

At a glance

In Chongwe, a water crisis is well underway, as issues of inadequate water supply and poor water quality take a toll on the health and economic well-being of the population.

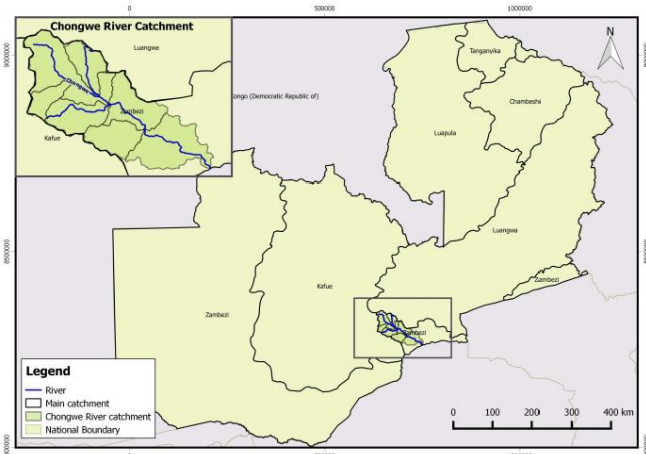


Figure 1: Map of Chongwe river catchment and major catchments in Zambia (BGR, 2015)

In 2015, for the fourth consecutive year, the Chongwe Dam which supplies water to the Lusaka Water and Sewerage Company (LWSC) treatment plant dried, leaving 14,568 residents of Chongwe Town without a reliable supply of water for much of the dry season. Low rainfall during the dry season partially explains the water shortage in Chongwe town. However, a further cause of the scarcity is uncontrolled abstraction of water by commercial and small-scale farmers upstream on the Chongwe River, and one of its major tributaries, the Ngwerere stream. This is in direct contravention of the Water Resources Management Act 2011, which prioritises water for domestic use and human health over commercial needs.

The challenge of water supply in Chongwe is compounded by the severe pollution of Chongwe river by human sewage. The Ngwerere stream, which is a significant source of water for the LWSC treatment plant at Chongwe Dam, receives highly polluting discharges from overburdened wastewater treatment works in Lusaka. This pollution makes it difficult for LWSC to adequately treat the raw water abstracted at Chongwe dam to ZABS drinking water quality standards. This

is especially the case during dry periods of low flow when there is less natural dilution. This situation is in direct contravention of Section 46 of the Environmental Management Act 2011, which strictly prohibits water pollution.

Meanwhile, in the rural areas of Chongwe District, despite the ambitious goals of the National Rural Water Supply and Sanitation Programme, more than 50% of the population, over 107,914 people, still lack access to a safe water supply.

This water crisis in Chongwe is driven by poor management, illegal water use, lax regulation and a lack of policy implementation. This case shows how important it is for our water governance institutions to be active and accountable. Effective and equitable implementation of water law and policy is critical to ensuring the health and economic well-being of Zambian citizens.

Reversing the water crisis in Chongwe requires a well-coordinated and immediate response from the Water Resources Management Authority (WARMA), the Zambia Environmental Management Agency (ZEMA), the National Water Supply and Sanitation Council (NWASCO), Lusaka Water and Sewerage Company (LWSC), the Chongwe District Council and the Lusaka City Council (LCC).

What's happening?

Inadequate water supply in Chongwe Town

The Water Supply and Sanitation Act No. 28 of 1997 requires water supply and sanitation utilities to provide efficient and sustainable water supply and sanitation services under the regulation of NWASCO. NWASCO requires service providers to guarantee a defined level of service in a Service Level Guarantee (SLG).

In 2014, LWSC failed to meet the conditions of its SLG for the people of Chongwe in terms of number of service hours, and interruptions to water supply, due to the drying of the Chongwe dam (NWASCO, 2014). The situation did not improve in 2015. During the period of October–December, the LWSC treatment plant in Chongwe only produced half of

the water that was projected, and stopped providing water altogether once the dam dried (LWSC, 2015).



Dry Chongwe river at Chongwe Dam, 2 December 2015

This shortage of water imposes severe hardship, extra expense and health risks on the people of Chongwe Town. Even when LWSC deliver water in emergency bowsers during the crisis, many residents can't get access because of chaotic timing and location of deliveries, and are forced to buy water from private boreholes.

What we're supposed to spend on food, we spend on water. We can't do so much work... while we're supposed to be doing work, we're busy drawing water – Reverend Lunbwe, Chongwe Town



Reverend Lunbwe with her water buckets

The shortage of water in Chongwe has also had a negative impact on business. As one local business owner attests:

It's been costly, we have to hire people to get water for us. We find we are delaying making the food because we have to go to another borehole... by the time we are finished drawing water, lunchtime has passed – Amanda Mnakazwe, Chinsa Restaurant

Unregulated water abstraction

According to studies conducted by BGR (2010, 2015), commercial farmers and small-scale farmers respectively abstract 15 million m³/a and 10 million m³/a from the Chongwe River and its tributaries. It is estimated that 90% of

abstraction by commercial farms takes place during the dry season, when the flow of the Chongwe river and its tributaries is considerably reduced (BGR, 2010).

