

A model public toilet service in an urban context that improves management and income for the urban poor: Field action report

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Abstract

Background: In Ethiopia, public toilets are commonly provided and managed by municipalities or designated government structures. This traditional model of public toilet management is limited in its ability to generate income for upkeep. To address this, USAID's Strengthening Ethiopia's Urban Health Program developed a public toilet management model with an integrated business approach and multiple construction design options.

Objectives: To demonstrate a sustainable model for public toilet management that ensures the provision of high-quality and equitable services.

Method: A public toilet management model and engineering design with three typologies was developed after a multi-sectoral team of experts conducted studies to identify the key challenges to current management. The management model and engineering design was tested in Kombolcha and Kemisse.

Results: From February to August 2018, 5,099 and 18,795 people used the public toilet and shower services in Kombolcha and Kemisse towns, respectively. Of these users, 338 (3.6%) and 318 (3.4%) have a disability. In Kombolcha, four women organized as a medium and small enterprise (MSE) are managing the toilet and shower services; each member receives a 700 birr monthly salary. In Kemisse, five women organized as an MSE are managing the facility; each member receives a 2,500 birr monthly salary. They have a savings of 29,000 birr in the MSE's account.

Conclusion: The developed model helps to strengthen the management of public toilet service quality and sustainability by creating business opportunities. [*Ethiop. J. Health Dev.* 2020; 34(Special issue 2):42-48]

Key words: Public toilet, model, urban, income, urban poor

Background

Approximately 18% of Ethiopia's population reside in urban areas. However, with the current trend of urbanization, the Ethiopian urban population is expected to grow to 35% by 2030 and 42% by 2050 (1). This growth comes with complex health and environmental challenges, which can pose major setbacks to urban health successes. Although the proper use of toilets has significant health benefits, including a decrease in the incidence of communicable diseases such as diarrhea, access to land for constructing toilets in poor neighborhoods remains a challenge. Consequently, 33% of Ethiopia's urban dwellers use shared or public toilets (2). Public toilets are primarily intended to serve mobile populations and are usually constructed in locations such as market places, lorry parks and bus terminals, where there is high foot traffic (3).

Increasing household-level access to private toilets is often constrained by a lack of space due to high density informal urbanization, high rates of rental units, unresponsive landlords, and high costs of construction. As a result, public toilets are the only facilities available to many poor slum dwellers and those with inadequate access to sanitation facilities. In Ethiopia, public toilet facilities are limited to major urban areas. Public toilets are commonly provided and managed by municipalities or designated government structures, and often no service fee is charged to users. Toilet attendants are employed by the managing institutions. This traditional model of public toilet management is limited in its ability to generate income for upkeep.

Different studies in Ethiopia show that significant numbers of existing public toilets (22%) in urban areas are non-functional (4). Even public toilets that were functional at the time of the study were not clean or used well. The major reasons for non-functionality are poor management arrangements, limited accessibility for de-sludging, limited budget and personnel to manage the latrine, and poor engineering design of the toilet (4). The study also showed that, while many public toilets do not charge a fee for use, urban dwellers are willing to pay for hygienic public toilets (5).

The traditional public toilet management arrangement implemented by the major public toilet providers (municipalities) has numerous limitations. To mitigate these limitations, some city/town administrations have transferred or are ready to transfer the management of public toilets to organized MSEs which use a pay-to-use business model to cover the cost of maintenance and generate a profit. However, since the income generated from the service fees alone cannot cover operating and maintenance costs as well as earn a profit, other income-generating activities need to be integrated into the management model to keep the toilet operators motivated to manage the public toilet properly (6).

Despite significant efforts to transfer the management of public toilets to private operators, there is limited evidence on any resulting improvements. Consequently, the quality of public toilet services and their management remains poor. More efforts are needed to ensure existing and new public toilets are

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hygienic and safely managed in order to provide services that result in health benefits for the public and income generation for the private operators.

