

2023/24

OFFICIAL GUIDE TO
SOUTH AFRICA



WATER AND
SANITATION

South Africa is one of the 30 most water-scarce countries in the world, and the demand for water in the country is increasing as a result of economic and population growth. Yet, the average consumption of water is 218 litres per capita per day, compared to the international average of 173 litres per capita per day.

Already, 75% of the available surface water has been captured in dams, and the remaining opportunities for capturing surface water are very expensive. At the same time, the increasing impact of climate change could also result in more severe droughts in future, as well as more frequent floods which caused major damage to water and sanitation infrastructure.

The mandate of the Department of Water and Sanitation (DWS) is set out in the National Water Act of 1998 and the Water Services Act of 1997. The department's legislative mandate 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 legislation and policies that are critical in honouring people's rights to have enough food and water, growing the economy and eradicating poverty.

Over the medium term, the department aimed to focus on providing reliable water and sanitation services; improving the regulation of water quality through the application of blue drop, green drop and no drop incentive schemes; and prioritising the integration of water resource planning and development.

The DWS planned to establish the National Water Resource Infrastructure Agency by May 2025, which will own all the national water resource infrastructure assets and obtain the revenue streams associated with those assets. The department is a custodian of existing 323 large dams and related infrastructure across the country.

Providing reliable water and sanitation services

To improve the provision of reliable water and sanitation services in municipalities over the medium term, the department plans to complete 37 regional bulk infrastructure project phases (seven mega, 22 large and eight small) and 234 small water infrastructure projects through the water services infrastructure grant that will support water services authorities such as municipalities and certain water boards.

Regulating water quality and access

Over the period ahead, the DWS planned to strengthen its regulatory function through increased capacity. This was expected to be achieved through establishing a regulator commission, an independent advisory body tasked with overseeing the trading of water and ensuring its continuous, equitable and sustainable provision.

In addition to its regulatory role, the department plans to strengthen interventions to address environmental and wastewater pollution in communities and support municipalities in which water and sanitation services have deteriorated.

Integrating and improving water resource planning and development

To improve infrastructure planning and development and ensure better integration of these two functions, the department planned to oversee the completion of strategic projects, including the uMkhomazi bulk water supply scheme; the raising of the Clanwilliam Dam wall; and projects aimed at meeting high water demand for large strategic users such as Eskom, Sasol and Exxaro.

To decrease over-reliance on surface water, the department intends to diversify its water mix by exploring other sources such as groundwater and aquifer systems, and by treating acid mine drainage water and desalinating sea water. Accordingly, four catchment plans for mine water and wastewater management are scheduled for implementation over the period ahead.

There are also plans in place to maintain and refurbish water resource infrastructure to ensure its optimal performance in securing water supply. These plans are related to the maintenance of conveyance systems such as the Orange-Vaal: Vaalharts, Fish Sundays government water schemes and the Qamata irrigation scheme.

Drinking water

According to Statistics South Africa's (Stats SA) General Household Survey (GHS) of 2023, tap water inside their dwellings, on-site, or off-site was most common among households in Western Cape (99,3%), Gauteng (97,6%), and Free State (93,3%) and least common in Limpopo (64,2%) and Eastern Cape (67,2%).

Although the percentage of households in Eastern Cape with access to water in the dwelling, on- or off-site increased by 23,1 percentage points between 2002 and 2012, access has declined by 12 percentage points to 67,2% since then. A similar pattern is observed in Limpopo where access to piped or tap water in their dwellings, off-site or on-site increased from 73,8% to 84% in 2010, before declining to 64,2% in 2023, almost 10 percentage points lower than in two decades earlier in 2002.

On a more positive note, access to water in KwaZulu-Natal increased by 6,1 percentage points to 81,5% over this period. Although, nationally, access to tap water inside their dwellings, off-site or on-site improved by 2,6 percentage points between 2002 and 2023, it is notable that access declined in five provinces during this period.

Declines were observed in Limpopo (-9,6 percentage points), Mpumalanga (-3,9 percentage points), Northern Cape (-2,4 percentage points), Free State (-2,3 percentage points) and Gauteng (-1,1 percentage points).

Although the percentage of households with access to water has been declining, it is important to note that a larger number of households received tap water in 2023 than two decades earlier.

An estimated 45,2% of households had access to piped water in their dwellings in 2023. A further 29,8% accessed water on-site while 9,7% relied on communal taps and 2,3% relied on neighbours' taps. Although generally households' access to water improved, 3,3% of households still had to fetch water from rivers, streams, stagnant water pools, dams, wells, and springs in 2023.

