



## Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

Case Study (UGANDA)

# Independent Water and Sanitation Providers in Africa

Kampala UGANDA

8

East and Southern Africa Region

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on behalf of the  
Federal German Ministry  
for Economic Cooperation  
and Development

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# The importance of private operators in the potable water network

## Still weak in water production...

 In Kampala, potable water production is mainly handled by the state company, the National Water and Sewerage Corporation (NWSC), which provides water services to the city of Kampala and its surrounding rural areas (daily production approximately 100,000 m<sup>3</sup>).

The suburbs, where the majority of the poor live, are not serviced by this public system. Individuals or community associations have financed extensions to the NWSC's system to supply neighboring villages. Others have invested in mini-systems that are independent of the NWSC and are supplied by boreholes equipped with submerged electric pumps.

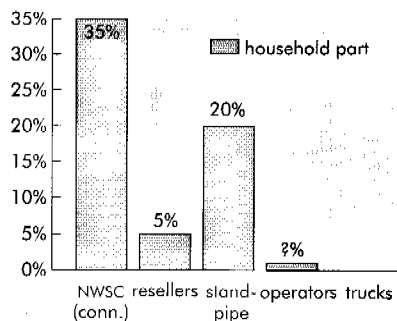
However, the presence of water (river, springs, underground springs) aids the development of non-commercialized supply sources.

## ...important in distribution...

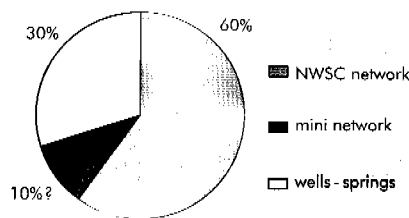
Using 40,000 connections, the NWSC supplies 300 to 350,000 inhabitants. Thirty-five percent (or 30%?) of Kampala's population has direct access to water mains (standpipe service ratio of 5%?). The remainder of the population turns to non-commercialized sources and private operators.

The NWSC supplies an average of 1,090 m<sup>3</sup> of water to some 528 standpipe operators connected to its

**Population serviced by type of distributor**



**Population serviced by source**



system. Distribution is handled by private standpipe vendors (600 m<sup>3</sup>/day) and vendors representing community associations (336 m<sup>3</sup>/day).

## ...for the affluent and poor populations of the peri-urban areas...

Only inhabitants of affluent and middle-income districts have private connections in central and residential areas serviced by the NWSC. Water truckers supplement the NWSC by supplying the non-serviced areas.

The poor population is supplied by private operators, standpipe vendors and connected customers resellers in highly populated and poor areas that are serviced by the mains or its extensions, bicycle water vendors outside of the serviced areas.

## Variable turnover, but job-generating activities


The importance of the NWSC in the system's global turnover remains uncertain, given a 49% loss between

production and distribution and only 70% bills collection.

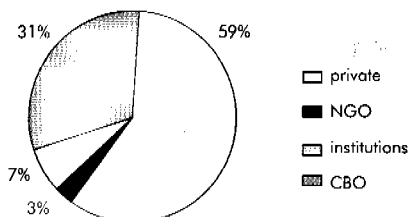
Job-wise, the NSWC is over-staffed, with approximately 1,600 employees; 40 employees for each private connection! Plus the fact that private operators, and especially secondary water distributors, provide many people with second jobs. Apart from standpipe vendors and water systems and water truck owners with higher incomes, water services are performed mainly by retirees or women with standpipes, and drivers and their assistants with trucks — mainly people living in the poor areas of the urban fringe.

# The considerable importance of independent operators in sanitation

## In the construction and maintenance of sanitary installations...

 Only affluent families are connected to the municipality's sewers or to septic tanks. The majority of Kampala's population uses latrines (67% public and 12% private) built by specialized masons.

