2020

Water Services on the Brink

UNDERSTANDING THE FINANCIAL IMPACT OF THE COVID-19 CRISIS ON WATER SERVICE PROVIDERS IN SUB-SAHARAN AFRICA

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Water service providers across sub-Saharan Africa, like much of the world, are facing acute challenges as they seek to maintain operations for the populations they serve. Sweeping lock-downs and travel restrictions are changing the makeup of their customer base and consumption habits, while many governments have called on utilities to operate free of charge. Using Kenya and Uganda as case studies, this analysis will explore the major effects of the COVID-19 pandemic on water service providers--knowing that handwashing with soap and water is critical personal protective equipment, or PPE, and that water service delivery, despite reduced revenue and growing accounts receivable, is essential in the fight to contain the virus.[1]

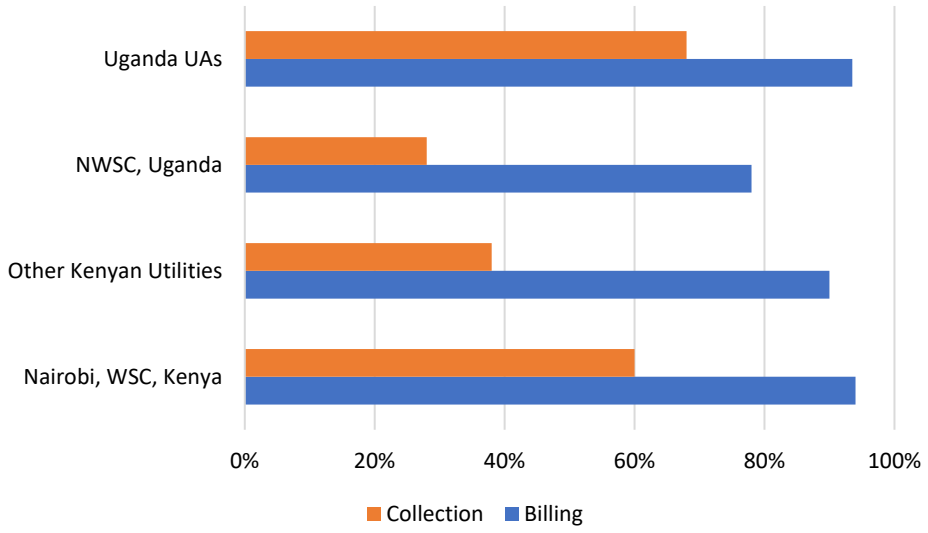
Together, the water service providers in Kenya and Uganda we analyze here serve approximately 26 million people. While mandates have been put in place to prevent disconnections and expand access in underserved areas, consumers are already suffering. There are widely circulated reports of absence of water throughout the service areas, although vendors with jerry cans are visible elsewhere. For households with existing connections, intermittent water supply is challenging water quality, as it increases the risk of microbial contamination. At the moment, services are set to continue even if operators are functioning in the red. However, with insolvency a very real possibility without structured bailouts and further financial risk mitigation measures in place, many people--to say nothing of the businesses and industries that also rely on sustainable water services--could face significant backsliding in terms of access to at least basic water services.

Loss of demand and associated revenue

Since the country-wide lockdowns began in Kenya and Uganda in late March and mandates were instituted requiring service providers to continue operations free of charge, water service providers have been struggling to cope. With industry brought to a standstill, water consumption and associated revenue flows dropped precipitously--even in the face of greater domestic needs with people quarantining at home. This drop was recorded across the board, but hit large water providers the most. In Kenya, billing rates dropped by 10% and collection dropped by 38% relative to pre-lockdown levels (in February 2020), causing a 48% shortfall in actual revenues. While Nairobi City Water and Sewerage Company (Nairobi CWSC) lost only six percent less in billing, it collected only 60% of revenues. Meanwhile in Uganda, six regional umbrella authorities (UAs) experienced a similar drop in billing of 6.5%, however collection dropped to 68% in May 2020 and to 51%in June 2020 relative to pre-lockdown levels. The largest drop of those analyzed came from the Uganda National Water and Sewerage Corporation (Uganda NWSC), when billed revenue dropped by 78% and collection was as low as 28% (see figure 1). Service providers had no advance warning with collection changes coming overnight (see figure 2). All told, this has meant that water service providers are running at severe losses and with little pre-planning to weather the continuing storm.

