

“No Smell!” - The social benefits and cost savings of container-based sanitation systems in Ghana

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Quick read...

- Container-based sanitation (CBS) systems are acknowledged by the JMP as providing improved sanitation services. By contrast with onsite-infiltration systems, such as latrines and septic tanks, container-based systems ensure full containment of faecal waste
- This Brief presents the results of an evaluation of user experience of CBS. The study found that CBS provides social benefits including increased satisfaction for women, and for those unable to use the toilet at night or otherwise excluded from accessing toilets for physical or social reasons
- Most Clean Team Ghana (CTG) customers previously used public toilets - they show higher satisfaction with CBS, and on average, paid 3.6 USD or 20 GHS person/month less for sanitation with Clean Team Ghana
- The study strengthens the evidence base that CBS, under the right arrangements, should be considered as an option to be included in the national sanitation policy and contribute towards Ghana meeting Sanitation for All

Rationale

Although access to basic improved sanitation services in urban Ghana from 2000 to 2017 increased from 14% to 24%, the population doubled over the same period, and the absolute number using unimproved sanitation services and open defecation increased by 50%. Poor sanitation costs Ghana US\$290 million per year in economic losses.

The current WASH budget only covers 25% of the funding gap needed to reach Ghana’s national WASH targets, including the target of 100% of its urban population accessing basic sanitation services by 2030. Cost and tenancy status are cited as the main reasons many urban households do not plan to install improved sanitation¹. Measures to reach the low-income population exist in current national policies but are unlikely to be enough to solve Ghana’s sanitation crisis.

In Kumasi, 36% of the 2.7 million residents use public toilets. Clean Team Ghana (CTG) provide a container-based sanitation service which is a safely managed improved alternative to widespread existing solutions, including public toilets.

Container-based sanitation, if properly managed, ensures full containment of faecal waste, by contrast with onsite-infiltration systems (latrines, septic tanks) which discharge contaminated liquid effluent locally. There is a growing body of evidence around the hygienic safety of container-based sanitation². Container-based systems have been shown to offer benefits for women and girls³ and provide an affordable and cost-effective method of expanding services to marginalized communities⁴. This study was commissioned to better understand the user experience of CTG in Kumasi, filling an important gap towards formulating appropriate policy options to achieve the 2030 national and SDG sanitation targets.



Image: Clean Team waste collector making his rounds. Credit: Clean Team.

**Urban Sanitation
Research Initiative**

1. CAFFORD Consult (2015) An Assessment of the Affordability of WASH services in Ho, Tamale and Ashaiman. UNICEF

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3. BMGF. (2018). “Gender and the Sanitation Value Chain: A Review of the Evidence” and “Case Studies in Gender Integration: Sanitation Product and Service Delivery in Kenya

4. World Bank. (2019). Evaluating the Potential of Container-Based Sanitation: Clean Team in Kumasi, Ghana. Washington, DC.

Methods

The independent evaluation aimed to assess customer satisfaction with CTG, a container-based sanitation service provider serving 1500+ customers in Kumasi and the surrounding metropolitan areas:

- Data was collected in 2019 from CTG customers before the installation of the unit and after ten weeks of use
- The study captured both subjective and objective measures of the CTG user experience
- The standardised measure for sanitation-related quality of life (SanQoL) was used to capture subjective perceptions of health risk, avoidance of shame, personal safety, avoidance of disgust, and privacy
- The objective measures of sanitation quality focused on the variations in pre-CTG quality that might be improved by CTG services, such as use, hygiene, desirability, accessibility, and sustainability
 - Data was collected using a longitudinal prospective cohort study of 292 CTG customers; 24 cognitive interviews; and 20 in-depth interviews with CTG customers and those who had discontinued the service prior to the evaluation
 - Research rigour and objective critical independence were emphasised throughout. The evaluation applied internationally validated measures that reduce respondent bias. Data was collected and analysed by a specialised team, independent from Clean Team Ghana and WSUP.

