

Sustainable WASH Systems Learning Partnership

# SANITATION IN SMALL TOWNS — WOLISO, ETHIOPIA ENDLINE ASSESSMENT

January 2022



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**SUSTAINABLE  
WASH SYSTEMS**  
A LEARNING PARTNERSHIP

**Prepared by:** Desta Dimtse, Muhammed Ebrahim, and Lucia Henry, Tetra Tech

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**Front cover:** Members of a collective action group in Woliso, Ethiopia, scout the location of a fecal sludge disposal site. Credit: Maheder Hailesalassie

**About the Sustainable WASH Systems Learning Partnership:** The Sustainable WASH Systems Learning Partnership is a global United States Agency for International Development (USAID) cooperative agreement with the University of Colorado Boulder (UCB) to identify locally driven solutions to the challenge of developing robust local systems capable of sustaining water, sanitation, and hygiene (WASH) service delivery. The consortium of partners — Environmental Incentives, IRC, LINC, Oxford University, Tetra Tech, WaterSHED, Whave, and UCB — are demonstrating, learning about, and sharing evidence on systems-based approaches for improving the sustainability of WASH services in four countries.

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# Table of Contents

List of Figures	2
List of Tables	2
Acronyms	3
Executive Summary	4
Introduction	6
Methodology	8
Endline Results	9
Discussion and Conclusion	22
Recommendations	23
Annex A. Woliso CSDA Scoring	24
References	30

## List of Figures

Figure 1. Administrative (Regional) Map of Ethiopia .....	7
Figure 2. Sanitation Service Chain .....	9
Figure 3. Change from Unimproved to Improved Sanitation Facilities .....	10
Figure 4. Change in Access from Public to Private Sanitation .....	11
Figure 5. Communal and Public Latrine Distribution in Woliso Kebeles.....	12
Figure 6. Households Using Latrine-Emptying Service .....	13
Figure 7. Woliso SFD October 2021 .....	15
Figure 8. Direct Coordination among Members of the Woliso Learning Alliance .....	20
Figure 9. Information Sharing among Members of the Woliso Learning Alliance.....	21
Figure 10. Problem Solving among Members of the Woliso Learning Alliance .....	21

## List of Tables

Table 1. Survey Tool Respondents.....	<b>Error! Bookmark not defined.</b>
Table 2. Estimates and Assumptions for Endline SFD.....	14
Table 3. Woliso CSDA Scoring Matrix .....	17

## Acronyms

CSDA	Citywide Service Delivery Assessment
ETB	Ethiopian Birr
FGD	Focus Group Discussion
FSD	Fecal Sludge Disposal
KII	Key Informant Interview
ONA	Organizational Network Analysis
SFD	Shit Flow Diagram
SWS	Sustainable WASH Systems Learning Partnership
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene

## Executive Summary

This report presents the findings of an endline assessment of sanitation services in Woliso, Ethiopia, conducted January 11–16, 2021, and the outcomes of a subsequent stakeholders' workshop to discuss and verify the results.<sup>1</sup> This work was carried out under the United States Agency for International Development (USAID)-funded Sustainable WASH Systems Learning Partnership (SWS).

SWS partners Tetra Tech and LINC jointly conducted the assessment. To assess the sanitation service delivery context in Woliso, the assessment focused on: (1) containment and excreta management services, (2) the enabling environment for achieving and sustaining universal access to safely managed sanitation services, and (3) the nature of relationships between local actors involved in service delivery at the end of the project.

Multiple lenses of analysis were used. Tetra Tech deployed fecal waste flow diagrams (also known as a shit flow diagram or SFD) and citywide service delivery assessment (CSDA), two diagnostic tools developed by the World Bank, as well as IRC's sustainability checks tool. LINC applied an organizational network analysis (ONA).

## Key Findings

A household survey targeted 421 respondents from individual households across four *kebeles* (administrative divisions or wards, the smallest administrative unit classified by the Government of Ethiopia) in Woliso. Forty-four percent of respondents reported use of an improved household toilet and 34 percent reported using an unimproved household facility, as per WHO/UNICEF's Joint Monitoring Program 2017 definitions.<sup>2</sup> Eight percent of respondents reported shared sanitation practices, either using their neighbors' toilets, communal toilets, or public facilities. One percent of surveyed households reported practicing open defecation. Fifty-six percent of latrines were improved, 35 percent unimproved, and 8 percent categorized as limited as per Joint Monitoring Program guidelines. Twenty-four percent of non-owners (e.g., tenants) reported using shared facilities compared to 7 percent of owners.

