Water and Sanitation Program

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

Case Study (SENEGAL)

Independent Water and Sanitation Providers in Africa

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West and Central Africa Region

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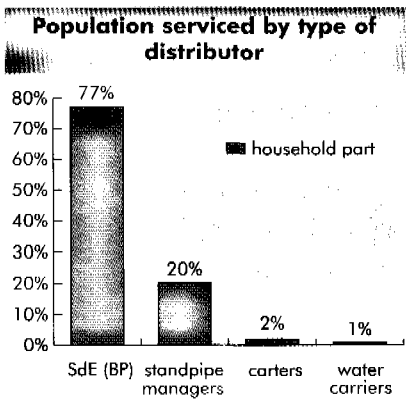
The importance of private operators in the potable water system

Non-existent in water production...

Water supply in Dakar has been handled by SONES, a national company, and SdE, a private company responsible for distribution, since 1996. SdE alone is allowed to produce and distribute water in Dakar. Given the chronic water cuts and shortages in standpipes and private connections, wells are still a viable alternative, especially in the city's outskirts.

...but important in water distribution in peri-urban areas

SdE counts approximately 157,000 private connections and 1,200 standpipes. Whereas Dakar's center is relatively well serviced (90%), the new districts of Pikine and Guédiawaye, where half of the city's population lives, is only connected at 50%.



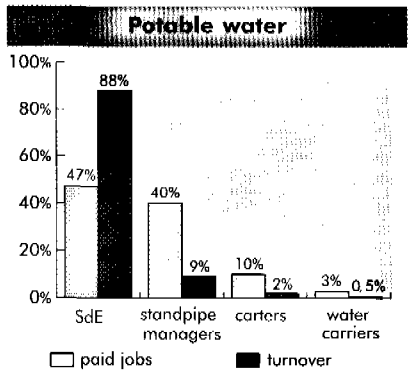
Districts that are inadequately supplied with water are recent and for the moment insufficiently inhabited to justify an important expansion of the network. When connections exist, they are often under-pressured and do not ensure a regular supply of water.

Standpipe operators still work out of the old districts; even those that are connected, but are mainly in the outskirts. Connected resellers have emerged in new districts without standpipes, and in the old well-equipped districts (especially water sales from a landlord to his tenants). Water carters and carriers mainly operate in badly serviced areas.

Variable turnover, but job-generating activities

Given the relatively high service rate by SdE, private operators supply approximately one-quarter of the households with 12% of the network's turnover.

They employ, however, more than 50% of the sector's workforce. Potable water distribution outside of the SdE's system is handled by inhabitants of peri-urban areas: retirees, women or children at standpipes, young rural carters, water carriers from farming backgrounds.



The importance of private operators in sanitation

In the construction and maintenance of sanitary facilities...

Dakar has a collective sanitation system that drains sewer water into the sea or to 1 of 6 treatment plants. However, only the Cambérène one is operational, but as it is unable to treat all kinds of waste, it is under-exploited.

Peri-urban areas that are not connected to the sewer system mainly turn to independent systems (pits, latrines, wastewater wells, public facilities).

Manual cleaners bury sludge on-site. Sludge suction trucks dump in discharge sites far from Dakar's center, or into open drains or ONAS's sewer openings.

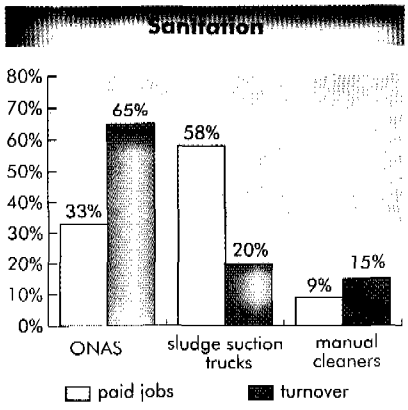
...especially for the underprivileged population of peri-urban areas

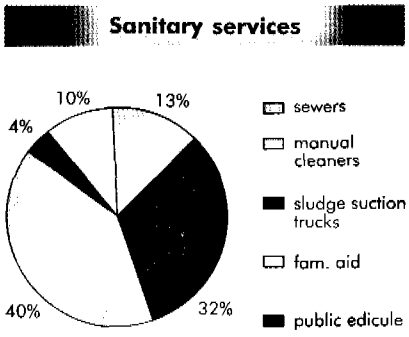
Manual cleaners alone empty the pits chosen by the poorer population.

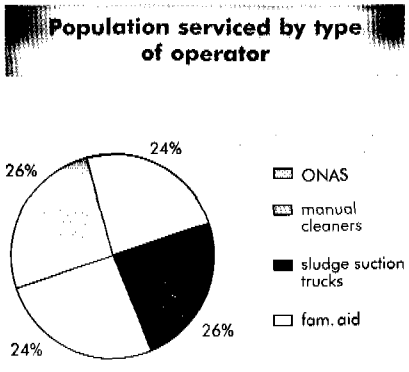
Sludge suction trucks work for a more affluent clientele and Government buildings with high volume septic tanks in paved road areas.