To achieve this goal, the Addis Ababa Water and Sewerage Authority (AAWSA) constructed 100 public toilets with limited additional amenities, such as a traditional coffee ceremony and mini shops. Emanuel Development Association (EDA) also constructed six public toilets that generate an alternative energy source (methane gas) for attached cafeterias to use as a means of income generation. A recent study conducted to assess the current situation, management practices, and users' perception of these facilities indicated the functionality and the profitability of the facilities do not meet expectations. This is a result of management arrangements, limited involvement of different stakeholders, a large number of MSE members, limited flexibility to customize additional income-generating activities, and the design of the toilet (6).

To address these issues, Strengthening Ethiopia's Urban Health Program (SEUHP) developed a new public toilet management model that was tested from February to August 2018 at the newly constructed public toilets at Kemisse and Kombolcha through partnerships with local authorities. Along with the toilet services, the new management model integrates income-generating activities adapted to the local context. This model was designed to address the key gaps and challenges identified by studies on the traditional public toilet management and the newly initiated government program.

The proposed management arrangement for the public toilet is a management contract model, a public-private partnership (PPP) approach widely implemented in developing countries in which the private sector who are working in urban sanitation and waste management service delivery has limited capacity to manage projects that require significant financial investments in making public toilets available. The partnership arrangement involves the contractual transfer of authority from a public partner to a private partner to manage a public facility/operation and provide services for a set number of years. The private sector partner assumes full responsibility and authority to manage all necessary functions and staff, with the objective of more efficient management.

The model also aims to build the capacity of MSEs in business and facility management, thereby contributing to the sustainable access and use of improved public toilet services, while also creating job opportunities for youth and women. The goal of this management model is to strengthen and improve the existing practices and quality of public toilet services management with a plan of expanding at scale. It guides the process of engaging MSEs in the management of public toilets, developing engineering designs for different typologies, addressing environmental impacts during and after construction, providing alternative energy sources, and addressing the needs of differently abled people. The model also outlines potential stakeholders and describes their roles and responsibilities; thus, it

can be used as a reference tool for public toilet management. This field action report aims to share the lessons and key recommendations for expanding at scale.

Objectives

General objective

The main objective of this model is to demonstrate a sustainable solution for public toilet management that ensures the provision of high-quality and equitable services.

Specific objectives

- To develop a public toilet management model with proposed business approaches.
- To develop a standard public toilet engineering design with different typologies that can be used in different geographical conditions, in line with the developed management model.
- To test the developed public toilet management model through construction/renovation of public toilets, as per the developed engineering design.
- To share the lessons and key recommendations for expanding the public toilet management model and engineering design at scale.

Method

This initiative began by generating evidence through studies that: 1) mapped existing public WASH facilities (including public toilets with existing management practices), functionality status, and hygienic conditions in 28 cities/towns selected from five regions and two city administration where SEUHP works; 2) assessed the public toilet management and business model implemented by AAWSA and EDA in Addis Ababa; and 3) assessed private sector involvement in urban sanitation and waste management service delivery in Ethiopia.

Based on the key findings identified in these studies, SEUHP engaged a senior consultant to develop a public toilet management model with proposed business arrangements to address key challenges. As per the developed management model, a team of consultants was engaged to develop standard public toilet engineering designs with three typologies.

National- and regional-level validation workshops were organized to validate the findings of the assessments, the environmental impact assessment (EIA) report, and the developed management model and engineering designs. The developed management model was then implemented through six key activities (Figure 1).

Lastly, the management model and designs were tested in selected cities/towns, including Kemisse and Kombolcha. These towns were selected because they were among the drought emergency hotspot districts where SEUHP constructed public WASH facilities, including public toilets, to address the needs of those people affected by the drought emergency.

