

Massive 6-month shutdown of critical water supply for South Africa – the worst-case scenario



The Provincial Head of the Department of Water and Sanitation in Gauteng, Justice Maluleke, has reassured the public that the department and other sector stakeholders are ready for the impending closure of the Lesotho Highlands project in October 2024.

The main water supply to South Africa's economic hub, greater Johannesburg in the Gauteng province, and to the country's breadbasket in the Free State, is scheduled to be cut off for six months.

Maintenance work on the 37 kilometre Lesotho Highlands Water Project tunnel is due to begin in October 2024 and run to March 2025.

Maluleke said that stakeholders in the water sector have taken all necessary measures to ensure that the water supply will not be affected by the closure and said the public must not panic.

"We have all the plans in place, and we will be communicating," he said.

According to Maluleke, the department is working with all stakeholders from Lesotho, the TCTA, Rand Water, City of Tshwane, City of Ekurhuleni, and the City of Johannesburg and entities to ensure no water shortage in the province during the shutdown of the Lesotho tunnel.

While Maluleke acknowledged that there may be challenges along the way, he expressed confidence in their preparedness to handle any obstacles that may arise.

Worst-case scenario

In a worst-case scenario of shortage of water supply—when the Vaal dam is around 18% capacity—he said that the Integrated Vaal River System still has 13 dams that supply water to the Vaal River system.

"Since the closure will be during the rainy season, we don't anticipate that that is going to happen," Maluleke said.

Maluleke also assured businesses that they had nothing to worry about but advised them to build on-site water storage facilities to continue with their operations.

Celiwe Ntuli, Scientist Manager from System Operation at the National Department of Water, echoed the message, saying that the analysis shows no risk of water shortage in the Integrated Vaal River System.

Phase 1 of the Lesotho Highlands transfers 700 million cubic meters of water per year into the Integrated Vaal River System. Phase 2 project will add 490 million cubic meters per year into the IVRS.

According to the treaty signed between Lesotho and South Africa in 1996, maintenance is required every five to ten years. The last maintenance was conducted in 2019, during which the need for Phase 2 was discovered.

Be prepared

While the department has presented a face of confidence ahead of the shutdown, Ifedotun Aina—a senior Researcher and Postdoctoral Research Fellow in the Water and Production Economics Research Unit at the University of Cape Town—previously warned that the impact of the outage on South Africa could be significant.

Particularly for residential and agricultural users.

Aina outlines the potential impacts as follows:

It could exacerbate current water scarcity that's affecting millions of people in Gauteng and residential areas that rely on the tunnels for their water may experience water restrictions.

There might be reduced water pressure, and the periods during which water is available may be shortened.

People may need to rely on alternative water sources such as underground water and bottled water, which cost more.

Severe water restrictions could lead to people seeking out water from alternative sources, like streams or boreholes, which could cause health problems.

Agriculture depends heavily on consistent and reliable water sources for irrigation, livestock watering and other farming activities. The shutdown may result in reduced agricultural productivity, crop failure, and financial losses for farmers who rely on the Lesotho Highlands Water Project. This could affect food security, livelihoods, and the overall economy of affected areas.

“The tunnel closure might also lead to a series of unexpected issues such as disruptions to hospitals, sanitation systems, and other essential services that rely heavily on a consistent water supply,” Aina said.

“If a business experiences an intermittent water supply, this could have a ripple effect with production slowdowns in one sector leading to shortages and price hikes in others.”

Aina said that the government and the Department of Water and Sanitation in particular needs to plan for every scenario, even beyond the worst-case, and needs to communicate detailed plans to all stakeholders.