

Addressing Off-grid Sanitation Needs through Serviced Toilets

HIGHLIGHTS

- Waterless and diverting toilets offer improved sanitation options suited for unserved urban slums.
- Low costs and innovative payment models make these toilet units affordable.
- Waste is removed in portable containers and often used to make fertilizer or briquettes.



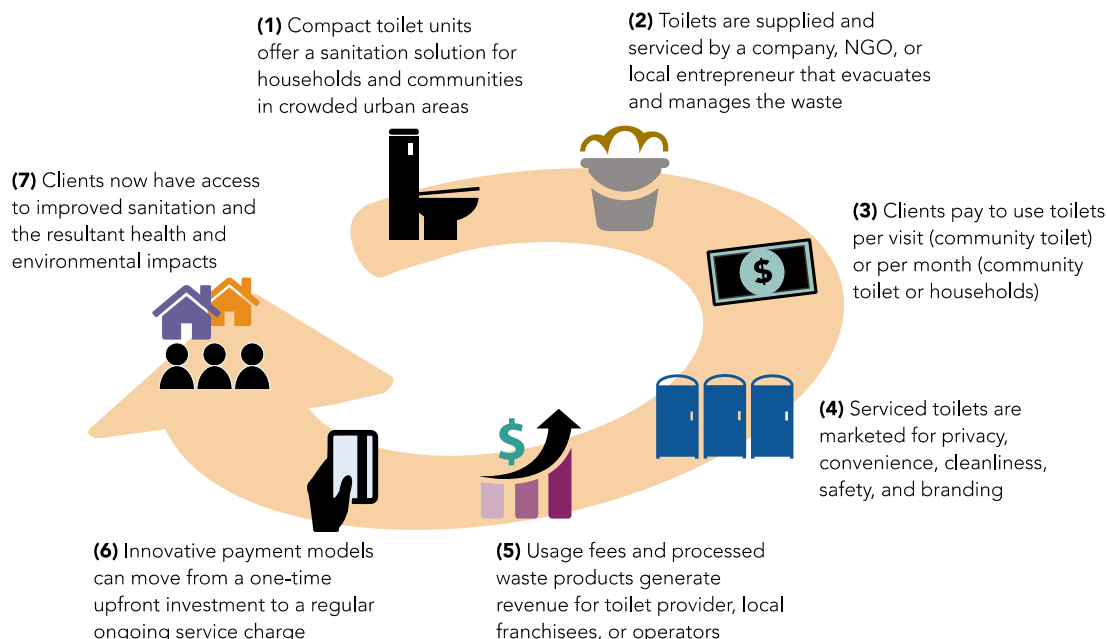
Development Challenge

Most of the world's population—almost four billion people—now live in cities. The pace of urbanization has been most rapid in developing countries and emerging economies, where it has helped create deep pockets of urban poverty. Globally, urban sanitation coverage stood at 82 percent in 2014. However, it was only 40 percent in low-income countries. Lack of sanitation infrastructure is one of the greatest barriers to increasing access to basic sanitation services. In dense urban areas where there are no public sewerage connections, traditional options—such as pit latrines, “hanging” toilets, “flying toilets,” and open defecation—are unsanitary and help spread disease. Improved sanitation has a huge positive impact on health, with many desirable spillover effects in areas, including education (female education in particular), and protection of water resources, productive land, and fisheries.

Business Model

Serviced toilets are compact toilet units that can be used in homes and communities in areas without access to centralized sewerage systems. Clients usually pay for the use of the toilets but do not own them. The company that owns the toilets empties them, often treating the waste and converting it into fertilizer or fuel. Some companies produce the toilet units themselves, while others purchase them from domestic or foreign suppliers. The units are then either rented or sold to franchisees and installed in the household or public space. Waste is stored in containers in the ground and then evacuated into portable containers (one to four times a week for home units, daily for community toilets). Most toilets are designed to channel solid and liquid waste into different containers, which reduces odor and facilitates waste processing. Chemicals and sawdust are also used to reduce odor. Once removed, the waste is brought to a local waste treatment plant or processed at in-house facilities. Some companies use the recycled waste to produce goods, such as fertilizer (Sanergy) and charcoal briquettes (Sanivation).