This assessment used data from the household survey along with information from key informants to develop the SFD. Only an estimated 12 percent of fecal sludge generated in Woliso is safely managed until disposal. Moreover, 6 percent, 72 percent, and 15 percent of fecal sludge is not safely managed at the containment, emptying, and transport stages, respectively. This suggests that there are deficiencies in services after the containment stage and that there has been a decrease in availability and quality of service since the baseline. Traditional dry pit latrines are the most common toilet technology in the town.

The **CSDA** reveals a service delivery system with many challenges. While some policies and institutional arrangements are in place, the mandates of actors sometimes overlap, and many stakeholders do not

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<sup>1</sup> Sustainable WASH Systems Learning Partnership. 2021. Woliso Town SWS Sanitation Project: Project Finalization Workshop Report. Available at: [https://docs.google.com/document/d/1CW-ur2KbrKPGKpVRAQnzsd0i8\\_lupUnr/edit?usp=sharing&ouid=116728265158508228614&rtpof=true&sd=true](https://docs.google.com/document/d/1CW-ur2KbrKPGKpVRAQnzsd0i8_lupUnr/edit?usp=sharing&ouid=116728265158508228614&rtpof=true&sd=true)

<sup>2</sup> JMP. Sanitation. Available at: <https://washdata.org/monitoring/sanitation>

fully understand the role they could play to strengthen sanitation. It is worth noting that the town's WASH sector has a strategic plan, representing an improvement since the baseline. The results of the **sustainability checks** largely confirmed findings from the CSDA.

The **ONA** reveals clear core and periphery communication networks among stakeholders involved in sanitation service delivery. The alliance primarily includes government actors, plus one informal public latrine committee, which is reflective of the lack of private sector and NGO actors working in the sanitation sector in the town. The alliance appears healthy across functional areas, and the leading actors generally remained consistent.

## Introduction

The Sustainable WASH Systems Learning Partnership (SWS) is a 5-year project (2016–2022) funded by the United States Agency for International Development (USAID) and led by the University of Colorado Boulder with consortium partners Environmental Incentives, IRC, LINC, Tetra Tech, WaterSHED, Whave, and the University of Oxford. The consortium aims to develop, test, and document high-potential approaches to engaging local WASH service delivery systems across multiple countries and contexts to advance sector knowledge in the development, application, and scaling up of a water, sanitation, and hygiene (WASH) local systems framework while also providing concrete improvements to service delivery within the countries, districts, and cities involved in the project.

Tetra Tech leads the small town sanitation component of SWS's activities in Ethiopia. The goal of this component is to improve the quality and sustainability of sanitation services in two small towns, Debre Birhan and Woliso, with a focus on fecal sludge management services and improving the management of shared latrines. Ultimately, SWS aims to strengthen the local systems responsible for these services to enable them to operate more effectively and efficiently.

This endline report is part of the SWS close-out activities and only focuses on Woliso; the team completed a separate endline report for Debre Birhan in September 2021.<sup>3</sup>

## Woliso Context

Woliso is in Ethiopia's regional state of Oromia, which is 110 km southwest of the capital city, Addis Ababa (see Figure 1). It is the capital of the southwest administrative zone Showa. In 2016, the Woliso Administration expanded and absorbed five neighboring rural *kebeles* (the smallest government administrative unit) into its four official *kebeles*: Ayetu, Egersa, Burka Gudina, and Horar. The town covers a total area of 2,515.25 hectares. In 2007, the Central Statistics Authority of Ethiopia estimated that the town had a population of 61,140. In 2020, that estimate increased to 118,725 (62,379 males and 75,587 females).<sup>4</sup>

