

**POLICY  
BRIEFING**

**GOOD GOVERNANCE AFRICA**

# Improving water governance in South Africa to ensure a water-secure country

**By Leleti Maluleke**

**March 2024**



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## Executive Summary

This policy briefing outlines the pressing water challenges facing South Africa and proposes recommendations to address them. Among these are increasing water insecurity, including severe droughts, inadequate water conservation measures, outdated infrastructure, and unequal access to water resources. We outline some of the existing policies and frameworks to address these challenges and provide recommendations for strengthening water governance in general. The briefing emphasises the need for immediate action to safeguard water security and ensure equitable access to clean water.

**There are many substitutes for oil,  
but there's no substitute for water.**

– Russ Howard

## Recommendations

- Promote water conservation and efficiency by implementing measures to reduce water waste; timely infrastructure maintenance and repair is a key component of responsible asset management strategies.
- Government must develop viable strategies to address the impacts of climate change on water resources, through conducting risk assessments and developing adaptation, resilience and contingency plans.
- The DWS must enhance existing governance legislation and implement robust frameworks that provide clear roles and responsibilities and ensure the enforcement of regulations.
- Government must ensure equitable access to water resources. National investments and policies concerning water infrastructure should prioritise rural areas and avoid geospatial disparities in infrastructure delivery.

## Introduction

South Africa is a dry country with limited water resources. According to the 2030 Water Resources Group Annual Report, the country's demand for water is expected to rise by 17.7 billion m<sup>3</sup> in 2030, while water supply is projected to amount to 15 billion m<sup>3</sup>, signalling a projected 17% gap between supply and demand.<sup>1</sup> Water scarcity impacts all sectors. It decreases agricultural output, constrains industrial production, and exacerbates energy generation challenges. It leads to environmental degradation and biodiversity loss, impacting industries reliant on ecosystem goods and services such as fisheries and ecotourism. Lack of access to clean water for drinking, sanitation, and hygiene increases the risk of waterborne diseases and places additional strain on public healthcare services. Water scarcity also exacerbates social disparities, disproportionately affecting marginalised and underserved communities, entrenching South Africa's history of unequal development and inequality.<sup>2</sup> In this respect, access to clean water is crucial to breaking the cycles of poverty. Time spent gathering water or recovering from water-borne illness equates to lost economic opportunities. This is particularly true of women in rural communities who often shoulder the burden of water collection.

Given the profound impact of water scarcity on South Africa's development prospects, as well as emerging stresses and demands created by climate change and population growth, good governance of the country's water resources is more important than ever.

## Drivers of water insecurity

Water insecurity in South Africa is driven by several primary factors:

**Climatic Causes** – South Africa has a mean annual precipitation of 497mm/year, almost 50% less than the global average of 860mm/year.<sup>3</sup> The impacts of climate change on the country, including shifting and erratic rainfall patterns, prolonged drought, and increases in average temperatures will continue to exacerbate existing water scarcity issues. The Water for Growth and Development Framework identifies climate change as the most significant threat to water security and emphasizes the need to factor in predicted future impacts of climate change in all scenario planning.<sup>4</sup>

**Population Growth** – Current population projections estimate that South Africa's population will grow to between 65 and 67 million people by 2038, from approximately 59 million people in 2021.<sup>5</sup> An implication from a water demand perspective is that domestic share of water use will shift from the current 27% to between 30% and 35% of the total national use.<sup>6</sup> At the same time, 19% of the country's rural population still lack access to reliable water supply and 28,29% do not have access to safely managed sanitation services.<sup>7,8</sup> Simply put, South Africa must increase its supply of clean water to meet an increasing demand driven by population growth, urbanisation, and industrialisation. Population growth presents a significant challenge for infrastructure provision in South Africa. To address the current backlog in national water infrastructure, investment and delivery must outpace population growth.

**Natural Resource Management** – A significant challenge facing water is the degradation of natural water resources by alien invasive plants. Invasive non-native plants consume greater amounts of water compared to the native vegetation they replace, leading to a reduction in average yearly runoff.<sup>9</sup> The draining of wetlands for urban development or agriculture can decrease water storage capacity and exacerbate floods and droughts.