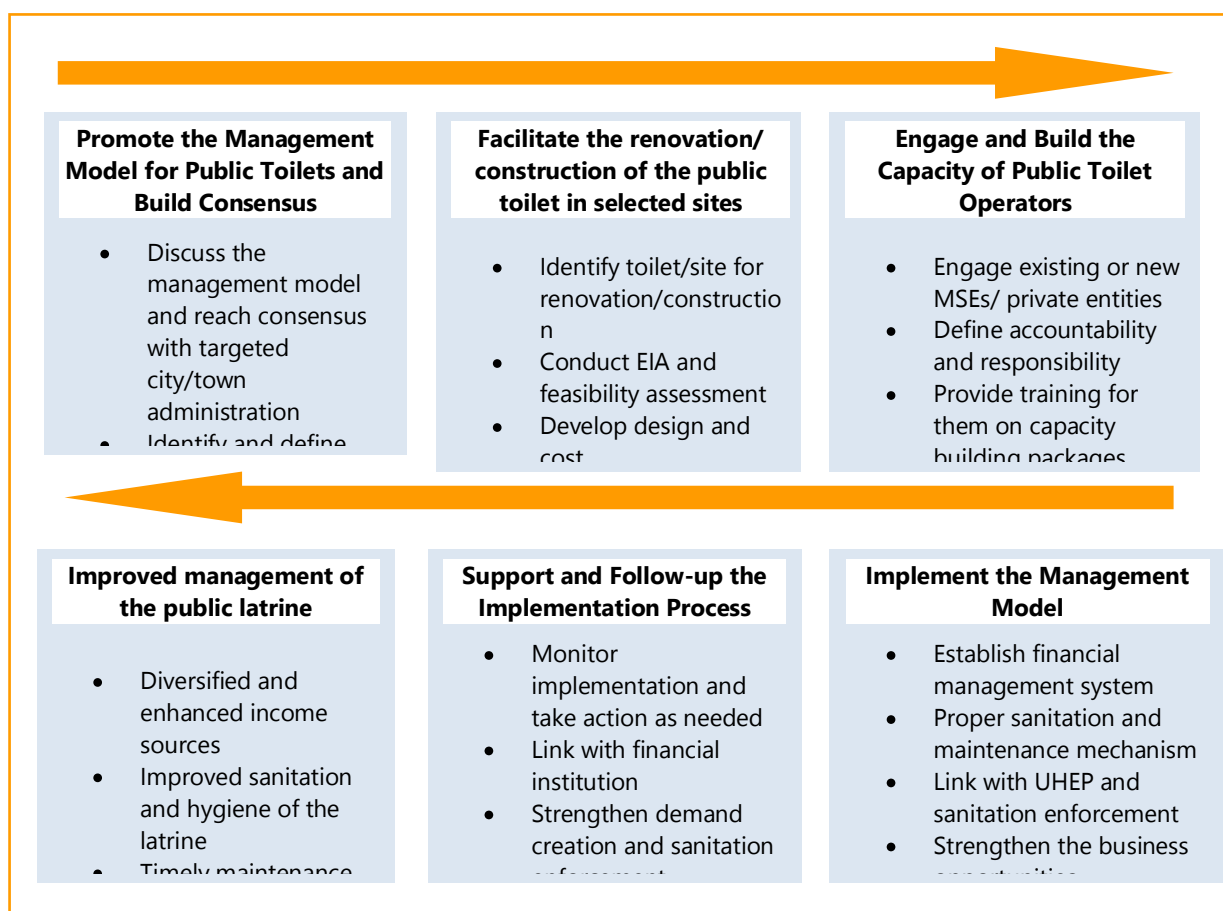


Figure 1: The conceptual framework of the implementation of public toilet management model

Results

Public toilet management model with business approach developed: The model integrated additional business opportunities such as tea/coffee, shower, outdoor games, water point along with the public toilet services in order to generate income for MSE members who are managing the facility. The model also promotes and facilitates the engagement of various stakeholders for technical support, demand creation, and sanitary law enforcement activities, and solicits financial/credit opportunities to support the integrated business opportunities.

Standard public toilet engineering design with different options developed: Poor engineering design of facilities is a factor in poor service provision as it affects the quality of the latrine. To address this,

SEUHP worked with a team of consultants (architect, civil engineer, hydraulic engineer, environmental health/public health and social science professional) to develop a standard public toilet engineering design with three typologies, in line with the public toilet management model. The consulting team reviewed public latrine-related standards and other public toilet-related documents from government and non-government organizations.

