



Sustaining and Scaling School Water, Sanitation,  
and Hygiene Plus Community Impact



## Urban Private Sector Trial SWASH+ Phase II

### Background

The first phase (2006-2011) of SWASH+ (Sustaining and Scaling School Water, Sanitation and Hygiene, plus Community Impact) was an action-research and advocacy project focused on measuring the impact of WASH interventions in primary schools in Western Kenya, and seeking increased investment on the basis of the results. The second phase (2012-2016) of SWASH+ was designed to improve the sustainability and effectiveness of school WASH at scale in order to support the government of Kenya's comprehensive school health policy. Three barriers to sustainability and effectiveness were identified at the start of the second phase: decision-makers' lack of (1) access to high-quality data on the status of school WASH; (2) information on school WASH life-cycle costs; and (3) knowledge of how to improve school WASH governance and accountability. Multiple studies were initiated to address these barriers and to improve learning for the government of Kenya. One study, explained here, is the Urban Private Sector Trial (UPST).

### The Intervention

Beginning in January 2015, a randomized control trial was conducted at 20 primary schools in informal settlements of Nairobi City County. Informal settlements often have inadequate sanitation, which is tied to limited space for traditional latrine construction and inconsistent access to water. For these reasons, SWASH+II explored the feasibility of a different approach: private sector sanitation service delivery (PSSD) of urine-diverting dry sanitation. To evaluate the

approach, 10 schools were allocated to each arm of the trial to determine if there were differences in the cost, use and maintenance of the PSSD compared to government standard delivery (GSD) toilets.

### *Intervention arm*

Sanergy, the privately operated organization that provides Fresh Life toilet (FLT) facilities, delivered and maintained toilets for the schools in the intervention arm. Their toilets separate liquid and solid waste, which are collected in removable cartridges. A waste removal team removes and replaces the cartridges on a daily basis, disposing of the waste in an offsite facility that safely processes it. Sanergy, in collaboration with WASH United, provided a two-day training for teachers on handwashing and how to properly use the latrines. Handwashing stations were installed next to the FLTs in each school. Any existing GSD toilets were left in place at the schools.

### *Control arm*

The control arm received typical latrines provided by the Government of Kenya: cistern-flush toilets connected to the municipal septic system. The blocks include sinks with faucets, and all components require a water connection. No sanitation or hygiene training accompanied the provision of facilities.

### *Deviations from the plan*

All of the schools were originally slated to receive their new sanitation facilities by January 2015, but only nine of the FLTs were installed by that time, with the remaining FLT completed by March 2015. The GSD cistern-flush toilets were not completed until later, with



*Privately delivered Sanergy Fresh Life toilets*

the first four constructed or rehabilitated in July 2015, four more in September, and the remaining two still incomplete when data collection ended in November. A teacher’s strike occurred in public schools for five weeks between September and October, limiting both facility use and data collection for that time.

### The Results

Data was collected until November 2015, and included reference to project records, interviews with head teachers, on-site observations, and testing for *E. coli* on students’ hands and latrine walls.

Overall, the cost of PSSD (US\$2,262) was less than one-fourth the cost of the traditional government provision (US\$10,518), even including the training portion (8.5 percent of total PSSD cost). Furthermore, the time required for installation was substantially less, with only 40 hours necessary for PSSD, compared with 92 hours for GSD. This was further exemplified by the delays in construction exhibited during the trial.

These savings were achieved with no significant loss of hygiene among the students. Once most GSD facilities were constructed, the only significant difference between them and PSSD was facility maintenance, which was improved through private provision. Since GSD construction and rehabilitation was delayed, PSSD was

also compared to the existing government facilities, where it outperformed on handwashing, cleanliness and maintenance.

The presence of *E. coli* in latrines was somewhat higher in the morning for PSSD, it decreased through the day. GSD, however, increased through the day, surpassing PSSD levels and suggesting that the traditional toilets aerosolize the bacteria with use.

### Recommendations

#### **Continued data collection**

The sustainability of PSSD provision remains uncertain, and further research is underway in these schools. Due to the late construction of GSD, PSSD maintenance was tracked over a longer time and saw a slight decrease in use over the course of data collection. It is important to understand the sustainability of the private sector toilets in terms of maintenance over the longer term. The life-cycle costs of each of these toilet technologies in the context of schools in informal settlements also requires further research, and data collection will begin soon.

#### **Adaptation to private-sector sanitation**

The dry sanitation aspect of the Fresh Life toilets means that they do not require connection to a municipal water supply and sewerage system/septic tank and can be implemented in settings where connections are difficult or impossible. However, dry sanitation may not be appropriate for Muslim students or others using water for ablution. This is a serious concern regarding the use of these toilets for all students. A follow-up study of student use and preference, as well as reviewing other private sanitation options, is ongoing within SWASH+II.

Read more about this trial in the paper published [here](#).

*SWASH+ Phase II is in operation from November 2012 to March 2016, funded by the Bill and Melinda Gates Foundation.*