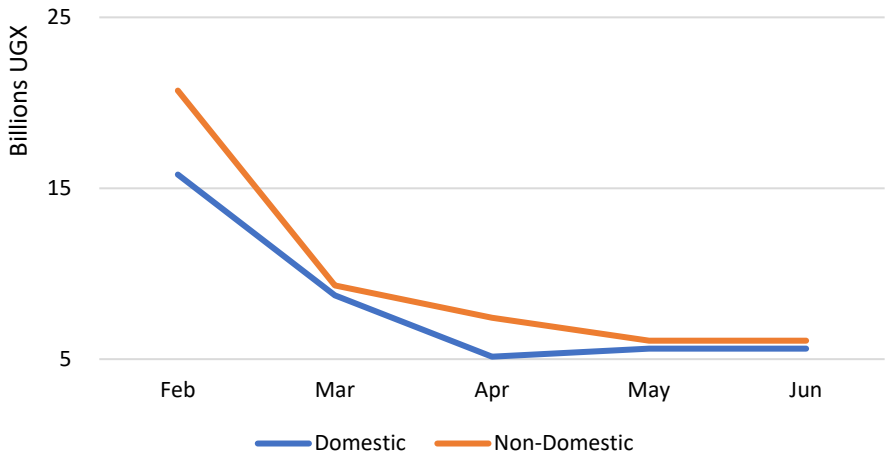
[1] Data for this analysis comes from the International Benchmarking Network for Water and Sanitation Utilities (IBNET), the IBNET Tariff Database, and key informant interviews. The Uganda data cover seven of the largest water utilities, including the National Water and Sewerage Corporation that serves Kampala and another 279 towns and six regional Umbrella Authorities, while the Kenya data cover Nairobi City Water and Sewerage Company and another 54 water district providers serving up to one million residents.

Figure 1. Billing and Collection for 62 Water Service Providers in June 2020 (relative to pre-lockdown levels, Feb. 2020=100%)



In financial terms, losses in Kenya amount to roughly US$7 million per month for secondary and small utilities and about US$9.5 million per month for Nairobi WSC, while in Uganda UAs and Uganda NWSC recorded losses of US$300,000 a month and US$8 million a month, respectively.

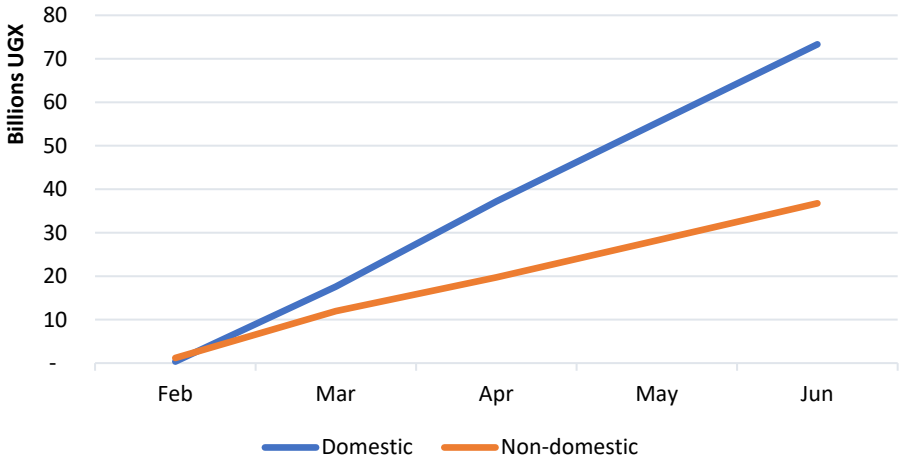
Figure 2. Uganda NWSC Faced Steep Loses in Bills Collected Nearly Overnight



**US$1= UGX 3750*

Countries' relaxed payment policies are a key part of the story. For instance, NWSC only collected 39% of the revenue that would have been expected between Feb. and June 2020, with shortfalls from domestic and commercial customers experiencing the largest reductions, but revenue from all types of customers fell well short of the expected average. As of June 30, 2020, the Uganda NWSC's accounts receivable is nearly US$28.6 million (UGX 110 billion), or three month of uncollected bills, and it is continuing to grow, as the prohibition on disconnections remains in place (see figure 3).