As stipulated under Part I Section 6(b) of the Water Resources Management Act 2011, "water is a basic human need and as such domestic and non-commercial needs shall enjoy priority of allocation use". However, upstream of Chongwe Town there are many farmers abstracting water, as water for Chongwe's domestic, non-commercial, and basic health needs runs dry.



Diesel pump abstracting water from the Chongwe River

While the use of water for agricultural purposes is certainly legitimate and essential, Section 70 of the Water Resources Management Act 2011 requires citizens using water for agricultural purposes to obtain a water permit from WARMA. Under the Act, WARMA is responsible for granting water permits, and through the permitting system for ensuring sustainable and fair water allocation and use in line with policy. Despite the Act and law existing for 5 years, WARMA has still not fulfilled its statutory duty to implement a functional permitting and water allocation system. Zambia's citizens are clearly suffering as a result.

Pollution of the Ngwerere stream

The Ngwerere stream, a major tributary of the Chongwe River, receives polluted discharges from the Manchinchu Wastewater Treatment Plant, and the Kaunda Square and Ngwerere waste stabilisation ponds. The treatment facilities are run down and overburdened, and do not provide proper wastewater treatment. According to a report commissioned by LWSC:

Ngwerere stream is grossly polluted by human faecal contamination and (its quality) is akin to untreated wastewater in terms of Faecal Coliform counts – Gauff Ingenieure, 2014: 110

The river water at Chongwe dam is green due to algal blooms caused by high nutrient content in the water, which is related to the inadequately treated wastewater (Gauff Ingenieure, 2011).

Consequently, the LWSC treatment plant struggles to treat the water to an acceptable quality, especially when water

levels are low and there is little natural dilution. As one LWSC staff member in Chongwe observed “when levels are low in our river, pollution becomes more intense”. Water quality sampling results from LWSC for the period of October – December 2015 indicate that the water supplied to Chongwe Town consistently failed to meet ZABS drinking water standards in terms of turbidity and colour, with only 14.29% compliance for turbidity, and 7.14% compliance for colour (LWSC, 2015). Local residents complain about the poor quality of the water, and many refuse to drink it. As Reverend Lunbwe noted, “sometimes it’s clean, sometimes it’s brown, sometimes it’s smelly”.

Under Section 46 of the Environmental Management Act 2011, water pollution is strictly prohibited, unless within the water pollution control standards established by ZEMA. Under Section 119 of the Act, any person who contravenes the standards established by ZEMA is liable to a fine or imprisonment, or both.

According to a study commissioned by LWSC, samples taken from the Ngwerere stream downstream of the wastewater treatment works often exceed the standards set by ZEMA in terms of faecal coliform counts (Gauff Ingenieure, 2014). Given this obvious violation of the Environmental Management Act 2011, it is puzzling that ZEMA have yet to take action to address the situation.

Inadequate rural water supply

In Zambia, the level of poverty in rural areas is three times the level in urban areas, and one of the key factors contributing to this level of poverty is the lack of access to safe water and sanitation (CSO, 2010; Africa Development Fund, 2006).

The National Rural Water Supply and Sanitation Programme aimed to improve rural water supply in Zambia, so that 75% of the rural population would be within 0.5 km of an improved water supply by 2015. While the programme made considerable progress, as of 2015, access to an improved water source in rural Zambia was 51% (JMP, 2015).

According to the Chongwe District Council, access in rural Chongwe remains below 50%, meaning that over 107,914 residents are currently without a safe water supply. As a result, they have to travel long distances to obtain water, and often resort to getting water from unprotected sources, namely shallow wells and streams, which pose serious health risks.

Our women are the custodians of our water and in many cases they walk long distances to access water
– Kapuka Village Headman



Use of an unprotected shallow well in Sheleni village

What needs to change?

The situation in Chongwe highlights the importance of accountable institutions for the effective implementation of water management law and policy.

Addressing the issues of inadequate water supply, uncontrolled abstraction, and water pollution in Chongwe will require the responsible institutions including LWSC, WARMA, ZEMA, NWASCO, Chongwe District Council and Lusaka City Council to fulfil their legal duties to protect and serve the citizens of Chongwe. It is recommended that:

Locally:

- NWASCO must ensure that LWSC finds a solution to meet the terms of its SLG in terms of water supply hours, and interruptions to service.
- The Chongwe District Council and NWASCO need to mobilize funding through the Ministry of Local Government and Housing and the Devolution Trust Fund to invest in water supply improvement in both rural and urban areas of Chongwe District.
- WARMA should conduct a study to assess the supply and demand of water resources in the Chongwe catchment in relation to seasons and flow rates (BGR, 2015).
- ZEMA need to fulfil their duty under Section 48(1) of the Environmental Management Act 2011 to ensure compliance with pollution control laws at Lusaka’s wastewater treatment works.
- Lusaka City Council and LWSC need to invest in the upgrade and expansion of the Manchinchi Wastewater Treatment Plant and the Kaunda Square and Ngwerere waste stabilisation ponds.

Nationally:

- WARMA should establish a system of water permitting based on a hydrological assessment of water supply and demand, which includes setting and enforcing conditions for seasonal variation and environmental flow, in order to protect downstream users.