Stages of the Serviced Toilets Business Model



Implementation: Delivering Value to the Poor

Awareness

Serviced toilet providers' marketing strategies vary, leveraging positive and negative incentives. Positive incentives focus on hygienic toilets as an aspirational product. Clean and attractive design is an important feature for this message. Negative incentives focus on promoting behavioral change through peer group condemnation of open defecation as an antisocial behavior.

Acceptance

Customer feedback indicates that the safety, dignity, and cleanliness of the toilet and the surrounding areas are highly valued. Convenience is also an important driver of usage. The fact that serviced toilets are compact and can therefore be located in the heart of densely populated areas is a major advantage. Branding plays an important role in building acceptance. To maintain it, franchisors close down franchisees that do not adhere to their standards. The fact that community members service the toilets helps drive adoption.

Accessibility

The toilets can be assembled onsite and placed inside or close to homes. They can be located in densely populated areas because portable waste containers can be carried by hand or wheelbarrow (obviating the need for access to roads).

Affordability

Public toilets are very rarely free, even when operated by the government or a charitable organization. Many people in developing countries are thus used to paying for toilets. Typical serviced toilet clients are slum residents with regular and predictable incomes, ideally with a separate space available to install the toilet (such as a small courtyard or a separate room).

Results and Effectiveness

The level of maturity of businesses and the numbers of people reached vary widely. Some pilots, such as Banza and Sanivation (both active in Kenya), and X-Runner (Peru), have fewer than 100 toilets each. Other community models operate several hundred toilets, reaching thousands of people a day. Sanergy in Kenya, for example, operates more than 700 toilets that serve 31,000 users a day.

Most serviced toilet companies experience consumer satisfaction and increasing demand for services. Communities in which they operate cite a cleaner environment, better school attendance, and greater security and dignity for women among the major benefits. Serviced toilets have also had a positive impact on operators' lives, generating revenue and employment. In the slums of Makuru and Mathare, in Kenya, 321 residents now work for Sanergy as Fresh Life Operators, earning \$10 a week.

Serviced toilets offer a cost-effective form of sanitation in places without public sewerage systems. Monthly household payments range from a few dollars (for daily usage of a community toilet) to \$20 (for higher-end household toilets in certain regions). Such expenditures represent a sizable portion of a poor household's monthly budget and about 5 percent of total income. The prices of services offered by a sample of serviced toilet providers are listed in the table.

Provider/country	Monthly cost	Description
Household toilets		
Banza (Kenya)	\$1.75 for households, \$3.50 for institutions	Cost is twice the cost of a basic public toilet, about the same as an electricity bill, five times more than weekly garbage collection, more than three times more than public tap water
Clean Team (Ghana)	\$10–\$20	Monthly public toilet fees for household of two adults and two or three children would run \$3–\$8.
Sanivation (Kenya)	\$7	Servicing is biweekly.
SOIL (Haiti)	\$5	Cost represents about 5 percent of household income. Regular public toilet use costs \$1.50–\$2 a month.
X-Runner (Peru)	\$14	Cost is equivalent to 3 percent of average household income.
Community toilets		
Bio-Centers (Kenya)	\$1.50	Fee is \$0.05 per household per day. Weekly or monthly pricing with unlimited access for all household members is available. Packages also offer water, bathing, and cooking fuel.
DMT (Nigeria)	\$46.50	Fee is \$0.31 per visit.
Ecotact (Kenya)	\$9.50	Fee is \$0.063 to use toilet and \$0.125 to take a hot shower.
Sanergy (Kenya)	\$6	Toilet franchisees set fees. Recommended price is \$0.03–\$0.05 per visit.