

South Africa's water crisis and the reform agenda

4 April 2025

Executive summary

South Africa, one of the 30 driest countries globally, faces a deepening water crisis, driven by erratic rainfall, over-allocated water resources (98% already committed), and consumption far above the global average. Without major interventions, the country faces a projected 17% water shortfall by 2030. The crisis is worsened by failing infrastructure, poor infrastructure maintenance, and high non-revenue water losses (47%) – well above international norms – due to leaks, theft, and inadequate metering.

Government reports – the Blue Drop, Green Drop, and No Drop reports – highlight the severity: 52% of water systems fail or barely pass quality tests, 64% of wastewater treatment plants are high risk, and nearly half of municipal water is lost or unbilled.

Major investments in bulk infrastructure are proceeding, including the Lesotho Highlands Water Project and regional bulk schemes, but bottlenecks persist at the municipal level due to mismanagement and institutional failure.

Water provision follows a four-tier system: the national department supplies bulk water, seven water boards handle distribution, municipalities serve as Water Services Authorities (WSAs), and Water Services Providers (WSPs) – often the same municipalities – deliver water to end-users. Yet, service collapse at the municipal level, caused by a lack of skilled staff and chronic under maintenance of infrastructure (2% of budgets vs. the recommended 8%), remains the weakest link.

Reforms are underway. Amendments to the Water Services Act will require all service providers, including municipalities, to be licensed based on performance. The Treasury's Metro Trading Services Reform Programme links financial incentives to reform. Public-private partnerships (PPPs) are being expanded. A new National Water Resource Infrastructure Agency, merging three national entities, aims to professionalise and finance infrastructure more effectively.

To enforce accountability, the government is withholding funds from defaulting municipalities, prosecuting polluters, and proposing laws empowering the Department of Water and Sanitation to take over failing services. These efforts, echoing recent energy sector reforms, aim to stabilise water delivery through greater oversight, targeted funding, and strategic partnerships.

A scarce commodity often treated carelessly

South Africa is among the world's 30 driest countries, heavily reliant on irregular, unevenly distributed rainfall.

The nation depends on 22 strategic water sources across five provinces – including cross-border catchments in Lesotho and Eswatini – to fill dams that supply water to all nine provinces, including four with no natural sources.

With 98% of reliable water already allocated, any additional use risks shortages. Projections show a 17% shortfall in demand by 2030 unless infrastructure investments are made.

South Africans consume an average of 233 litres per person per day – far above the global average of 173, with Gauteng nearing 300. Consumer water awareness remains low, but the more urgent issue is non-revenue water, which is excluded from these consumption figures.

Non-revenue water stands at an average of 47%, compared to a 30% global norm. In South Africa, 25% is lost through leaks and bursts; the rest results from theft, illegal connections, faulty metering, or authorised but unbilled use (eg firefighting). Proper infrastructure maintenance and renewal are critical – the Director-General of Water Affairs has called this the single biggest challenge in South African water management.

What you measure, you can manage

The Blue Drop, Green Drop, and No Drop reports outline the scale of South Africa's water challenges. Introduced in 2008 but suspended under the Zuma administration in 2014, these reports were reinstated in 2022 by the Ramaphosa government.

- **Blue drop** (water quality): In 2023, 52% of treatment systems failed or barely passed quality tests, though 48% were deemed low-risk – a tale of two halves.
- **No drop** (non-revenue water): Revealed 47% losses – up from 35% in 2014. Middle-income peers average 30%: Brazil (38%), Mexico (40-50%), Nairobi (45%).
- **Green drop** (wastewater treatment): Found 64% of plants at high or critical risk of discharging untreated or partially treated water into the environment.

Tracing the route to end-users

Water provision in South Africa operates through a four-tiered system under the oversight of the Department of Water and Sanitation (DWS):

1. **Bulk water** is stored in public dams operated by DWS.
2. **7 water boards** distribute this to municipalities, industries, and mines.
3. **Water Services Authorities (WSAs)** – typically municipalities – are constitutionally responsible for ensuring access to water.
4. **Water Services Providers (WSPs)** are contracted to deliver water to households and businesses. Most municipalities act as WSAs and WSPs, making water a key revenue source.

Bulk water supply

Since 1994, numerous water infrastructure projects have been implemented. The Lesotho Highlands Water Project is a flagship initiative with the Katse and Mohale Dams completed in 1996 and 2003 respectively. Phase 2, delayed by corruption allegations, COVID-19, and resettlement issues, is now progressing. Other dams, reservoirs, and pipelines continue to be constructed. (See Appendix A).