- 1 Raletjena, M., van der Merwe Botha, M., & Wegelin, W. (2018) "The 2030 Water Resources Group Annual Report: Local Innovations for Global water Security". page 48. [https://2030wrg.org/wp-content/uploads/2019/04/WRG\\_ANNUAL-REPORT-WEB\\_FINAL.pdf](https://2030wrg.org/wp-content/uploads/2019/04/WRG_ANNUAL-REPORT-WEB_FINAL.pdf)
- 2 Adom, R., Simatele, M., & Reid, M. (2023) "Assessing the social and economic implications on water security in the Nelson Mandela Bay Metropolitan Municipality, Eastern Cape of South Africa". *Water and Health Journal*, 21 (7):939-955.
- 3 Igamba, J., (2022) "Water Crisis in South Africa" Available Water Crisis In South Africa - Greenpeace Africa
- 4 The Department of Water and Sanitation (DWS). (2009) "Water for Growth and Development Framework, Version 7", Available WFGD\_Frameworkv7.pdf (dws.gov.za)
- 5 Statistics South Africa (Stats SA). (2023) "South Africa: Total population from 2018 to 2028". Available South Africa - total population 2018-2028 | Statista
- 6 The Department of Water and Sanitation (DWS).(2021) "National State of Water Report 2021". Available 1-National State of Water Report 2021.pdf (dws.gov.za)
- 7 The World Bank, "Data Bank: World Development indicators", <https://databank.worldbank.org/source/world-development-indicators>
- 8 Igamba, J., (2022) "Water Crisis in South Africa" Available Water Crisis In South Africa - Greenpeace Africa
- 9 Chamier, J., Schachtschneider, K., le Maitre, DC., Ashton, PJ., & van Wilgen, BW. (2012). "Impacts of invasive alien plants on water quality, with particular emphasis on South Africa". *Water SA*, 38(2), 345-356.

South Africa has almost 120,000 known wetlands, more than half of which are destroyed or degraded.<sup>10</sup> Poor land management practices, such as overgrazing and unsustainable agriculture, can degrade soil quality and increase erosion. This, in turn, leads to sedimentation in rivers and reservoirs, reducing water storage capacity and water quality.

**Energy Sector Choices** – Water shortages in South Africa are exacerbated by the country’s energy crisis, primarily driven by power cuts. The national energy grid heavily relies on coal combustion. While alternative energy sources are available, national transmission grid infrastructure has not been sufficiently upgraded to ingest new sources of power. Coal-based energy production requires significant amounts of water, contributing to water stress and pollution, especially in regions with coal reserves where water scarcity is evident.<sup>11</sup> Furthermore, the water sector itself is becoming more energy-intensive. This is due to the energy required for activities such as groundwater pumping, the construction of large-scale inter-basin water transfer projects, and the transportation of water through these systems.<sup>12</sup> Eskom, the national power utility, acknowledges that water availability and quality pose significant challenges. This interconnection between energy and water highlights the urgent need for sustainable solutions that address both sectors’ demands while mitigating the strain on water resources.

**Poor Governance** – A big contributory factor is the governance issue.<sup>13</sup> This includes the country’s fragmented water governance departments combined with continued inaction as well as non-accountability at various levels of government. In municipalities where governance structures are weak, either through corruption or incompetence or a lack of capacity (or a combination thereof), water resources are often mismanaged or inequitably distributed. This can result in some communities or industries receiving preferential access to water, while others face shortages or even a complete lack of access. The 2023 Cholera outbreak in Hammanskraal, which led to the death of over 20 people, can be attributed to governance failure. The Rooiwal wastewater sewage

treatment works had not been maintained for years and did not have the capacity to deal with the volume of waste entering the works.<sup>14</sup>

## South Africa’s current water supply and infrastructure deficits

South Africa has a relatively extensive water infrastructure system, but it faces several challenges. While many South African households have access to tap water, some still rely on rivers, streams, dams, wells, or springs for water due to inadequate infrastructure. Despite improvements in water and sanitation access, satisfaction with water services has declined. This dissatisfaction is evident in the numerous service delivery protests reflecting concerns about quality, quantity, access, and interruptions in water supply.<sup>15</sup>