**Type of distributors of public standpipes**



Sanitation operators	Services and areas of intervention	Price in US\$ (Ush)
Manual cleaners	<ul style="list-style-type: none"> <li>• Complete cleaning of latrines, method used by poor families</li> <li>• On-site sludge burial or evacuation by handcarts with reservoirs (400 l.)</li> <li>• In inaccessible districts or those with truck access</li> </ul>	15-18 US\$/cleaning
Sludge suction trucks	<ul style="list-style-type: none"> <li>• Liquid cleaning of tanks by tractors equipped with reservoirs and suction pumps for septic tanks, model used by affluent families and administrations</li> <li>• Evacuation of sludge (8 m<sup>3</sup> tank) to discharge sites</li> <li>• Price varies according to client and type of housing</li> <li>• In central areas and suburbs with paved roads</li> </ul>	60 US\$/emptying (15-150 US\$)
Public toilet managers	<ul style="list-style-type: none"> <li>• Provision of public sanitary installations</li> <li>• Price varies according to district: cheaper in the suburbs than in the center</li> <li>• Near market places and under-equipped districts</li> </ul>	0.07 US\$ (100 Ush)/visit (0.05-0.1 US\$)

### SERVICES: KCC INTERVENTION AREAS...

Wastewater collection from sewers, the old city and residential areas.

### ...BUT UNEQUAL WATER RESOURCES...

- water from Lake Victoria is used by 2 treatment and pumping plants with reservoirs that supply the NWSC, but the scope is limited
- underground water used by private boreholes that supply private mini-systems
- traditional springs and wells are numerous and in demand in districts non-serviced by the system, but 98% of these sources are polluted.

The city, whose center has been rehabilitated, should develop due to the density of its urban sites. The urban fringe, however, that has no infrastructure whatsoever, is plagued by persistent sanitary problems (diphtheria, cholera).

### PRIVATE MANAGEMENT OF PUBLIC TOILETS ENCOURAGED... AND DISCOURAGED BY THE MUNICIPALITY

Three private operators are under contract with the municipality to manage public toilets. This activity is particularly promising: in the city center, an installation with 8 stalls is used by 70 persons per hour, 11 hours per day. Development of such an activity is hindered by the initial building costs (US\$ 3,500 per toilet), the high price of water delivered by the NWSC (US\$ 2 per m<sup>3</sup> of water for an average daily consumption of 16 m<sup>3</sup>) and a tax of US\$1,000 per month to KCC after 3 years of operation.

Due to frequent water cuts, one of the managers, the owner of KKM All Services Ltd, rehabilitated a borehole near his installations to take advantage of a supply independent of the NWSC. He equipped a pick-up with a reservoir. He also cleans sewers. The poor represent almost 70% of his clientele.

### WATER SUPPLY FROM WATER TRUCKS

Potable water delivery by water trucks developed during the period of instability after the military regime was overturned. Eight private operators launched the delivery of water by truck in the peri-urban fringe (residential and construction sites). They have to contend with non-commercial delivery (firemen, embassies, oil companies), some of whom operate tax-free. They are supplied from the NWSC's 3 service points that are managed by private operators such as Rapid Water Sellers: specializing in supplying water trucks.