The 2024 Budget allocated nearly R140 billion for 10 major water projects, including R42,1 billion for Lesotho Highlands Phase 2. The problem lies not so much in bulk water supply but in what happens afterwards.

Water boards: water flows, money doesn't

South Africa's seven water boards (rationalised from 15) operate across provincial boundaries, supplying bulk water to 144 WSAs. Like wholesalers, they depend on clients to pay their bills.

By June 2024, municipal debt to water boards had reached R22,36 billion – a 151% increase over five years. Although municipalities receive R62 billion annually from the Treasury for water and sanitation, this funding isn't ring-fenced, leaving its use at the discretion of local councils.

Where it all falls apart: municipalities

Most municipalities fail to deliver water services effectively. The December 2023 Drop reports covered 958 systems across 144 WSAs. Only 26 systems (3%) achieved Blue Drop certification. As mentioned earlier, 52% failed or barely passed.

While ageing infrastructure is often blamed, 85% of drinking water systems were found to be in 'average or better' condition. This points to non-infrastructure causes: poor process control, lack of skilled personnel, and inadequate infrastructure maintenance – all local government responsibilities.

In October 2024, Water Minister Pemmy Majodina told Parliament her department had given Gauteng municipalities actionable tasks – none were implemented. Rand Water reported holding over 46 meetings with Gauteng officials, without results.

Just another line item: infrastructure maintenance neglected, bills unpaid

The current framework distinguishes between WSAs and WSPs. However, most municipalities perform both roles, reducing water to a budget line item, instead of treating it as a financially self-sustaining service.

Revenue from water sales plus the Treasury's 'equitable share' for poor households should be ring-fenced but rarely is. Joburg Water illustrates this dysfunction. Created in 2000 as a municipal entity, it lacks full control over WSP functions, revenue, or customer relationships. Its fleet and logistics are managed centrally by the city.

This fragmented setup deprioritises infrastructure maintenance. While 8% of the budget should go to infrastructure maintenance, the actual figure is often just 2% – leading to expensive breakdowns. As of April 2024, Joburg Water faced a R24,2 billion infrastructure backlog.

The collapse of financial discipline also means municipalities fail to pay water boards. Ringfencing water (and electricity) budgets is essential for long-term service sustainability. The president and minister of finance have set ringfencing in local governments as a goal in both the State of the Nation and Budget speeches.

What is to be done?

Licensing reform

Amendments to the Water Services Act – currently before Parliament – will require all WSPs to be licensed, with clear competency and performance conditions. This applies to private companies, water boards, NGOs, and community organisations. Underperformance can lead to licence revocation and reassignment.

Even municipalities providing water directly will need licences and must meet minimum standards. This marks a shift toward greater accountability.

Brazil's success offers a precedent: licensing reforms there enabled a rapid transition to private WSPs, which delivered marked improvements.

South Africa has two notable private WSPs – in Mbombela (Mpumalanga) and the Dolphin Coast (KZN). Both are Blue Drop certified and have significantly reduced water losses. These providers lease municipal infrastructure, collect revenue under municipal tariffs, and invest in infrastructure upkeep. They also receive equitable share funding to support indigent households. The model is a win-win for everybody.

This reform holds the greatest potential to transform water service delivery nationwide.

Carrots and sticks

Municipalities are constitutionally protected and often resist reform. Changing their role requires more than political decisions – it demands both incentives and consequences.

The carrots

The Treasury has launched the **Metro Trading Services Reform Programme**, designed to accelerate the turnaround of municipal water and electricity services. It combines performance-linked financial incentives with institutional reforms, greater transparency, and expanded infrastructure financing. International experts are supporting its rollout.

Six of eight metros, including Johannesburg, have submitted turnaround strategies. eThekweni, for example, will ringfence water revenue and give its water department direct control over logistics, HR, and customer service.

The sticks

Where compliance fails, the Treasury has begun withholding **equitable share payments**. In late 2024, five municipalities lost their allocations due to water bill non-payment. They must settle current debt and commit to repaying historical debt to restore funding.

There is also a growing focus on **criminal accountability**. By May 2024, 36 criminal cases had been filed against 26 municipalities in six provinces for discharging untreated sewage. Four pleaded guilty and were fined.

Further legislation will empower the DWS to take over **all** WSP functions – including billing and revenue – in chronically failing municipalities. Currently, the department can only intervene on technical issues. In Johannesburg, this would allow full departmental control of water services – a move likely to be welcomed by residents.