The South African Institute of Civil Engineering’s (SAICE) 2022 infrastructure report card assesses South Africa’s water infrastructure, highlighting significant risks of failure.<sup>16</sup> Too many entities tasked with governing South Africa’s scarce water supply approach maintenance in a reactive rather than proactive way, leading to unnecessary repair costs and shortened infrastructure lifespan. Ageing and poorly maintained infrastructure pose significant challenges. Water resources, supply, and sanitation infrastructure are generally at risk, with bulk water resources struggling to meet demand due to poor maintenance. The government has been unable to approve new water resource projects without prior implementation of water conservation and water demand management measures. Amid recessionary pressures and fiscal strain, effective asset management practices, including proactive infrastructure maintenance, are increasingly vital.

New infrastructure underway to alleviate the stress on current water structures has been met with serious delays. Poor governance has undermined the efficacy of these strategic projects. The Lesotho Highlands Water Project Phase II, for instance, has been delayed for over 5 years owing to procurement issues. Phase II of the Nooitgedacht low-level scheme has also been delayed due to budgetary constraints. The Giyani water project has

10 The Department of Environment, Forestry and Fisheries, (2021), “Working for Wetlands: 20 years of Wetland Restoration in South Africa” <https://www.dffe.gov.za/sites/default/files/docs/publications/workingforwetlands2021.pdf>

11 Ololade, O. (2018) Understanding the nexus between energy and water: A basis for human survival in South Africa, *Development Southern Africa*, 35:2, 194-209, DOI: 10.1080/0376835X.2018.1426445

12 Ololade, O. (2018). *ibid*

13 Maluleke, L. (2023) “South Africa’s Worsening Water Security Crisis”, Available <https://gga.org/south-africas-worsening-water-security-crisis/>

14 Maluleke, L. (2023). *ibid*

15 Simelane, B. (2024) “We want water, we want service delivery’ – disgruntled Joburg residents take to the streets”, *Daily Maverick*, Available <https://www.dailymaverick.co.za/article/2024-03-05-we-want-water-we-want-service-delivery-disgruntled-joburg-residents-take-to-the-streets/>

16 The South African Institution of Civil Engineering (SAICE), (2022) “The South African Institute for Civil Engineering 2022: Infrastructure Report Card for South Africa”.

been on halt for 10 years because of maladministration and mismanagement of funds, leaving residents of Giyani without water for years.<sup>17</sup>

While urban supply infrastructure is satisfactory for now, SAICE warns of medium-term investment needed to prevent serious deficiencies.<sup>18</sup> Infrastructure in non-urban areas remains particularly vulnerable but the rural areas remain neglected. Access to water infrastructure varies significantly by province in South Africa, with rural areas experiencing lower provision compared to urban regions. The 2022 National State of Water report and GGA's 2024 Governance Performance Index (GPI) highlight substantial disparities in infrastructure delivery across provinces, notably favouring highly urbanised areas like Gauteng and Western Cape.<sup>19 20</sup> To adhere to the 'Leave No One Behind' principle of Agenda 2030 on Sustainable Development, prioritising provinces and rural areas with no or limited access to water is crucial.<sup>21</sup> Embracing this principle would ensure more equitable investment in water infrastructure, mitigating present disparities and reducing inequality. Failure to prioritize accordingly risks exacerbating existing disparities.

Many water management areas in South Africa currently face a deficit, with demand surpassing supply. This imbalance is expected to worsen with population growth and increasing water demand. This raises concerns about the economy's capacity to sustain infrastructure demands and necessary delivery. The National Infrastructure Plan 2050, issued in March 2022, cautions that tackling South Africa's water management issues will become increasingly difficult due to escalating water demand fuelled by economic growth, urbanization, and improved living standards.<sup>22</sup> This underscores the necessity of diversifying South Africa's water resources.