The consulting team considered these national and international standards when creating the design, as well as access for differently abled persons, ventilation, alternative energy sources, quality of finishing materials, water sources, ventilation systems, and other issues identified during the mapping study. The designed public toilets are shown below (Figures 2 and 3) for narrow and wide typologies.



Figure 2: A public toilet with narrow typology constructed at Kemisse to test the developed management model and engineering design: with different side views



Figure 3: A public toilet with wide typology constructed at Kombolcha to test the developed management model and engineering design: with different side views

Management model tested

Public toilet operators engaged and capacitated:

Medium and small enterprise (MSE) members who manage the public toilets were trained on appropriate financial management systems to oversee income, expenses and assets, with the objectives of maximizing profits and ensuring sustainability. City/town administration MSE development offices provided technical support to ensure daily transactions are recorded and the collected money is properly managed.

The developed engineering design and management model was tested at the new public toilets constructed at Kemisse and Kombolcha towns, as per the standard indicated in the design document. This field action

report includes some of the key achievements in the two towns.

Trends of service users of public toilet and shower services increased:

Studies indicate that demand and the number of service users are influenced by factors such as the location of the facility, community awareness level, quality of the facility/infrastructure, service provider's customer handling practices, number of rooms for the service, service fee, cleanliness, and hygienic conditions of the facility (4). Between February and August 2018, 1,220 people (Female [F]=23%) used the public toilet and 3,879 people (F=6.7%) used shower services in Kombolcha.

Table 1: Public toilet and shower service delivery at Kombolcha town, February to August 2018

Month	Toilet services users						Shower services users							
	M	F	Total	People with disability			Total toilet users	M	F	Total	People with disability			Total shower users
				M	F	T					M	F	T	
February	149	49	198	0	0	0	198	361	43	404	0	0	0	404
March	151	56	207	0	0	0	207	500	70	570	0	0	0	570
April	144	35	179	0	0	0	179	549	35	584	0	0	0	584
May	121	30	151	0	0	0	151	589	18	607	0	0	0	607
June	101	36	137	0	0	0	137	562	41	603	0	0	0	603
July	147	52	199	0	0	0	199	556	20	576	0	0	0	576
August	126	23	149	0	0	0	149	502	33	535	0	0	0	535
Total	939	281	1,220	0	0	0	1,220	3,619	260	3,879	0	0	0	3,879

Source: Daily public toilet and shower service users' registration form

As indicated in the Table 1, in February 404 people used the shower services; this number increased in March (570) and May (607). However, in July and August, the number of users decreased to 576 and 535, respectively. This may be due to the weather getting cold in these months. The number of toilet users increased from February to March, but this number decreased in other months. This may be partly due to the fact that the access road was affected by the rainy season. Though there are user-friendly rooms for people with disabilities, they have yet to be used. This may be a result of the limited work the facility has done to promote these services.

In Kemissie, 9,378 people (F=23.9%) used the public toilet service and 9,417 people (F=20.9%) used shower services between February and August 2018. The facility is located at the center of the market place, which results in a higher number of service users. The two services (toilet and shower) have a nearly equal number of users. This is mainly due to the location of the public toilet, at the center of the market place where people working in the market and those coming for market uses the facility. In Kemisse, 338 (3.6%) and 318 (3.4%) people with disabilities used the toilet and shower services, respectively. This is mainly because the urban health extension professionals (UHE-ps) promote the availability of the facility while they are doing house-to-house education services.