About 97,2% of households in metros had access to tap water. This type of access to water was most common in Cape Town (99,8%), Johannesburg (98,9%), and Ekurhuleni (98,6%). The lowest access amongst metros was recorded in Nelson Mandela Bay (87,6%), and Mangaung (91,7%). Despite a rather modest increase in the percentage of households with access to tap water between 2002 and 2023 (2,0 percentage points), the number of households with access to piped water from municipalities increased by 60,4% between 2004 and 2023, expanding from 9,2 million to 15,2 million during this period.

Almost three-quarters (74,8%) of households who did not have water in their dwelling, or on their yards took less than 30 minutes to fetch water (i.e. to go there, get water and come back) from the nearest collection point. A further 18,8% took between 31-60 minutes. Households that took less than thirty minutes were most common in the Western Cape (100%) and Gauteng (94,9%) and least common in Limpopo (64,4%) and KwaZulu-Natal (63,7%).

Functionality of water supply

The functionality of municipal water supply services measures the extent to which households that received water from a municipality had reported, over the 12 months before the survey, interruptions that lasted more than two days at a time, or more than 15 days in total during the whole period.

Households in Mpumalanga (66,9%), Northern Cape (59,7%), and Limpopo (57,2%) reported the most interruptions, while households in Western Cape (3,4%) and Gauteng (22,8%) experienced the least interruptions. More than one-third (35,8%) of South African households reported some dysfunctional water supply service in 2023.

The percentage that reported water interruptions by metropolitan areas. Compared to households nationally, a smaller percentage of households in metropolitan areas reported water interruptions (22,8% compared to 35,8%). Water interruptions were most common in Nelson Mandela Bay (45,1%), Buffalo City (36,3%) and eThekweni (33,2%), and least common in Cape Town (3,9%) and Ekurhuleni (19,5%).

Alternative sources of water

According to Stats SA's GHS of 2023, alternative sources of drinking water were used by households that experienced water interruptions that lasted two days or longer during the previous year. Nationally, 27,3% of households relied on water from water tankers or vendors. 6,2% used water from springs, wells, dams, pools or from rivers and streams. Rainwater tanks (4,2%) and boreholes (2,6%) were also relatively common.

Moreover, 39,3% relied on stored water, while 15,9% did not have backup plans. The use of water vendors was highest in North West (23,5%) and Limpopo (23,0%), while water tankers were most common in Free State (30,2%), Gauteng (29,4%) and KwaZulu-Natal (28,0%). Drawing water from springs, wells, dams, pools, rivers, or streams was most common in KwaZulu-Natal (13,8%), Eastern Cape (10,3%) and Mpumalanga (5,8%).

For households that consumed bottled water at home by province, nationally, 46,8% of households never drank bottled water while 34,6% of households drank it 'sometimes'. Drinking bottled water everyday was most common in Northern Cape (23,9%) and North West (15,5%) and least common in Limpopo (4,8%).

Use of groundwater

In South Africa, groundwater plays a key strategic role in supporting economic development and sustaining water security in several rural and urban settlements that are either entirely or partially dependent on groundwater supply. To augment the current available water and increase supply, the DWS was by mid-2024 implementing several measures to ensure the increased use of groundwater in a sustainable and reliable manner.

Generic standard operating procedures for municipalities have been developed, covering groundwater planning and exploration, drilling, borehole testing, monitoring, operation and maintenance. Compliance with these standard operating procedures was included in the revised norms and standards for water services which were released for public consultation. The department also supports municipalities with capacity building and data regarding groundwater aquifers, which have potential for further sustainable exploitation. The regulation of the use of groundwater was also strengthened to include spot checks of groundwater users to ensure that they are adhering to the legal requirements and to their licence conditions.

The new regulations will also require all groundwater users to register their boreholes and provide information such as abstraction volumes and that borehole drillers provide the department with information on all drilling.

World Water Day and Week

World Water Day, which takes place annually on 22 March to underline the importance of fresh water, was celebrated in 2024 under the theme: "Water for Peace", raising awareness about water conservation and sustainable management. In South Africa, the annual National Water Week campaign in March is aimed at educating the public about their responsibility in water conservation initiatives, raising awareness around the need to protect and conserve the country's water resources.

Sanitation

Environmental hygiene plays an essential role in the prevention of many diseases. It also impacts on the natural environment and the preservation of important natural assets, such as water resources. Proper sanitation is one of the key elements in improving environmental hygiene. According to Stats SA's GHS of 2023, for households per province that had access to improved sanitation facilities, nationally, the percentage of households with access to improved sanitation increased from 61,7% in 2002 to 83,3% in 2023.

