



WATER AND SANITATION

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Water and Sanitation

South Africa is a water-scarce country. The country has an average rainfall of 465 mm, which is half the world average and there is also a very high evaporation rate. Consequently, the potential of the country to further develop its surface water resources is limited – in fact, approximately 75% of its exploitable surface water resources is already being harnessed.

Untreated or ‘raw’ water supply availability is currently roughly in balance with existing demands on a national scale, but there are localised deficits and surpluses. Raw water availability in South Africa could, however, rapidly deteriorate as demand escalates due to both economic and population growth.

In addition, there are factors which could result in a contraction of supply, such as increasing physical losses in municipal distribution systems, degradation of wetlands and the impact of climate change.

The mandate of the Department of Water and Sanitation (DWS), as set out in the National Water Act of 1998 and the Water Services Act of 1997, is to ensure that the country’s water resources are protected, managed, used, developed, conserved and controlled by regulating and supporting the delivery of effective water supply and sanitation.

This is done in accordance with the requirements of water-related policies and legislation that are critical in delivering on people’s right to have enough food and water, growing the economy, and eradicating poverty.

Over the medium term, the department planned to continue focusing on improving the regulation of water quality; implementing the integrated water resource management approach aimed at the protection, use, development, conservation, management and control of water resources while supporting government’s developmental priorities; and facilitating the improved management of municipal water services.

The DWS has established a Water Partnerships Office in partnership with the Development Bank of Southern Africa and South African Local Government Association to assist municipalities to package bankable projects to take to the market, focusing on projects such as the reduction of non-revenue water and water reuse.

Water quality regulation and access

The DWS enforces regulatory measures that ensure the provision of safe water and the effective management of wastewater. To this end, it implements the green and blue drop certification programmes, which are incentive-based regulatory tools that measure the capacity and environmental, financial, technical and quality compliance of water service institutions.

The department planned to assess wastewater systems for compliance with the green drop regulatory requirements and water supply systems for compliance with blue drop regulations.

To improve equitable access to water resources, the department planned to finalise 80% of water use authorisation applications within 90 days of application.

South Africa has expanded access to water to more than 89% of all South Africans and 84% have access to sanitation services.

Integrated water resource management

In its efforts to ensure water security, the DWS planned to continue adopting an integrated approach to maintaining existing water resource infrastructure, supplying bulk water to strategic users such as large industrial companies through the Water Trading Entity, and supporting the long-term sustainability of water resources.

As such, the department will consider the impact of climate change, the role of ecosystems, rainwater runoff and storage, the use of other water resources such as groundwater and aquifer systems, water conservation and water demand management plans.

The department also planned to implement and monitor the river eco-status monitoring programme in rivers and implement catchment plans for mine water and wastewater management.

Improving water services

To improve water services, over the medium term, the department planned to ensure reliable water and sanitation services by overseeing large regional bulk infrastructure project phases and small regional infrastructure project phases.

National Water and Sanitation Master Plan (NW&SMP)

By mid-2023, the DWS was leading the initiative to develop the NW&SMP, which is intended to guide the water sector with investment planning for the development of water resources and the delivery of water and sanitation services over the horizon until 2030, and beyond. This development is a first for South Africa.

The core purpose of the NW&SMP is to provide an overall perspective of the scope of the water and sanitation business to provide a comprehensive schedule of actions needed to address present challenges, to estimate the investments required to ensure effective water resources, and water and sanitation services delivery, as well as to facilitate effective integrated investment planning, implementation of actions and evaluation of achievements.

The master plan identifies key actions in the water sector and allocates roles and responsibilities to all in the water sector, from the various tiers of government, the private sector and other stakeholders for the implementation of the plan.

The NW&SMP will include a list of key programmes, projects and actions to be implemented for the protection and development of the national water resources, and for the provision of adequate and reliable water and sanitation services for all citizens. It will also address the enabling requirements, such as the institutional and legal arrangements for implementation, operation and maintenance, funding requirements and models, and monitoring and evaluation models.

National Water Resources Infrastructure Agency (NWRIA)

By mid-2023, the South African NWRIA SOC Limited Bill had been submitted to Parliament. The NWRIA is expected to leverage large-scale investments in national water resource infrastructure that are required to ensure that South Africa has sufficient bulk water supply now and in future.

The augmentation projects, establishment of the NWRIA and interventions are intended to ensure that the supply of water does not become a binding constraint to economic growth.

They are also aimed at ensuring that challenges with municipal water and sanitation service delivery are not exacerbated by a shortage of bulk water, as has happened in the cities of Cape Town and Nelson Mandela Bay, amongst others.

