

Initiatives by Water For People with Kampala Capital City Authority (KCCA) Aimed at Achieving Sanitation Services for Everyone



Sanitation Situation in Kampala

The population for Kampala City is over 2 million people during the day. Over 60% of the city residents live in informal settlements. The piped sewer network serves about 6% of the population and is limited to the central business district. Approximately 94% of Kampala’s residents use on-site sanitation facilities of variable quality and effectiveness that require pit/tank emptying from time to time. The city’s master plan for 2040 is for 30% of the city to be sewered. On-site sanitation is a long-term reality and must be improved.

Kampala Capital City Authority (KCCA) is the legal entity established by the Ugandan Parliament and plays an oversight role in the management of on-site sanitation services and fecal sludge management. Water For People in Uganda complements KCCA’s efforts in service delivery. We have developed technologies along the full sanitation chain, business models, and service provider support.

Development of a City-wide Strategic Plan for Sanitation



Kampala’s low-income parishes

Water For People is helping KCCA develop this Strategic Plan. It will be used as a basis for sanitation planning and prioritizing investments to scale-up improved sanitation models through 2040. This includes coordination with various level of city government, sanitation marketing and behaviour change communication for the general public, development of private sector service providers for pit/tank emptying, start-up of the city’s call center to connect householders with quality pit emptying services, collaboration with the National Water and Sewerage Corporation (NWSC) for wastewater and fecal sludge treatment, and enhancement of the city’s sanitation policy and regulatory environment to minimize illegal sludge dumping. There are over 100,000 households in four low-income parishes that are not yet able to practice “safe” management of fecal sludge (FS), and there are various areas where services can be improved. This is the target population for Water For People’s sanitation work in Kampala.

1. Toilet Improvement Technologies and Toilet Financing for Households

Water For People developed the **Durasan toilet** (uses prefabricated, interlocking concrete blocks that are easy to assemble for the superstructure). Work continues to be needed in developing reasonably priced facilities for the substructure to properly capture fecal sludge in pits (which may be lined) and



prevent environmental contamination. Improvements to the toilet slab to create a solids/air barrier have been remarkably successful with a few key products that we helped get to market, the most notable being the **SaTo Pan**. Through



a successful collaboration with American Standard (now Lixil) we introduced the SaTo Pan to Uganda and helped facilitate local manufacture of the SaTo Pan by Crestanks and Nice House of Plastics. This led to setting up supply chains for the SaTo Pan for market uptake. The distribution chain is well-developed with 120 stockists (suppliers) recruited in Kampala.

A notable barrier to improved sanitation is access to financing to buy nicer toilets. Households often lack upfront capital for this purchase. Water For People has successfully piloted the development of financing for sanitation in Soroti town, in northern Uganda, in collaboration with Post Bank. We are in a position to support similar financing for household toilet improvements in Kampala in this coming year. An ongoing partnership with Post Bank (where Water For People underwrites the loan program) will enable households to access a low interest loan of 1.14% per month for 6-12 months for an improved toilet that will be emptyable.

2. Pit-emptying using the Gulper Technology and Expanding Pit Emptying Markets

Pit emptying via Gulper



Toilet pit-emptying in Kampala is mainly carried out by the over 80 cesspool tankers, in addition to over 15 **gulper entrepreneurs** that are contracted in neighborhoods where cesspool tankers cannot gain access. We believe that about 30% of the 100,000 unimproved household toilets discharge untreated fecal sludge straight into drainage channels using illegal manual emptiers. Since 2013, Water for People

has supported new small business start-ups entering the pit emptying market. We provide business development support and technical training, and create linkages to financing institutions. Several successful businesses have emerged. There is still plenty of room for more in the market. We have developed a number of initiatives to attract new entrepreneurs to sanitation.



Moving barrels of fecal sludge

In June 2018, 18 manual emptiers were trained in one parish to transition them to become gulper entrepreneurs. A branded sanitation kiosk has been set up for marketing pit-emptying services in the parish, and to store pit emptying equipment, which can be rented by new entrepreneurs. This is one important phase in creating “model” parishes. Here specific efforts encourage the use of pit-emptying services by making emptying easier and an affordable alternative to manual emptying together with more effective enforcement measures against illegal sludge dumping.

Mobile Transfer Tank



Transport is a major cost in moving fecal sludge from households to the NWSC treatment plant. In partnership with KCCA and GIZ, Water For People fabricated 2 **mobile transfer tanks** with a 200-liter loading trough and 7 m³ capacity. These tanks were designed to benefit the predominantly informal settlements and parishes where entrepreneurs would have the opportunity to serve a multitude of clients that can only afford to remove 1 or 2 barrels (50 to 100 gallons) from their household toilet pit at a time. Furthermore, the mobile transfer tank encourages collection

when it is visible and parked in a section of the parish, so the gulper entrepreneurs can get more customers.

The use of transfer tanks has enabled the price charged per barrel emptied to be reduced considerably. Though this does not support the recovery of full capital investment of the transfer tank through pit emptying fees alone.

Part of the city-wide strategic plan for sanitation could include the establishment of **micro fecal sludge treatment plants**, which would provide the basis for decentralized DEFAST technology. Water For People has several successful DEFAST plants in northern Uganda. If they could be constructed in various locations in Kampala this would greatly reduce the cost of sludge transport from the parishes to Lubigi or Bugolobi Wastewater Treatment Plants. The option of sludge discharge into the existing sewer system will also be explored. This is another method for reducing transport costs. Water For People is keen to use its experience in establishing these plants in other towns and bringing this experience to Kampala.

In 2017, Water For People helped establish a Pit-Emptyer or **Gulper Association** in Kampala. Today the association has 16 active members and provides business linkages for members. It was also established to work with KCCA to set standards for the pit-emptying and provide a platform for easy regulation and signing of service level agreements with KCCA.

3. Reuse of Biosolids as a Fuel (Briquettes) or Soil Conditioner (Compost)

Reuse of treated and stabilized fecal sludge is an area that Water for People has tested in the market for several years in northern Uganda. In 2018, Water For People invested in developing and market testing **briquettes for cooking fuel** made partially from stabilized fecal sludge from the Lubigi Wastewater Treatment Plant, in collaboration with NWSC. These briquettes cost less than charcoal and give more burning time therefore slowing the rate of deforestation and offsetting carbon.



Sludge briquette production

We are looking to scale up and commercialize briquette production in Kampala. The intent is that the proceeds from the briquette sales can offset the costs of fecal sludge management in the parishes by reducing the costs of pit emptying services in collaboration with KCCA.

Lastly, Kampala has over 400 Ecosan latrines. Water For people would like to explore ways in which **compost** technologies can be explored and optimized.