Figure 3. Cumulative Uncollected Bills (Accounts Receivable)



Cross-subsidies

Water service providers are more or less vulnerable to the changing base from which they bill and collect depending on the degree to which they cross-subsidize revenue. In pre-COVID-19 times, reliance on commercial/industrial customers to use more water and pay more for those services, allowed utilities to charge less to domestic users while still operating in the black. With industrial activity coming to a standstill, however, utilities that rely on cross-subsidies are particularly vulnerable.

To understand this dynamic, we conducted a simple modeling exercise on utilities across sub-Saharan Africa with different tariff structures and distributions of customer types. We assumed a 50% reduction in consumption relative to the pre-pandemic baseline and extrapolated the effects on collection rates, cost recovery and current cash flow (see table 1). Note that on average, utilities already in pre-COVID times are dealing with poor cash flow situations. The worst hit countries in the model are those with the highest cross-subsidy rates, specifically Ethiopia, Lesotho, Madagascar, Nigeria, Tanzania and Zimbabwe.

Turning to Kenya and Uganda, we see two distinct stories unfolding. While Kenyan water tariff policy prohibits cross-subsidies between water users on paper, the official tariff structure allows utilities to charge higher rates for bulk water users vs. residential ones. This means that in practice, Kenyan utilities receive an extra three to five percent of revenue from bulk users that cross-subsidizes residential customers. In Uganda, the cross-subsidy is formally used as a social support instrument, but has variable effects based on the utilities' consumer mix. For the Uganda NWSC, the policy has caused serious issues, as industrial tariffs exceed residential ones by 120%. With reduced industrial consumption, the cost of water production currently is below cost-recovery by US$0.11 (UGX 400), adding about US$110,000-120,000 to production costs every month. Because Uganda's UAs rarely have non-residential users, the cross-subsidy effect for secondary providers is minimal.

Table 1. Modeled Effects of Different Cross-Subsidy Policies on Utility Operations[2]

	Before March 1, 2020			COVID-19 period		
	Bill collection rate[3]	Cost-recovery[4]	Current cash flow[5]	Bill collection rate	Cost-recovery	Current cash flow
	69%	**45%**	**31%**	**35%**	**35%**	**12%**
Botswana	96%	127%	122%	48%	103%	49%
Burundi	60%	108%	65%	30%	72%	22%
Ghana	79%	132%	104%	40%	101%	40%
Ethiopia	100%	81%	81%	50%	67%	34%
Kenya	91%	97%	89%	46%	80%	36%
Lesotho	99%	90%	89%	50%	67%	33%
Madagascar	100%	100%	100%	50%	62%	31%
Malawi	80%	94%	76%	40%	74%	30%
Mozambique	93%	107%	99%	47%	89%	41%
Nigeria	30%	82%	24%	15%	67%	10%
Rwanda	100%	137%	137%	50%	111%	56%
South Africa	90%	162%	145%	45%	128%	58%
Tanzania	68%	102%	69%	34%	82%	28%
Uganda	99%	133%	132%	50%	99%	49%
Zambia	84%	125%	105%	42%	99%	41%
Zimbabwe	48%	143%	68%	24%	118%	28%

Color coding for cost-recovery and current cash flow: Break-even (green); surplus (black); deficit (red)

Unfunded mandates

In addition to non-disconnection policies for households, utilities in both Kenya and Uganda have been required to provide water to healthcare and quarantine facilities and to informal settlements, given the critical role handwashing plays in preventing the spread of COVID-19. This could have lasting benefits as countries and economies open up following long periods of lockdown. Specifically in Uganda, hospitals, where the majority are private, have their own on-site shallow wells producing water of questionable quality and that provide water only seasonally. Connection costs to the existing network are high (US$1,000-2,000 per non-residential connection) and the water tariffs are perceived to be unaffordable. Only 24% of healthcare facilities, while connected to the NWSC network, consumed more than 10 cubic meters (or 10,000 liters) of water through the whole of 2019. Having connection costs waived as a part of

[2] Country averages aggregate all utilities reporting to IBNET.

[3] A service provider's collection rate is the share of revenue the provider was able to collect out of the amount the provider billed in a given month.

[4] The cost recovery rate is the share of revenue the provider billed out of the total costs the provider spent on operations and maintenance.

[5] A service provider's current cash flow is the share of revenue the provider collected out of the total costs the provider spent on operations and maintenance.