Households' access to improved sanitation was highest in Western Cape (95,6%), Gauteng (90,7%) and Eastern Cape (88,1%), and most limited in Limpopo (61,9%) and Mpumalanga (67,2%). In Eastern Cape, households' access to improved sanitation facilities increased by 54,7 percentage points between 2002 and 2023, growing from 33,4% to 88,1%. Similarly, the percentage of households with access to improved sanitation increased by 35,0 percentage points in Limpopo, and 31,8 percentage points in KwaZulu-Natal over the same period.

Much of the growth observed in Eastern Cape between 2022 and 2023 was due to the installation of Ventilated Pit (VIP) toilets. Nationally, almost two-thirds (66,0%) of households used flush toilets that were either connected to a public sewerage system or a septic or conservancy tanks, while another 17,3% used pit toilets that are connected to ventilation pipes.

Households that did not have access to improved sanitation facilities largely depended on pit toilets without ventilation pipes (13,6%). The use of flush toilets was most common in Western Cape (95,4%), Gauteng (87,1%) and Free State (77,0%). About one-third (30,0%) of households in Limpopo used some type of flush toilet, while another 31,9% used ventilated pit toilets. The largest percentage of pit toilets with ventilation pipes were observed in Eastern Cape (40,5%), Limpopo (31,9%) and KwaZulu-Natal (31,7%).

In the absence of flush toilets, 68,5% of households in Limpopo used pit latrines, the majority without ventilation pipes. Almost one-third (31,8%) of households in Mpumalanga and 26,6% of households in North West used pit toilets without ventilation pipes. Households' access to improved sanitation was highest in Nelson Mandela Bay (96,2%) and Cape Town (94,7%), and least common in Mangaung (79,6%), Tshwane (85,5%) and eThekweni (88,9%).

Household hygiene

The methods used nationally by household members to clean hands after using the toilet between 2019 (before the start of COVID-19) and 2023. The figure shows that the percentage of households whose members usually wash hands with soap and water increased notably from 43,6% to 61,4% in 2020, before declining to 55,3% in 2023. The percentage of households whose members only rinsed their hands with water concurrently decreased from 50,8% to 33,3% in 2020, before slowly increasing to 41,4% in 2023. The percentage of households whose members did not clean hands decreased from 3,7% in 2019 to 1,4% in 2023.

More than two-thirds (68,2%) of households had access to hand washing facilities, nationally. Hand washing facilities were most common in Western Cape (81,6%) and Gauteng (80,8%), and least widespread in Limpopo (44,5%) and Mpumalanga (58,5%).

All households were also asked to indicate whether (and how) household members usually washed their hands after they had used the toilet. Washing hands with soap was most common among households in Northern Cape (69,8%) and Western Cape (68,9%), and rarest in Limpopo (41,7%) and North West (48,0%). Rinsing hands with water was most common in Limpopo (52,7%) and North West (49,0%) and least common in Western Cape (27,7%). In Limpopo, 4,9% of households reported that their members did not clean their hands at all after using the toilet.

Lesotho Highlands Water Project (LHWP)

In March 2024, the DWS informed the water users of the Vaal River System about the planned maintenance work on the transfer and delivery tunnels of the Lesotho Highlands Water Project (LHWP) over the six-month period, from 1 October 2024 to 31 March 2025.

The tunnel system consists of a Transfer Tunnel, linking Katse Dam with Muela Power Station and Muela Dam, and a Delivery Tunnel, linking Muela Dam with the Ash River Outfall Works between Clarens and Bethlehem. Inspections and maintenance of the tunnels are conducted at intervals not shorter than five years and not exceeding 10 years. The last maintenance was conducted in 2019. During the shutdown of 2019 it was found that the steel liners in the tunnel urgently need extensive maintenance on both the South Africa and Lesotho side. This process cannot be done in a shorter period than six months.

The planned maintenance work is being overseen by the Lesotho Highlands Water Commission (a joint governance body between the Republic of South Africa and the Government of Lesotho) and will be jointly undertaken by the Lesotho Highlands Development Agency (LHDA) and the Trans Caledon Tunnel Authority (TCTA).

The work required to be undertaken during the period includes grit-blasting the steel-lined section around the entire circumference and re-applying corrosion protection on the tunnel lining, as well as other maintenance and repair work identified during the 2019 maintenance shutdown. This work to be undertaken requires a lot of time as it is expected to protect the infrastructure for another 20-30 years.

This much-needed maintenance is critical to maintain the integrity of the delivery tunnels as a tunnel failure will risk the transfer of the 780 million m³/annum to the Integrated Vaal River System, from which Rand Water draws water to supply its customers. The six months period required to conduct maintenance is thus crucial to avoid any catastrophic event which may result from lack of maintenance.

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 a multibillion Rand regional pipeline network of approximately 3 500 km.

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, Bloemspuit, 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 2008, in terms of the Public Finance Management Act of 1999. 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.