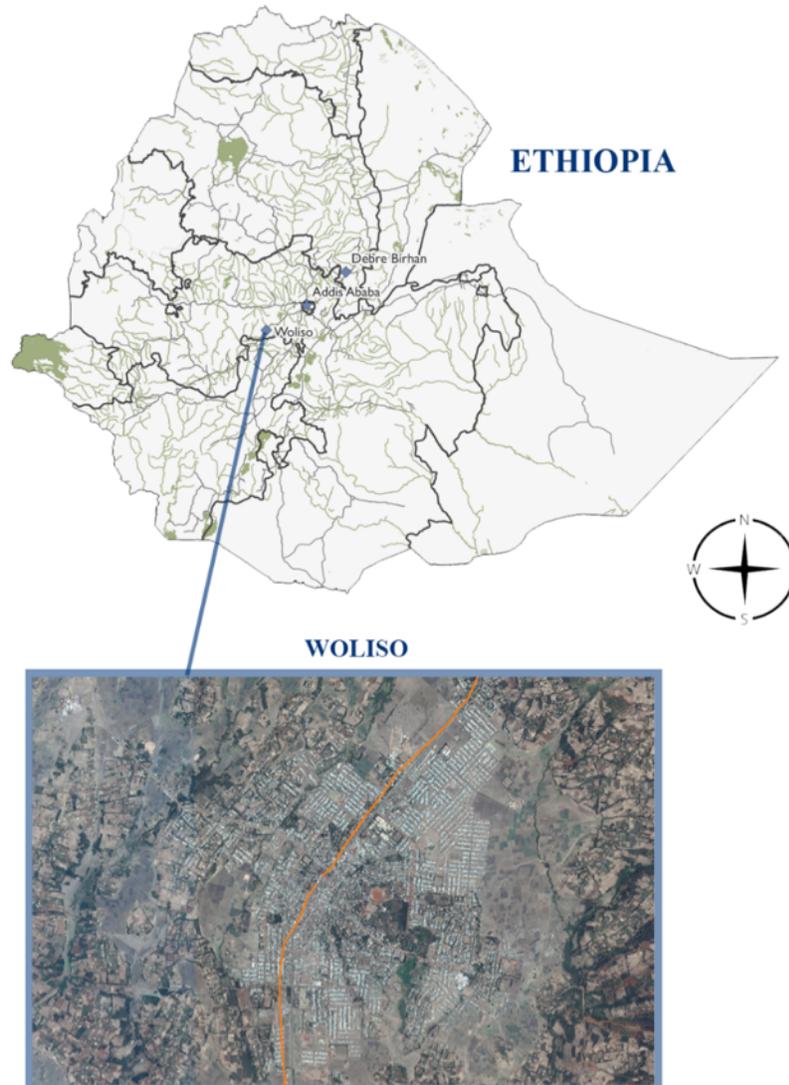
The town has a temperate climate and topography suitable for recreation, which, combined with the local hot spring and Wanchi Lake, make it attractive for development and as a resort town for tourism. The existence of tourist attractions and many historical and archaeological sites in the town's vicinity will directly or indirectly contribute to Woliso's future development.

The town is served by 2 hospitals, 15 health clinics, and 2 health stations. In addition, it hosts a Faculty of Social Science campus for the region's Ambo University and three private colleges. Woliso has seven hotels, and the town's main economic activities are commerce, tourism, and manufacturing.

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<sup>3</sup> USAID/Sustainable WASH Systems Learning Partnership (SWS). 2021. Sanitation in Small Towns – Debre Birhan, Ethiopia Endline Assessment. Available at: <https://www.globalwaters.org/resources/assets/sanitation-small-towns-debre-birhan-ethiopia-endline-assessment>

<sup>4</sup> Woliso town administration 2019 profile report.



*Figure 1. Administrative (Regional) Map of Ethiopia*

## Objectives

This report presents findings of an endline assessment of sanitation services conducted in Woliso, Ethiopia, January 11–16, 2021. The overall objective of the endline assessment is to evaluate changes in Woliso over the course of the 5-year SWS project by comparing endline results to baseline assessment results. Specific objectives of the endline assessment are:

1. To qualify the extent and current operations of containment and excreta management services.
2. To qualify the enabling environment (e.g., policies, strategies, and institutional arrangements) for sanitation.
3. To qualify the nature of relationships among actors involved in service delivery.