Variable turnover, but high employment

In terms of sanitation, private operators service 75% of families, employ two-thirds of the sector's workforce and are responsible for more than half of the sector's turnover.







Offer of services from private operators adapted to the specific demand of the population of peri-urban areas

Private operators in direct contact with their clientele

Potable water operators	Types of services and areas of intervention	Price FCFA/m³
Connected resellers	• Retail water sale from a private connection linked to SdE • Good quality potable water supply • Especially in districts without standpipes and in concessions with several tenants	800
Standpipe managers	• Retail water sale from standpipes connected to SdE • Good quality potable water supply • In central districts near outskirts	800 on average to carters 650 to 665 to water carriers
Carters	• Home water delivery (by cart) • Potable water and/or well supply • Regular water sale in large or average quantities (50-100 l. barrel) • Price varies according to distance from water point and water shortages; connection, advance payment or credit • In the outskirts, not or poorly serviced by SdE	2,000 even 2,500 to 5,000
Water carriers	• Home water delivery (in basins) • Potable and/or well water supply • Regular retail water sale (25-30 l. basins) regular service possible • In the outskirts, not or poorly serviced by SdE	2,500

Usually living in the districts they work in, private operators belong to associations that enhance their position in the water supply market. Known to the public, it is easy to contact them in their workplaces (standpipes, wells, carters' parking areas) and even in their homes.

The availability and mobility of carters and carriers contribute to a regular supply and in sufficient quantities for consumers, especially when SdE is experiencing shortages and cuts that affect water quality from standpipes. Some carters also deliver other goods to clients (particularly construction material).

Home delivery is highly appreciated, as is the possibility of having good quality water complemented by well water.

Standpipe operators, carters and carriers propose daily or weekly billing. This, and the fragmented system (by bucket, basin, barrel, etc) and short-term credit with no interest adapted to their many clients with low or irregular income, make their payment options always more flexible than those of SdE.

Sanitation operators	Types of services and areas of intervention	Price in FCFA
Latrine builders	• Construction of fixed pits and wastewater wells • Price varies according to season (irregular demand) and competition	150,000 even 50 to 75,000
Manual cleaners "Baye pelle"	• Complete cleaning of dry latrines, small pits and wastewater wells, method chosen by poor families • On-site burial of sludge or possible removal by carts, even trucks • Inspection and repair of emptied pits • Cleaning of emptied pits by sludge suction trucks • Price negotiable according to service (simple emptying, liquid or complete cleaning with or without sludge removal) and the type of terrain to be dug; discount for nearby clients • Especially in peri-urban areas, but also in those where trucks operate	5 to 15,000
Sludge suction trucks	• Spiro trucks emptying large watertight pits or septic tanks, method chosen by affluent families, businesses and buildings • Liquid cleaning by trucks equipped with simple pumps (6-8 m^3 cistern) or complete with hydro-cleaning truck (8-14 m^3 cistern) • Sludge removal far from concessions • Price varies according to type of truck, clientele (household or commercial), size of pits and accessibility of area, cash payment • In central districts and outlying areas accessible by paved roads	6 to 35,000 15,000 on average

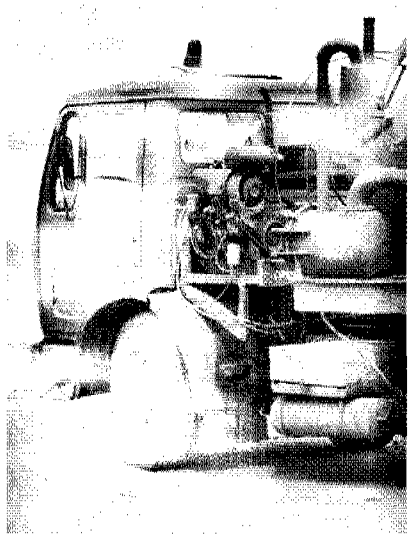
The maintenance of a family pit costs on an average 15,000 FCFA per annum (emptying of a family pit of approximately 8 m^3).

Manual cleaners practise word of mouth advertising in the districts where they live, and shouting in the streets. Some call on old clients to check on the pit's condition and level of fullness, and give advice on cleaning schedules or wastewater filtering.

STANDPIPE MANAGEMENT BY GROUPS OF YOUNG PEOPLE

Whereas the majority of standpipe managers are older and more sedentary, more and more young people are grouping together to manage water points in areas poorly serviced by SdE.

In Fass Delorme, a group of young people, supported by a local dignitary, built a new standpipe. With the profits they were able to invest in other areas (videos, garbage removal, etc).They are considering expanding water sales activities by installing a reservoir to combat frequent shortages and low pressure, and building public toilets and showers next to the standpipe. Other standpipe operators are investing in view of expanding their system.



THE BAYE PELLE – COXER: MANUAL CLEANER, AT THE SAME TIME PROVIDER AND INTERMEDIARY

Originally, manual cleaners were old workers without construction jobs who would roam the streets with their shovels, hence the name "baye pelle" (the old man with a shovel).