Non-revenue water, which represents the water lost through leaks and commercial losses, accounts for over a third of water loss and serves as a persuasive indicator of the state of water infrastructure. Approximately 41% of the water within South Africa's municipal systems is

classified as non-revenue water. This includes water lost due to leaks, theft, or inaccuracies in metering, amounting to roughly 1,660 million m<sup>3</sup> annually, valued at over \$9.9 billion.<sup>23</sup> Concurrently, each individual in South Africa utilises an additional 64 litres of water per day (including industrial usage) compared to the global average of 173 litres per day.<sup>24</sup> Often, lack of engineering capacity, particularly at municipal level where infrastructure is most frequently operated and maintained, contributes to the mismanagement of water infrastructure and the inability to effectively maintain it. Almost 70% of South Africa's water is designated for the agriculture sector, with around 20-30% of the irrigated water lost through leaks and evaporation.<sup>25</sup> These losses remain high despite farm-level water efficiency enhancements.

South Africa has a network of dams and reservoirs for water storage crucial for providing water for irrigation, drinking water supply and power generation. However, these dam levels are dangerously low and 60% of our rivers are overexploited, with only a third in good condition.<sup>26</sup>

## Ensuring Good Water Governance

Effective governance entails fairness, openness, accountability, and the ability to uphold responsibilities both upwards and downwards. Often, dissatisfaction with water governance lies at the heart of perceived deprivation and social scarcity of water. In South Africa, the responsibility for delivering water services has been decentralized to municipalities, which frequently lack adequate financial resources, as well as human capacity and skills to fulfil this role. Similarly, at the national level, although legislative oversight falls under the jurisdiction of the Minister of Water and Sanitation, the regulation and supervision of water services involve multiple national departments, leading to fragmented coordination.

The South African government has committed to addressing water infrastructure challenges through initiatives such as the National Water Resource Strategy. This strategy aims to improve water infrastructure, expand

17 Maluleke, L. (2023). *ibid*

18 The South African Institution of Civil Engineering (SAICE), (2022). *ibid*

19 Good Governance Africa, (2024), Governance Performance Index – South Africa 2024" <https://gga.org/governance-performance-index-south-africa-2024/>

20 Department of Water and Sanitation (DWS), (2022). National State of Water Report 2022. Integrated Water Studies Report [https://www.dws.gov.za/Projects/National%20State%20of%20Water%20Report/2022%20\(2\).pdf](https://www.dws.gov.za/Projects/National%20State%20of%20Water%20Report/2022%20(2).pdf)

21 United Nations Sustainable Development Group Universal Values, <https://unsdg.un.org/2030-agenda/universal-values/leave-no-one-behind>

22 The South African Government, The National Infrastructure Plan

23 The 2030 Water Resources Group, (2020) Annual Report: Valuing Water, Enabling Change, page 71, WRG-Annual-Report\_2020\_Web.pdf (2030wrg.org)

24 Water Research Commission, (2020) "Water use in the tourism sector", <https://www.wrc.org.za/?mdocs-file=63653>

25 Donnerfeld, Z., Crookes, C., & Hedden, S. (2018). "A delicate balance: Water Scarcity in South Africa". Institute of Security Studies, [https://www.wrc.org.za/wp-content/uploads/mdocs/ISS\\_A%20delicate%20balance.pdf](https://www.wrc.org.za/wp-content/uploads/mdocs/ISS_A%20delicate%20balance.pdf)

26 Donnerfeld, Z., Crookes, C., & Hedden, S. (2018). *ibid*

access to water services, enhance water efficiency, and ensure the sustainability of water resources for future generations. However, the National Water Resources Strategy is not being reviewed every five years as the legislation stipulates. The first was published in 2004, the second in 2013, and the third is now under consideration.