## Methodology

SWS applied four different diagnostic tools as part of the endline assessment: fecal waste flow diagram (also known as a shit flow diagram or SFD), citywide service delivery assessment (CSDA), sustainability checks, and organizational network analysis (ONA). These looked collectively at the nature of sanitation services being delivered in Woliso and the enabling environment related to their sustainability (SFD, CSDA, sustainability checks), as well as the interactions between local actors and organizations involved in service delivery (ONA).<sup>5</sup>

### Tools and Methods

SWS used the following data collection methods for the endline assessment:

- **Household survey:** Four teams conducted the household survey in all four kebeles over a 5-day period. Each team consisted of one enumerator and one health extension worker who worked and lived in the kebele. Two staff from the town's Health Office, with the support of SWS, supervised the data collection, provided technical support, and oversaw data quality at the household level. The teams used the mWater mobile application to collect household data and uploaded the data daily to the mWater portal. The SWS team performed random data checks on the mWater portal. Before data collection began, enumerators received training on and piloted the mWater data collection tool.
- **Key informant interviews (KIIs):** The team conducted key informant interviews with representatives from the government sanitation sector (WASH sector offices, kebele administrators) and communal latrine management committees using interview guides for each respondent type. Key informants who were also members of the learning alliance completed an additional questionnaire about the learning alliance process and its influence on sanitation service delivery in the town.
- **Focus group discussions (FGDs):** The team conducted four FGDs with householders from four kebeles. Three types of FGDs took place: (1) one group of males who own their latrine or are part of a communal latrine user group; (2) one group of males who use communal latrines; and (3) one group of females who own their latrine or use a communal latrine.
- **Observation and site visits:** The team conducted observation with a record sheet. Table I provides the detailed data collection response. The team also planned to use site visits to collect data on the living environment and sanitation service delivery (specifically inventory, processes, and fecal sludge volumes), existing fecal sludge management practices, and both manual and mechanical emptying service methods. Unfortunately, no emptying services took place during the observation period, making it impossible for the team to complete this activity.

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<sup>5</sup> A separate comprehensive report on the ONA endline is available <sup>5</sup> Available at: <https://www.globalwaters.org/resources/assets/ethiopia-endline-social-network-analysis> (accessed November 11, 2021).

- **Transect walk:** The team conducted only one transect walk using the transect walk checklist with input from community representatives. The team observed and recorded general sanitation conditions, high-risk conditions, and sanitation practices in the community.

### Sampling and Respondents

Enumerators surveyed 421 respondents from individual households, which represents 1.6 percent of households in the town, providing a confidence level of 95 percent.<sup>6</sup> SWS used a stratified random survey in the four kebeles. Enumerators sampled every fourth household on alternating sides of the street while walking through town from the kebele main entrances.

Table 1. Survey Tool Respondents

Data Collection Tool	Unit	Quantity	Remark
Household survey	Number of households	421	Randomly selected from all four kebeles.
Key informant interview	Number of KIIs	10	Town WASH sector and community representatives.
Focus group discussion	Number of FGDs	4	One FGD per kebele (with two males and two females).
Service provider observation	Number of visits	1	
Transect walk	Number of visits	1	

## Endline Results

Data collected in Woliso indicated that there are gaps in the sanitation service chain between the first step of safe containment and the final step of disposal. The baseline (May 2017) and endline (January 2021) surveys examined the town sanitation service chain to assess: (1) the extent and current operations of containment and excreta management services; and (2) the enabling environment.



Figure 2. Sanitation Service Chain

### Objective I: To Qualify the Extent and Operations of Containment and Excreta-Management Services in Woliso

#### Containment

**Household Sanitation:** SWS sampled 421 households for the endline sanitation survey. Results indicated that the percentage of households using improved washable slab latrines increased from 22 percent to 44 percent and the number of households with no latrine decreased from 16 percent to 9

<sup>6</sup> Calculation based on average household size: 4.6 (urban) and 4.8 (rural) (Central Statistical Agency, 2007).

percent (see Figure 3). The number of private latrine owners increased, whereas the number of households using communal and public latrines and open defecation decreased (see Figure 4).