# Offers of service from private operators adapted to the specific demand of the urban fringe population

## Private operators in direct contact with their clientele

Potable water operators	Services and areas of intervention	Sale price US\$ (Ush)/m <sup>3</sup>
<b>Borehole and water system operators</b>	<ul style="list-style-type: none"> <li>Retail sale of water from standpipe connected to a mini-system supplied by a borehole equipped with an electric pump</li> <li>Retail water supply</li> <li>In peri-urban areas not (or badly) serviced by the NWSC</li> </ul>	3.6 US\$ (5,000 Ush) (1.5-7 US\$/ 2,500-10,000 Ush)
<b>Consumer associations</b>	<ul style="list-style-type: none"> <li>Retail sale of water from standpipe, that is, standpipe connected to an extension of the NWSC</li> <li>Retail potable water supply</li> <li>In surrounding villages not (or poorly) serviced by the NSWC</li> </ul>	3.6 US\$ (5,000 Ush) (1.5-7 US\$/ 2,500-10,000 Ush)
<b>Kiosk managers (standpipe)</b>	<ul style="list-style-type: none"> <li>Retail sale of water from standpipe connected to the NWSC</li> <li>Retail water supply (20 l. cans)</li> <li>Price varies according to presence of other water supplies and distance from city center; cheaper near to the city center (heavy network) and where alternative supplies exist</li> <li>In central districts and close suburbs</li> </ul>	3.6 US\$ (5,000 Ush) (1.5-7 US\$/ 2,500-10,000 Ush) (7,500-15,000 Ush)
<b>Overhead reservoir managers</b>	<ul style="list-style-type: none"> <li>Sale of water to water trucks from water points installed by the municipality</li> <li>Large-scale potable water supply (tanks 10 m<sup>3</sup>)</li> <li>In the city center and affluent residential areas</li> </ul>	1.1 US\$ (1,500 Ush)
<b>Water trucks</b>	<ul style="list-style-type: none"> <li>Home delivery by water truck</li> <li>Large-scale potable water supply (tanks 10 m<sup>3</sup>)</li> <li>In areas not serviced by the NWSC with paved road access, affluent areas and construction sites</li> </ul>	4.3 US\$ (6,000 Ush)
<b>Water vendors to public toilets</b>	<ul style="list-style-type: none"> <li>Water delivery to public toilets by pick-ups equipped with barrels</li> <li>Average quantity supply of potable water</li> <li>In central areas and urban fringe equipped with public toilets</li> </ul>	2 US\$ (2,800 Ush)
<b>Bicycle water vendors</b>	<ul style="list-style-type: none"> <li>Home delivery by bicycle</li> <li>Small quantity water supply from wells and springs (20 l. cans)</li> <li>Price varies according to distance from water point and city center</li> <li>Especially in the suburbs outside municipal boundaries, in poor sections not serviced by the NWSC</li> </ul>	8 US\$ (11,250 Ush) (5.4-10.8 US\$/ 7,500-15,000 Ush)

No operator, however, treats sludge within the system. Manual cleaners empty it in rivers. Private trucks discharge it into the sewers after paying a municipal tax of US\$15 per cleaning.

### ...to the underprivileged and affluent populations of the peri-urban areas

Only the old city center, business districts and some residential areas are connected to the sewer system (9% of the population).

The affluent and middle-income persons, living in non-serviced areas, choose septic tanks. Apart from institutions such as schools, administrations and private organizations, this sector of the population constitutes the sludge suction trucks' largest clients.

The poorer sector uses latrines whose quality depends upon the area's density and the household's status (owners or tenants): they are usually shallow and poorly built in poor dense areas. This sector of the population uses manual cleaners to maintain the installations. Public latrines have emerged in the city in under-equipped, poor areas in Kampala's outskirts (about 105 installations, of which 33 are in the center).

### High turnover and large employment

Private operators monopolize the sanitation market.

Three private operators handle public toilet management (105 installations) and employ about 100 people. On the other hand, 3 sludge suction trucks deal with competition from non-commercial sludge suction trucks. Drivers and assistants represent only about 10 employees. Many manual cleaners handle the majority of the sanitation market — they usually work in teams of 4 on all sanitary installations (latrines and also septic tanks).

Liquid sanitation mobilizes private operators at 2 key levels of the system: manufacturing of sanitary installations (septic tank construction) and their maintenance (cleaners). Public toilet management, though quite new, appears promising.

## Facing the offer of public services

### In an evolving institutional context...



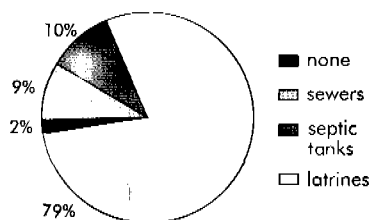
Under the auspices of the Ministry of Water and the Environment, the state company, National Water and Sewerage Corporation (NWSC), provides water service to the city of Kampala and the surrounding rural areas. The Ministry recently revised the water code and is considering the possibility of according the WS system's development to a private operator.

Kampala City Council (KCC) has the monopoly in the city's sanitation services. It is responsible for household garbage collection and the development of independent sanitation.