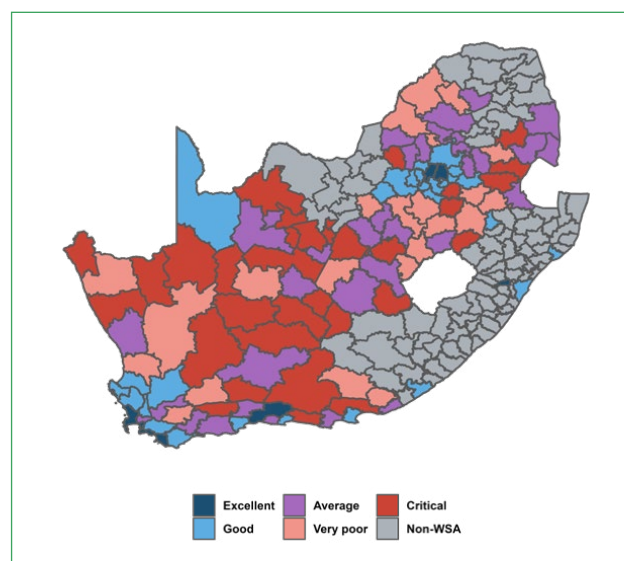
The Integrated Development Plan (IDP) framework is intended to ensure effective integration and coordination between various sectors and spheres of government and to ensure that all South Africans have access to clean running water in their homes.<sup>27</sup> However, there is a crucial need to review the regulatory framework on water ownership and governance (water rights, water allocation and water use) to have an effective water management system that benefits all, considering the risk of drought and water scarcity in dryland provinces.

Water governance in South Africa is governed primarily by the National Water Act of 1998 (Act 36 of 1998) and the Water Services Act of 1997 (Act 108 of 1997). The former aims to ensure the sustainable consumption of water to preserve its availability for future generations. The latter aims to guarantee that all South Africans have access to safe drinking water and that sanitation is recognized as a constitutional right. Through these legislative frameworks, the government can regulate household water usage to promote sustainability.

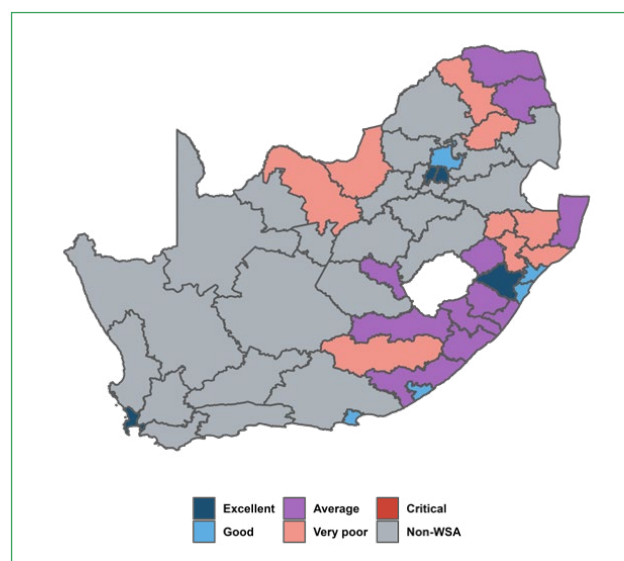
The Department of Water and Sanitation’s Blue Drop, Green Drop and No Drop reports assist in addressing the challenges in the water sector as it embeds the culture of regulatory compliance and sets the standards for water service institutions.

The Blue Drop report focuses on the current condition of drinking water infrastructure and treatment processes from a technical perspective. It provides a technical overview of the country’s drinking water supply. The 2022/2023 report reflects a poor performance by several municipalities noting that it was not “microbiologically safe to drink the water in almost half (46%) of our drinking water systems at times during 2022 when the Blue Drop audit was done” as illustrated in the Figure 1.<sup>28</sup>

Figure 1: 2023 Blue Drop Category Scores



By Local and Metro Municipality



By District and Metro Municipality

Source: DWS (2023)

27 The South African Government, The Integrated Development Plan INTEGRATED DEVELOPMENT PLANNING FOR LOCAL GOVERNMENT (etu.org.za)

28 The South African Government, The Department of Water and Sanitation Blue Drop National Report 2023 [https://ws.dws.gov.za/iris/releases/BDN\\_2023\\_Report.pdf](https://ws.dws.gov.za/iris/releases/BDN_2023_Report.pdf)