A third of baye pelle also act as intermediaries for sludge suction trucks, acting as coxers. These manual cleaners turn to sludge suction trucks to pump large quantities of liquid waste and/or sludge that the client does not want to be buried on-site. Coxers receive a finder's fee of 10% per emptying. A baye pelle has to be called in for complete pit cleaning.

Many manual cleaners are also masons and do pit repairs. Their clientele is quite regular. Being in direct contact with the client, they give advice to encourage client fidelity and tailor their services to the client — partial cleaning if the client is low on funds, complete emptying with sludge removal by sludge suction trucks, etc.

Facing supply from public utilities

In a mutating institutional context

Until 1995, the National Company for Water Provision in Senegal (SONEES), a public company under the Ministry of Hydraulics, was responsible for water supply in urban areas. The policy of privatizing standpipe management, implemented in September 1991, was accompanied by a social connections program. Standpipes that became paying were then given to private management.

Institutional reform, launched in 1996, resulted in the division of SONEES into 3 distinct entities: the National Heritage Company (SONES), Senegalese Water (SdE) and the Senegal National Office of Sanitation (ONAS).

ONAS is a private industrial and commercial company in charge of urban sanitation, recycling and treatment of wastewater. Given the absence of global and coherent policies, both Government and private enterprise is involved in matters of sanitation: ONAS, Service of Hygiene, Ministry of Health, of Environment, Urban Community of Dakar, NGOs, groups, private enterprise.

Privatization of standpipe management in 1991 eliminated the provision of free water to standpipes. The ensuing policy of social connections enabled many poor families to be connected. Accessing the system still remains difficult, however, due to a lack of extensions in new districts and the high price of connection when not subsidized (105,000 — even 130,000 FCFA).

Weaknesses within the system, a lack of communication with clients, slowness in responding to connection requests, the high cost of connection, lack of investment, etc, contribute to negative public opinion towards SdE. Service remains irregular, with chronic water deficiencies leading to frequent cuts. Many households who have social connections turn to standpipe providers for small quantities as they are unable to pay SdE's bi-monthly bills.

By proposing to change the social volume to 14 m^3 (instead of 20 m^3) every 2 months and to increase sanitation taxes paid to ONAS, SdE is

A WELL DEVELOPED BUT IRREGULAR WATER SERVICE...

Types of services and areas of SdE intervention	Price FCFA/m^3
Water sale in the city center and outskirts: • From private connection to households and the Government: connection, bi-monthly billing, 3-level pricing • From standpipes to operators: contract, monthly billing, one price • From overhead reservoirs to water tankers in the city's outskirts.	3-level pricing for private connections 160 (0-10 m^3/month) 629 (>50 m^3/month) One price for standpipes: 233

....AND CHRONIC WATER DEFICIENCIES

- Surface water provides 20% of Dakar's water supply, but is far away (200 km).
- Subsurface tables between Lake of Guiers and Dakar provide 80% of the supply; deep aquifer tables from Cap Vert to Thiès, and shallow aquifer tables in the Niayes area are used for market gardening. Because of high demand for these tables, some boreholes became overly saline and are no longer in use.
- Superficial tables cause flooding in low-lying areas. Shallow traditional wells are in danger of being polluted by direct infiltration of effluents from pits and latrines in the phreatic table.

not helping to provide a pricing policy favorable to poor households.

Sanitation connection is also very expensive (250,000 Fcfa on average) even with ONAS's social connections, at 100,000 Fcfa.

Perspectives of development for private providers

Dakar, a peninsula of over 2 million inhabitants

Dakar, with almost 2,200,000 inhabitants, grows at a yearly rate of 6% with natural growth and also with the arrival of a rural population, especially to the suburbs. From the Cap Vert peninsula, Dakar's urban community is expanding in both an organized and disorganized way.

The ever-increasing demand for water results in chronic deficiencies, due to the distance of water sources and insufficient water distribution, especially in peri-urban areas.

Certain districts have been built in low-lying areas where flooding is quasi-permanent, causing many sanitation problems. Sandy soil, where the table is superficial, limits the construction of independent facilities.

The city's growth is accompanied by an increase in poverty. Almost constantly decreasing, the GDP per inhabitant in Senegal was US$ 615 in 1994. In Dakar's peri-urban areas, the monthly income for households with an average of 12 persons varies between 35,000 and 60,000 Fcfa.

Towards interfacing between water and sanitation providers

Only SdE is authorized to sell potable water, and standpipe operators are

FROM INFORMAL ORGANIZATION AROUND COMMON PARKING AREAS...

The high mobility of water carters and carriers obliges them to gather in parking areas where clients can contact them. These areas encourage an exchange of ideas and mutual aid (sharing of clients, organization for supply from same well or feeding of horses).

In the same way, sludge suction truck drivers gather in unofficial parking areas that are known to clients and coxers. Only the fear of being evicted prevents them from developing these areas.

...TO PROFESSIONAL ASSOCIATIONS

Some manual cleaners are considering associating to share risks of accidents and health problems related to their profession, and to bid for public sanitation jobs from ONAS that are difficult to obtain without legal status.