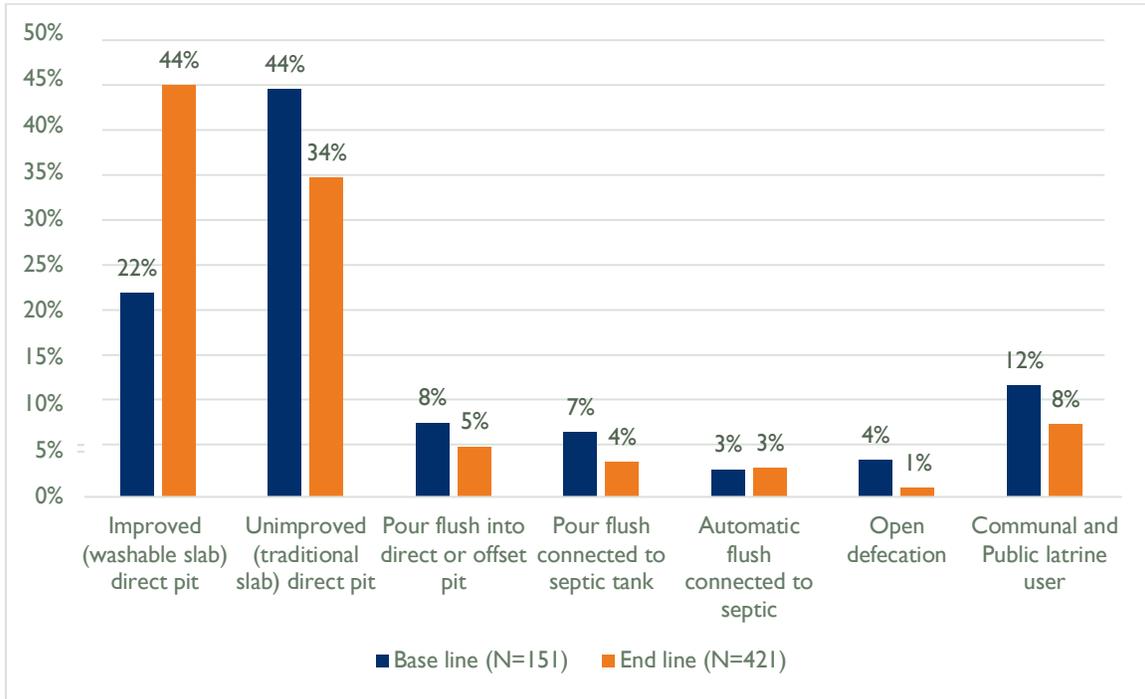


Figure 3. Change from Unimproved to Improved Sanitation Facilities

In a KII with the Ayetu kebele administrator, the respondent indicated: “Most of the kebele households can afford to construct their latrines, except few poor community members requesting access to communal latrines.” Participants in the mothers’ FGD responded to the question, “Are you affected by poor sanitation conditions?” with, “Yes, like respiratory infection due to bad smell of solid waste, liquid waste, diarrhea due to poor latrine use.”

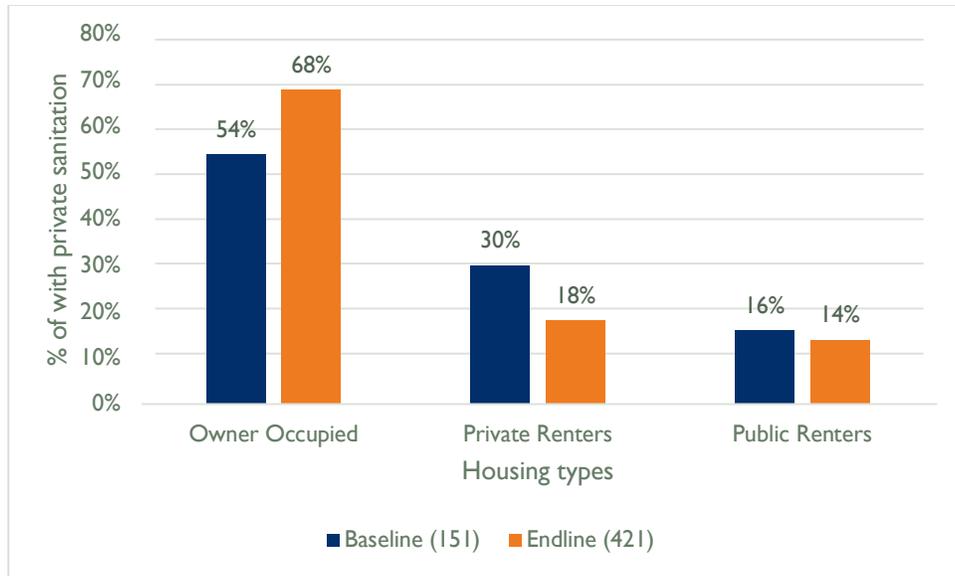


Figure 4. Change in Access from Public to Private Sanitation

The transect walks at Hora kebele around Ginfillie River identified that: (1) following the rainy season, latrine leakage from most households — especially from the Burka Gudina kebele — drained into the storm water drainage line and polluted the environment; and (2) human feces are visible but limited to three locations.