Findings

Clean Team Ghana customer profile

Of the 292 CTG customers surveyed:

- 70% were previously public toilet users
- 54% were tenants, 46% were owner occupiers
- 60% use a public standpipe as their main source of water for handwashing, cooking etc
- Respondents had been resident in their current dwelling for an average of 12 years (17 years for owner occupiers; 6 years for tenants)
- The median age was 44 years
- The average rent was 68 GHS per month
- The average household size was 3.1 people

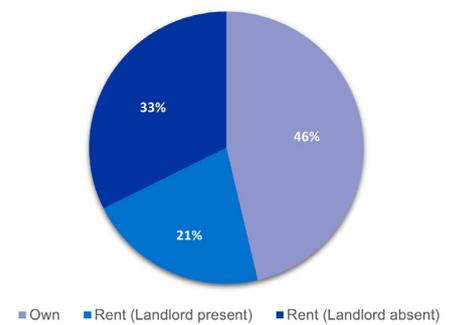


Figure 1. CTG customers by tenure type

Clean Team Ghana customers are satisfied

Customers' satisfaction with Clean Team's sanitation service was high and increased compared to their pre-CTG sanitation solution in almost every domain measured. The vast majority of users reported significant reductions in the smell of their toilet, and experienced increased pride in their toilet (see Figure 2)

- 93% reported being satisfied or very satisfied with the smell when not in use
- Only 3% reported excessive smell when the CTG toilet was open
- None reported toilet leaking



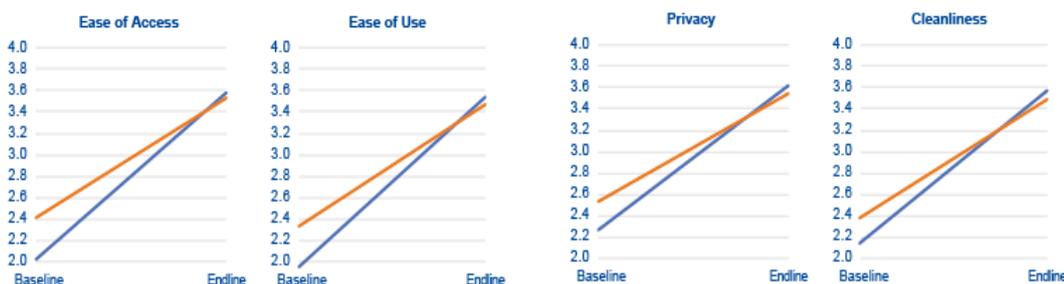
Figure 2. Sanitation related quality of life scores taken 10 weeks after using CTG services

Social benefits of container-based sanitation

The CTG service significantly improved satisfaction outcomes for women and girls, scored from 1 (worst) to 4 (best):

- For specific gendered behaviours - women were satisfied or very satisfied with both their ability to manage their menstrual hygiene and to balance household duties and toilet use
- Overall – across all categories measured, women were less satisfied than men with their pre-CTG sanitation and more satisfied than men with CTG (see Figure 3)

Figure 3. Change in satisfaction outcomes for CTG by gender. Note: Women are represented in blue, men in orange



The CTG service also enabled customers to use the toilet at night and provided access to those who, before installing a CTG toilet, had been excluded from using the toilet (Table 1).

Table 1. Change in satisfaction outcomes for CTG customers

	Pre-CTG	CTG
Satisfaction with ability to practice Menstrual Hygiene Management	23%	97%*
Combine household duties and using toilet	39%	98%*
Able to use a toilet at night to urinate or defecate	31%	98%*

Note: * Significant at $p=0.001$ level

Cost and service benefits of container-based sanitation

- A typical* household would pay \$2.75 less per month for CTG service than public toilets
- Satisfaction with the cost of sanitation increased from 47% (pre-CTG) to 85% (with CTG service)
- The CTG service offers no upfront cost to the user and no subsidy



Typical monthly expenditures

- Public toilet* \$10.1 (59 GHS)
- Clean Team Ghana \$7.4 (43 GHS)

*Sanitation expenditures vary based on multiple factors including number of people living in the household, their age, their gender and public toilet use-fees among other factors. This calculation of a typical household is based on mean values of this study's survey data: a household of 2.75 people aged over 5, each paying a 0.08 USD public toilet fee, 1.5 times per day.

Policy implications

This study strengthens the growing evidence base that container-based sanitation provides social benefits and increases user satisfaction, as well as saving users' money. Now acknowledged by the JMP as improved sanitation, CBS offers a policy option that can be deployed and quickly scaled, offering immediate impact for user satisfaction and national sanitation coverage. Under the right arrangements, container-based sanitation should be considered as part of the solution to Ghana meeting its goal of Sanitation for All. To enable CBS to contribute effectively to this end goal, the following steps are required:

- The MSWR to formally approve container-based sanitation as an approved sanitation technology option for Ghana
- For this decision to be reflected in the revised National Water Policy and Environmental Sanitation Policy and supporting technical guidance and regulatory frameworks
- Technical guidance to be drafted and approved for standard operating procedures for safe management of container-based systems
- Technical guidance to be drafted and approved on the conditions in which CBS is (and is not) an appropriate solution
- Regulatory amendments to be drafted and approved by the District Assemblies and in the National Building Code regarding domestic sanitation

Sources

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