### ...a low performing public service

The small part of the directly connected population brings to light the NWSC's

**Population serviced by type of sanitary equipment**



limitations: insufficient service in the city center, high price per connection (initial deposit of US\$125, penalty of US\$ 40 for reconnection after a cut).

Opening a standpipe necessitates a deposit of US\$109 (150,000 Ush). The sale price of water at a standpipe (1 US\$/m<sup>3</sup> on average) is one of the highest in Africa. It includes a tax of US\$ 0.36 (500 Ush)/m<sup>3</sup> sold. Twenty percent of the 542 standpipes are not in operation, because of unpaid bills.

In fact, water and sanitation services in the city of Kampala respond directly to only 35% of the demand for water and 9% of sanitation needs, especially in the city center and residential areas.

## Perspectives of development for private operators

### Kampala, a growing city



Kampala, the administrative and commercial capital of a mostly rural country, enjoys a 5% yearly increase in population for a total approximate population of 1,000,000. After 15 years of dictatorship, followed by a short period of social instability, the country has been experiencing economic growth in the order of 6% since 1993.

The city remains plagued by the proliferation of informal districts that municipal planning services have not known how to deal with. Urban land configuration, hilly and full of swamps, also makes any infrastructure expansion program difficult to implement. Only 10% to 15% of the city is developed or built-up at present. The affluent and poor population lives side-by-side in unbuilt areas.

## TOWARDS THE DEVELOPMENT OF INDEPENDENT SYSTEMS?

In spite of their commercialized nature, standpipes are mainly operated by women, the elderly, and family members. In spite of the social aspect of this kind of management, water distribution enterprises are emerging.

Generally speaking, a standpipe vendor supplies 200 to 300 consumers from his individual kiosk. Others, more enterprising, provide water to a network of kiosks and thus distribute water to village communities and the peri-urban areas. This is in fact an extension of the NWSC's system managed by a group of consumers. The NWSC does not appear to encourage this initiative, however, obliging a deposit of US\$125 to be made for each connection, and making new connections without consulting the vendors. There is, therefore, an interest in creating a system totally independent of the NWSC. An engineer and his wife, a marketing specialist, formed Kalebu Limites. It manages 5 WS systems, 2 of which are in Kampala. These 2 boreholes equipped with electric pumps supply 600 people. A second system was financed by profits from the first. It also manages a system of 8 coin standpipes connected to the NWSC.

### In a context of liberalization, the progressive development of small private companies

Even though the role of private operators in water supply and sanitation is important, its profitability greatly depends on policies, tariffs and other conditions imposed by public services. The high cost of water, frequent power failures, taxes and deposits — these factors affect the quality and price of private operators' services.

Demand for the reduction of water prices and/or reduction in taxes paid by small companies (some operators are exempt) has been made. But private operators, preoccupied with competition, still do not communicate

very much. Some do talk informally, however, when they go to fill their water trucks or to the discharge areas to empty the waste.

The question of initial investment renewal also concerns some private operators (purchase of a water truck, water systems and public toilets construction). Little access to loans, however, is often the result of lack of information about existing installations.

Many official companies were formed in the WSS sector in Kampala in response to the needs of different clients (according to income, types of installation, etc). Technical assistance in choosing equipment and management support is, however, necessary in order to improve the quality of these organizations' services.

### Services and the NWSC's areas of intervention

Sale of water in a restricted network:

- To private connection for households and administrations in central and residential districts
- To standpipe for the NWSC standpipe vendors, communal organizations or private operators
- To overhead reservoirs for KCC supply stations managed by private operators
- To public toilets managed by private operators

### Price US\$ (Ush)/m<sup>3</sup>

0.36 US\$ (500 Ush.)  
to the overhead  
reservoir manager  
2 US\$ to the  
public toilet  
manager

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The Water and Sanitation Program is an international partnership to help the poor gain sustained access to improved water supply and sanitation services. The Program's main funding partners are the Governments of Australia, Belgium, Canada, Denmark, Germany, Italy, Japan, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom; the United Nations Development Programme, and The World Bank.

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