Drinking water

In 2022, over four-fifths (82,4%) of households in the country had access to piped water either inside their dwelling or inside their yard, according to Statistics South Africa's (Stats SA) Census 2022.

There is an increase in the proportion of households that had access to piped water inside their dwelling, from 32,3% in 2001 to 46,3% in 2011 and to 59,7% in 2022. The proportion of households that accessed piped water off-site (from a water source outside the yard such as a neighbour or from a community stand) halved from 17,9% in 2011 to 8,9% in 2022.

Households in the Western Cape were more likely to have piped water inside their dwelling (85,5%) compared to Limpopo, where less than one-third (31,4%) accessed piped water inside their dwelling. Although the national picture regarding access to piped water shows improvement over the years, there is a sizeable proportion of households in Limpopo (20,5%) and Eastern Cape (19,5%) with no access to piped water.

Households in the Western Cape (27,7%) and Gauteng (40,5%) reported the lowest proportions of water interruptions, below the national average of 48,4%. In contrast, a significantly larger proportion of households in Mpumalanga (60,9%), North West (65,2%) and the Northern Cape (65,8%) reported experiences of interruptions.

World Water Day and Week

World Water Day takes place annually on 22 March to underline the importance of fresh water.

The DWS also held the National Water Week campaign from 20 to 26 March 2023 to educate the public about their responsibility in water conservation initiatives, raising awareness around the need to protect and conserve the country's water resources. The celebrated National Water Week under the theme "Accelerating Change" and urged everyone to use water sparingly to ensure Water For All.

Sanitation

There has been an increase in the percentage of households that used a flush toilet as their main type of toilet facility during this period (+18,9 percentage points), according to Stats SA's Census 2022.

However, the percentage of households that used a pit toilet without ventilation and households with no form of toilet facility declined during the same period, from 22,8% to 12,5% and from 13,6% to 1,6% respectively.

Households that resided in more urban provinces such as Western Cape (93,9%) and Gauteng (89,7%) had access to flush toilets. Northern Cape still had 4,5% of households that used bucket toilets. The majority of the households in Limpopo, i.e. more than half (57,9%), used a pit latrine with/without ventilation pipe as their main type of toilet facility.

Although 58,9% of the households in KwaZulu-Natal used flush toilets, 28,5% used pit latrines with/without ventilation pipe and 7% used chemical toilets. Some households in the Northern Cape and Eastern Cape reported no type of toilet facility, at 4,5% and 3% respectively.

Bucket eradication

Government started a 'bucket eradication' programme in 2012, focusing on projects to replace buckets with waterborne sanitation in the Eastern Cape, Free State, Northern Cape and North West.

The project was delayed, partly because of the sanitation function being transferred between departments on several occasions, and the programme being repeatedly transferred between different implementing agents appointed by the different departments.

The project has also been delayed because there was inadequate engineering planning and design for the required upgrading of wastewater treatment works to receive additional sewage from the new household waterborne sanitation connections.

By mid-2023, all the elements of the original programme had been completed, apart from one project in the Northern Cape and eight projects in the Free State. These were expected to be completed during the 2023/24 financial year. In reality, the programme will not 'eradicate' buckets because municipalities are continuously initiating new bucket systems in informal settlements.

To address this, the DWS has developed a National Sanitation Framework, which has recently been approved by Cabinet. In terms of the framework, the department planned to issue revised norms and standards for sanitation services under the Water Services Act of 1997, which will make it clear that it is unacceptable for municipalities to implement the bucket system.

The planned amendments to the Water Services Act of 1997 will also enable the department to regulate and ensure adherence to these norms and standards.

Lesotho Highlands Water Project (LHWP)

By mid-2023, Phase Two of the LHWP, which will augment water supply to Gauteng by 490 million m³ and some areas of the Free State, Northern Cape and North West, was being implemented.

The project will increase water security in the Integrated Vaal River System, which is the primary water resource for the Gauteng economy. The main contracts for the Polihali Dam, the Polihali to Katse Transfer Tunnel and the Senqu Bridge were awarded during the last financial year and contractors are on site.

The estimated cost of Phase Two is R39 billion, with the Trans-Caledon Tunnel Authority (TCTA) raising the funding in the market and it is due to be completed by 2028.

Entities:

Consolidated water boards

Water boards were established by the Water Services Act of 1997 to provide support to municipalities by providing bulk water treatment and water distribution infrastructure.

The water boards vary in size, activities, customer mix, revenue base and capacity. Some water boards provide retail water and sanitation services on behalf of municipalities. Rand Water and Umgeni Water serve largely urban areas. The rest of the water boards operate largely in the rural areas.

Rand Water

Rand Water is the largest bulk water utility in Africa and is one of the largest in the world, providing bulk potable water to more than 11 million people in Gauteng, parts of Mpumalanga, the Free State and North West – an area that stretches over 18 000 km².