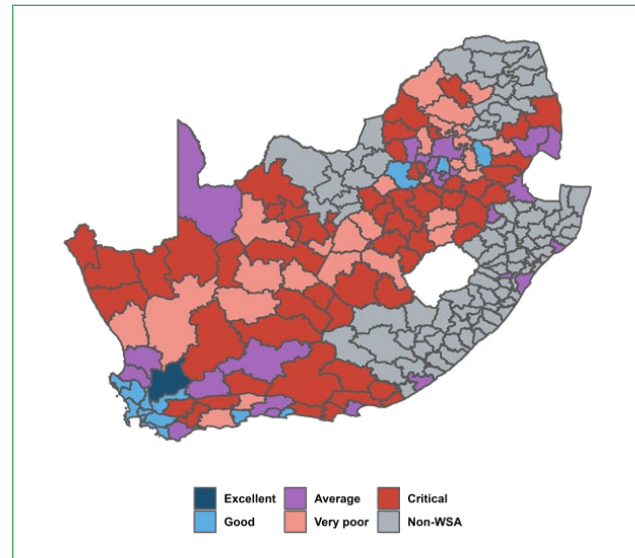
The Green Drop report provides progress on addressing the findings and includes the implementation of the corrective action plans for Wastewater systems. The latest Green Drop report indicates a deterioration in the performance of municipal wastewater treatment systems, showing that 64% of the wastewater treatment works are at critical risk (see Figure 2).<sup>29</sup>

The No Drop report provides an overview of the status of municipalities pertaining to their water losses, non-revenue water and water use efficiency against regulatory compliance and best management practices. It also evaluates the status quo based on the submitted water balance data. Based on the 2022/2023 municipal financial year, the No Drop report notes a decline in water loss management practices in most of the municipalities.<sup>30</sup> The assessment of our water systems as seen in these reports is important to ensure water meets its designated use and to improve its quality.

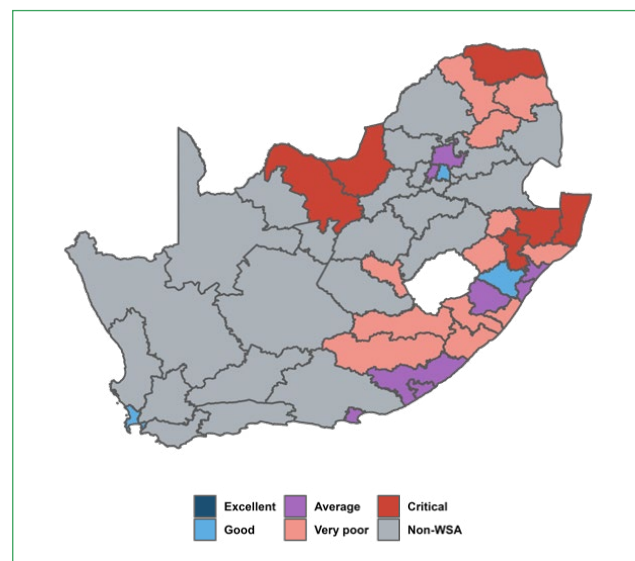
### Conclusion

While South Africa receives commendation for the quality of its water consumption legislation and its emphasis on sustainability, challenges arise from inadequate implementation and governance of these laws. The lack of enforcement and management poses a significant concern, particularly as the country is already utilizing 98% of its available water supply. South Africa has a relatively developed water infrastructure system, ongoing investments and effective governance efforts are needed to address existing challenges and ensure the availability of clean and reliable water for all its citizens. The degradation of this infrastructure further highlights long-term policy and legislative aspects needed for greater accountability and improved maintenance of these services. Government needs to utilise comprehensive data on water and sanitation needs, including demographic information, water quality assessments, and sanitation infrastructure mapping. This data-driven approach will enable them to identify areas with the greatest need and allocate resources effectively.

Figure 2: 2021 Green Drop Category Scores



By Local and Metro Municipality



By District and Metro Municipality

Source: DWS (2022)

29 The South African Government, The Department of Water and Sanitation Green Drop Progress National 2023 [https://ws.dws.gov.za/iris/releases/GDPAT\\_2023\\_Report.pdf](https://ws.dws.gov.za/iris/releases/GDPAT_2023_Report.pdf)  
 30 The South African Government, The Department of Water and Sanitation No Drop National Report 2023 [https://ws.dws.gov.za/iris/releases/ND\\_2023\\_Report.pdf](https://ws.dws.gov.za/iris/releases/ND_2023_Report.pdf)



Photo: Rodiger Bosch / AFP

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