Involving the private sector

The DWS and the SA Local Government Association (SALGA) have established a Water Partnership Office at the Development Bank of Southern Africa to replicate the progress seen in electricity reform.

Led by seasoned civil engineer Johann Lübke, the office will create standardised models for PPPs, enabling municipalities to avoid starting from scratch. It aims to develop **bankable** projects across six focus areas – non-revenue water, management contracts, wastewater treatment, water reuse, desalination, and off-grid water.

Six metros are currently partnering with the office across one or more focus areas.

‘All of our initiatives aim at private sector participation, creating opportunities for the private sector to support the government in providing water services,’ said Lübke.

National Water Resource Infrastructure Agency (The ‘3-in-1’ agency)

The president has signed legislation that established the **National Water Resource Infrastructure Agency**, merging three key bodies:

- **Trans-Caledon Tunnel Authority (TCTA)** – previously responsible for raising capital.
- **The department’s water trading entity** – managing revenue.
- **The department’s infrastructure branch** – overseeing dams and operations.

Unlike TCTA, the new agency will have assets and a balance sheet, enabling it to raise finance independently of the Treasury guarantees. It will be fully operational by 2026.

If successful, it could mirror the achievements of SANRAL (SA National Roads Agency), which consistently outperforms provincial and municipal road operations.

So what?

- A great deal is happening on the bulk water infrastructure front (**see Appendix A below**). The establishment of the new ‘3-in-1’ water agency is set to enhance these efforts.
- But South Africa’s two biggest water challenges – non-revenue water and poor infrastructure maintenance – persist.
- Addressing them requires a fundamental shift in the local government’s role in water provision. Legislative, regulatory, and administrative reforms are being introduced to enable that shift, using both incentives and penalties.
- While much is being done to address the crisis, the real impact will depend on fixing the breakdown at the municipal level – councillors and bureaucrats must step up.
- Perhaps the looming local government elections in 20 months will sharpen focus and accountability.

It’s clear that serious effort and investment are being made to secure South Africa’s bulk water supply – increasingly through PPPs.

Appendix A: Water projects since 1994 (an indicative, but incomplete list)

Since 1994, numerous dams and water schemes have been completed to increase bulk supply. These include:

- **Western Cape:** Berg River Dam (Franschhoek)

- **KwaZulu-Natal:** Spring Grove and Qedusizi Dams
- **Limpopo:** Inyaka, De Hoop, and Nandoni Dams
- **Mpumalanga:** Vaal River Eastern Subsystem Augmentation Project (120 km pipeline supplying Sasol and Eskom) – completed in 2008

The **Lesotho Highlands Water Project**, agreed in 1986 by the two governments, has seen the completion of the Katse and Mohale Dams and already delivers water to South Africa. Phase 2 – delayed by corruption, COVID-19, and the resettlement of local communities – was resuscitated by the Ramaphosa government. Construction includes the Polihali Dam, a second supply tunnel to Katse, and the Senqu Bridge, with (more) water expected to reach the Vaal system by 2028.

In 2023, **Rand Water** completed the 210 ML Vlakfontein Reservoir in Benoni – the largest post-tensioned concrete reservoir in South Africa, possibly the world. It now manages 59 reservoirs, with 13 more under construction through 2028. Rand Water is a rare success story among water boards.

During 2024-2025, several water augmentation projects are being completed in **Limpopo, Mpumalanga, and Hammanskraal (Gauteng)** – aimed at improving bulk deliver.

The **2024 Budget** allocated almost R156 billion for 10 major projects across six provinces. Highlights include (confirmed in the 2025 proposed Budget):

- **Lesotho Highlands Phase 2:** R42,1 billion – supplying Gauteng
- **KwaZulu-Natal:** Three projects totalling R47 billion – to relieve water stress, especially on the South Coast (2027-2032 completion)
- **Western Cape:** R21.1 billion for the Bergrivier-Voëlvlei augmentation and long-delayed Clanwilliam Dam wall raising
- **Limpopo & Mpumalanga:** R12,8 billion for two projects, including the **Lebalelo Olifants PPP** – a R27 billion plan backed by mining giants (Glencore, Anglo American Platinum, Impala, Northam) and the government. It involves 400 km of pipelines to deliver 250 million litres/day – one-third of Cape Town's consumption – with support for WSAs
- **Northern Cape:** The **Vaal Gamagara scheme** – R10 billion PPP to supply mines and municipalities in the arid Kalahari region