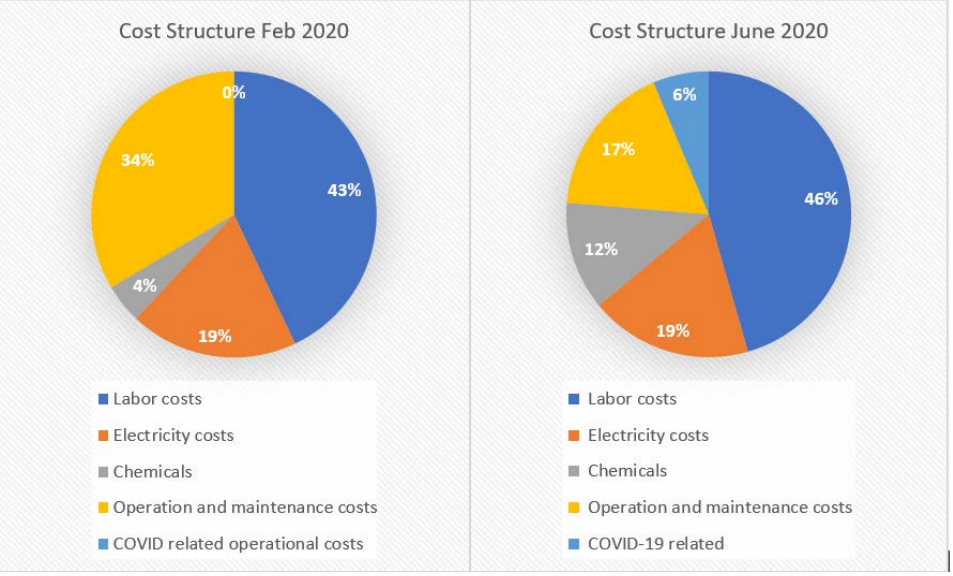
COVID-19 response could mean that more hospitals will have year-round access to water going forward, as many may choose to rely on the utility during the dry season, if not year-round.

Additionally, Nairobi WSC and Uganda NWSC were mandated to provide water to growing formal and informal settlements. Both utilities responded by constructing temporary water reservoirs accessible through public tapstands that they filled through water trucking. Additionally, prepaid meters were disconnected in areas managed directly by both corporations during March to June 2020. Both mandates cost the Uganda NWSC nearly US$7 million (UGX 27 billion) and the Nairobi WSC roughly US$2.0-2.5 million, substantially less due to the utility's inability to provide water in needed volumes.

Cost-saving measures

When it became clear that the COVID-19 quarantine and related mandates would last longer than initially anticipated, most utilities began reducing costs towards the end of April. For instance, to reduce financial pressure, the Nairobi WSC reduced operations and implemented intermittent water supply. This cut meant that many of Nairobi's suburbs were served for just 5-10 hours a day for nearly two months from April to the beginning of June. All Ugandan utilities reduced maintenance costs to the bare minimum given cash-flow challenges, meaning that needed repairs are largely being put off indefinitely (see figure 4).

Figure 4. Average Ugandan Utility Cost Structure Pre- and Post-COVID-19 Response



Future Plans

In response, water service providers are tightening their belts and beginning to plan for a new, post-COVID steady-state. From July 1, 2020, all water service providers in Kenya and Uganda started to review investment plans. All planned capital expenditures likely will be put on hold. Government-wide budget crunches will mean significantly less direct subsidy for utilities serving the poor. Additionally, all companies are planning to initiate austerity measures, primarily by reducing and furloughing staff. The Uganda NWSC is currently renegotiating contracts with electricity providers with the hopes of restructuring its outstanding bills and securing a lower tariff rate going forward. All companies have already initiated recovery of outstanding bills owed, while many are considering new tariff structures to

adapt to these new realities (that would require formal government approval). Many are undertaking stress tests to consider prolonged quarantine and a significant reduction in water demand and changes to their customer base. Some are doing so in partnership with development partners, including the World Bank and USAID, and then using these findings to adapt and to structure bailouts, primarily from multilateral development banks. For instance, in Kenya, the government's water loan provisions with the World Bank will likely be converted into a subsidy to compensate the utilities' lost revenue. In Uganda, the World Bank plans to compensate Ugandan water providers for uninterrupted water services in the amount of nearly US$50 million through an approved budget support project (so called DPO). This will be co-financed by KfW in the amount of EUR 300,000.