It operates 13 tertiary pumping stations and 60 strategically located service reservoirs and secondary booster stations; as well as multibillion Rand regional pipeline network of approximately 3 500 km.

In March 2023, Rand Water unveiled the new 210 megalitre post-tensioned concrete Vlakfontein Reservoir in Benoni, Ekurhuleni, which is considered to be largest cylindrical post-tensioned reservoir in the country and also the largest circular post-tensioned reservoir in the world.

Umgeni Water

Umgeni Water was established in terms of the Water Services Act of 1997 to provide water and sanitation services in its service area, which comprises mostly rural areas in KwaZulu-Natal and the eThekweni metropolitan area. The water board supplies water to approximately six million consumers. Its ongoing objective is to support.

Magalies Water

Magalies Water provides quality bulk water and secondary services directly to municipalities, mines and other industries which in turn helps to grow the economy and improve the lives of communities. Raw water is drawn from the rivers which flow into dams that are owned by the DWS and Magalies Water buys the water from the department. Water from the dams is channelled to Magalies Water's four water-treatment plants where the water is treated and made safe for public consumption. Municipalities draw the water provided by Magalies Water through the reservoir and provide it to consumers for household use.

Bloem Water

Bloem Water (formerly Bloem Area Water Board) was established in 1991 with the aim to operate the Caledon/Bloemfontein Government Water Scheme as well as supplying water to the municipal areas of Bloemfontein, Bainsvlei, Bloemspruit, Botshabelo and Dewetsdorp.

Amatola Water

Amatola Water was established in 1998 to provide bulk-water services in the Eastern Cape. It is committed to ensuring that the Eastern Cape communities have access to basic water services as this is a right enshrined in the Constitution of the Republic of South Africa of 1996.

Mhlathuze Water (MW)

MW was established in 1980 and predominantly operates in the uMkhanyakude, King Cetshwayo and Zululand district municipalities but has plans to expand beyond these districts. MW is supplied by three dominant water sources namely: Mhlathuze River, Lake Mzingazi and Lake Nsezi. The organisation's business activities include raw (untreated), clarified (partially treated) and purified water supply; disposal of industrial and domestic waste water and scientific services.

Lepelle Northern Water (LNW)

The mandate of LNW is to provide bulk-water services to water services authorities and industries within Limpopo. It is actively involved in schemes serving more than three million people as well as some major industrial users. LNW will continue to partner with the DWS in implementing Water Conservation and Demand Management as well as groundwater exploration to augment the surface water.

Overberg Water

Overberg Water came into being in 1993 when the former Duivenhoks and Rûensveld water boards amalgamated. It distributes water to the surrounding and rural areas of Cape Agulhas, Theewaterskloof and Swellendam. It has three water-treatment schemes with 22 reservoirs which are strategically located across the Overberg region. The water board derives its revenue from the sale of

bulk potable water to its main customers, namely municipalities, as well as retail sales to the agricultural sector/industry in the region.

The organisation supplies and distributes approximately four million cubic metres of water per year. The region currently supplied covers approximately 6 000 square kilometres with a pipeline network estimated at 1 450 kilometres.

Other entities:

- The **Breede-Gouritz Catchment Management Agency** was established in terms of the National Water Act of 1998. The agency plays an important role in protecting, using, developing, conserving, managing and controlling water resources in a cooperative manner within the boundaries of the Breede-Gouritz catchment area.
- The **Inkomati-Usuthu Catchment Management Agency** was established in 2004 in terms of the National Water Act of 1998. The agency plays a key role in the use, protection and development of water resources in the Inkomati-Usuthu water management area, and aims to ensure that water is used and managed to support equitable and sustainable socio-economic transformation and development.
- The **Water Research Commission** was established in terms of the Water Research Act of 1971. It is mandated to conduct research in the water sector by determining needs and priorities for research; promoting coordination, cooperation and communication in the area of water-research development; stimulating and funding water research; promoting the effective transfer of information and technology; and enhancing knowledge and building capacity in the water sector.
- The **Water Trading Entity** was established in 1983 and was converted into a trading entity in terms of the Public Finance Management Act of 1999 in 2008. The entity's primary role is to manage water infrastructure and resources, and the sale of raw water.
- The **TCTA** was established in 1986 as a specialised liability management entity, deriving its mandate from the National Water Act of 1998. It is responsible for financing and implementing the development of bulk raw water infrastructure and providing treasury management services to the DWS. The authority plays an important role in providing: financial advisory services such as structuring and raising project finance, managing debt and setting tariffs; project implementation services; and other technical support to the department and water boards.