsen Sterte, Closing the $7 Trillion Gap: Three Lessons on Financing Water Investments from World Water Week, The Water Blog, Sep 2024.
- SA-TIED, South Africa's water sector investment requirements to 2025, final report, Aug 2023.
- SALGA, Presentation, Infrastructure Delivery and Asset Management in Water and Sanitation: Internal, external challenges and best practices, 21 Nov 2024.
- SALGA, SALGA Water Programme 2024-25 (Presentation).
- Sean Phillips and Mohale Rakgate, 'Infrastructure Fund making inroads in water sector', Business Day, 25 Nov 2024.
- Sean Phillips, 'How to attract funding to beef up the declining water sector in SA', Business Day, 06 Nov 2024.
- UNU-WIDER research programme SA-TIED phase II, Projections of future climate change in southern Africa, Francois A. Engelbrecht and Jessica Steinkopf Global Change Institute, University of the Witwatersrand, South Africa, February 2024.

Annexure B: Examples of current crises in the water sector

- Water crisis — Johannesburg skirts Day Zero for fourth time in a year
- Exposed: How cadre deployment crashes Johannesburg's water supply
- City of Leaks: Inside Johannesburg Water's existential crisis
- Four projects must be undertaken asap to avert water collapse in Gauteng - water and sanitation dept
- Business in talks with Ramaphosa about how companies can help resolve water crisis
- Martin Kingston/ BUSA: Phase 2 of Gov-Business Partnership Launched with Ramaphosa and Business Leaders
- Level 3 water restriction warning for Gauteng – what you need to know
- Joburg's water restrictions set to tighten further as crisis deepens
- Protests erupt in Lenasia South after illegal water supply cut by Johannesburg Water
- Waste Land: Mogale City sewage disaster sees faeces-laden river water testing 100 times above legal limit
- Water and sanitation minister says SA won't run out of water, but...
- Five municipalities won't get R500m in govt money until they pay water bills
- Empty promises: The struggle for equitable access to water
- Makana on its knees as water and sewage services all but collapse amid broken equipment crisis