Table 2: Public latrine and shower service delivery at Kemissie town, February to August 2018

Month	Toilet service users							Shower service users						
	M	F	T	People with disability			Total toilet users	M	F	T	People with disability			Total shower users
				M	F	Total					M	F	T	
February	488	98	586	40	30	70	656	561	77	638	41	27	68	706
March	449	133	582	44	38	78	660	433	194	627	43	27	70	697
April	731	207	938	52	6	58	996	699	189	888	40	5	45	933
May	1,002	81	1,083	24	3	27	1,110	1,041	63	1,104	27	3	30	1,134
June	1,654	144	1,798	27	2	29	1,827	1,679	37	1,716	30	2	32	1,748
July	1,335	915	2,250	49	4	53	2,303	1,437	816	2,253	43	5	48	2,301
August	1,224	579	1,803	23	0	23	1,826	1,355	518	1,873	25	0	25	1,898
Total	6,883	2,157	9,040	259	83	338	9,378	7,205	1,894	9,099	249	69	318	9,417

Source: Daily public toilet and shower service users' registration form

Income of people who managed the toilet increased from month to month: The business model illustrates that public toilets can make money if they provide a service that customers find valuable and will pay to

use. The potential income a public toilet can generate was estimated by taking the average service users and the existing public toilet services fee across the sites where public toilets were constructed/renovated.

Operating costs includes operator salaries, water bills, pit emptying service, and consumables such as soap for hand washing, toilet paper, paper towels, and cleaning agents. Service fees may vary across cities/towns and need to be fixed by the operators in consultation with the municipality.

Based on this business model, MSEs, four unemployed youths in Kombolcha and five unemployed women in Kemisse started their work in February 2018. SMEs are required to meet a budget for additional income-generating activities such as tea/coffee, outdoor games. Both sites decided to offer coffee/tea and fast food. The MSEs took out loans: Kombolcha – 20,000 birr from Amhara Credit and Saving Institution (ACSI); and Kemisse – 7,000 birr loan from individuals to finance the materials, equipment, and construction needed for these activities.

In Kombolcha, because of the limited number of service users, each member is currently receiving a 700 birr monthly salary and the guard is paid 1,000 birr/month. The team is paying back the monthly payment for the loan using income generated from public toilet and shower services. The shower service is the major source of income for MSEs in Kombolcha and Kemisse.

In Kemissie, each team member is currently receiving a 2,300 birr monthly salary and the MSE has saved 29,000 birr. The team has already repaid the loan amount of 7,000 birr.

Conclusions

MSEs had better linkages than before with stakeholders, such as urban health extension professionals (UHE-ps) and code enforcement bodies: Legal enforcement to reduce open defecation and/or urination practices helped increase the number of public toilet users. Engaging UHE-ps and code enforcement bodies can be a complementary effort to increase awareness of why proper toilet use improves health and increases public toilet users.

Income of people who managed the public toilet increased: The management model helped to strengthen public toilet service quality and business opportunities. The business model strengthens existing income-generating activities associated with public toilet services and integrates additional business opportunities by providing guidance on business and financial management skills. MSEs worked to provide uninterrupted service provision with appropriate working hours, clean and hygienic facilities, and proper customer service to ensure service quality and income generation.

Stakeholders' engagement improved and was critical to the model success: Once an agreement is reached with the town administration on the need to implement the model in the city/town, the roles of key stakeholders should be identified and agreed upon through discussions with city/town higher officials, and engaged at each step of the implementation process, as shown in Figure 1. Because stakeholders understood

and agreed to taken on specific roles and responsibilities in implementing the management model, integration across sectors improved and the support provided to MSEs was more comprehensive.

User-friendly service provided: The inclusion of separate user-friendly rooms for people with disabilities encouraged them to use the facilities. Since the design also includes separate rooms for men and women, an increase in the number of female users was observed.

In Kombolcha, the construction site was not appropriate, because it is not a market place, it is far from the main road, and the access road is not all-weather. This, in turn, affected the proper implementation of the developed management model.

Recommendations

Proper site selection, higher-level commitment, and coordination of all stakeholders are the keys to implementing the public toilet management model at scale. Mayors need to be engaged and committed to fully implement the model, and the number of MSE members' needs to be limited (to six to eight people). The type of income-generation activities must be customized depending on the site. Alternative energy systems, such as solar panels, need to be incorporated.

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