**Shared latrine facilities (communal and public latrines):** There are 42 communal latrines across the four kebeles in Woliso (see Figure 5). Most of the communal latrines (62 percent) are in Burka Gudina, which is situated in the commercial center of Woliso. Four additional communal latrines were counted in the endline; these were missed during the baseline. A key informant (learning alliance member) confirmed that no new communal latrines were constructed over the last 3 years, either by government or development partners. Observations show that Burka Gudina is primarily a slum area with a high concentration of low-income families and tenants. The communal latrine users are neighborhood households clustered by the kebele administration.

There are four public latrines in Woliso, and these are situated in Ejersa and Burka Gudina kebeles. Users are people visiting markets, travelers, the homeless, and people who do not have access to a household latrine or nearby shared facility (communal).

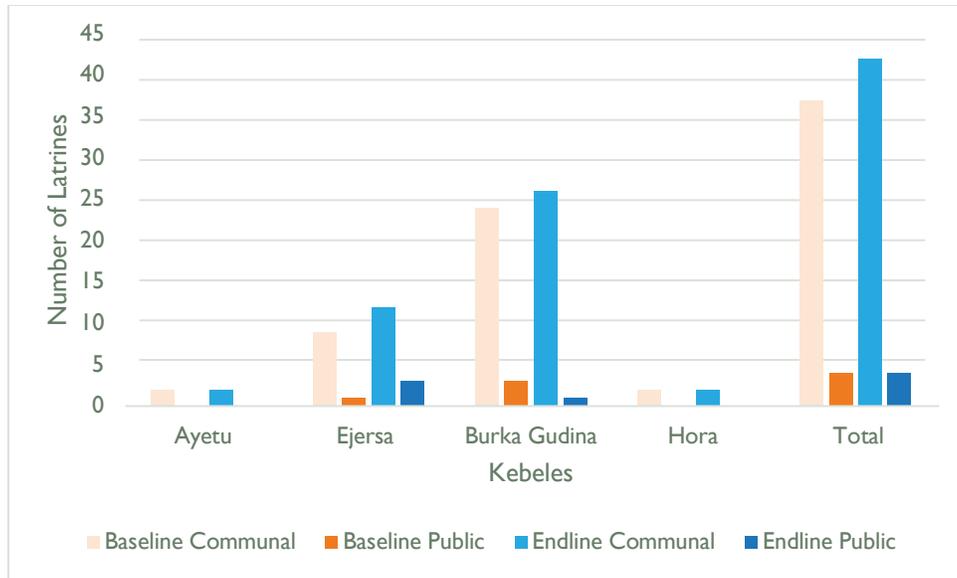


Figure 5. Communal and Public Latrine Distribution in Woliso Kebeles

According to the responses of shared latrine users, 63 percent of the latrines have a lining, 22 percent have no lining, and 15 percent of respondents were unsure if their latrines have lining because documentation for the toilets was unavailable at the local government level or the team could not confirm this through a visual check.

Regarding shared latrine management, the baseline indicated that 10 out of 37 communal latrines were managed by community groups, while the remaining 27 had no management bodies. The endline survey found that of the 42 communal latrines, 33 are managed by an elected communal latrine management committee, six are managed by individual user groups, and there is no management in place for the remaining three latrines. Of the four public latrines, three are managed by a small and micro-enterprise association subcontracted by the municipal office, and one is non-functional.

### Emptying

The town's utility has one functional vacuum truck vehicle with a capacity of 8 m<sup>3</sup>, but the utility is unable to offer emptying services because the town does not have a fecal sludge disposal (FSD) site.

The endline household survey found that 352 households (84 percent) have never emptied their latrines and only 69 households (16 percent) of the households emptied their latrines (see Figure 6). So few households empty their latrines because the lack of an FSD site increases the cost of private vacuum truck services; operators would have to travel farther to dispose of the waste, which renders the public vacuum truck inoperable. Sixty-six percent of households were dissatisfied with the private vacuum truck emptying service because of high cost.

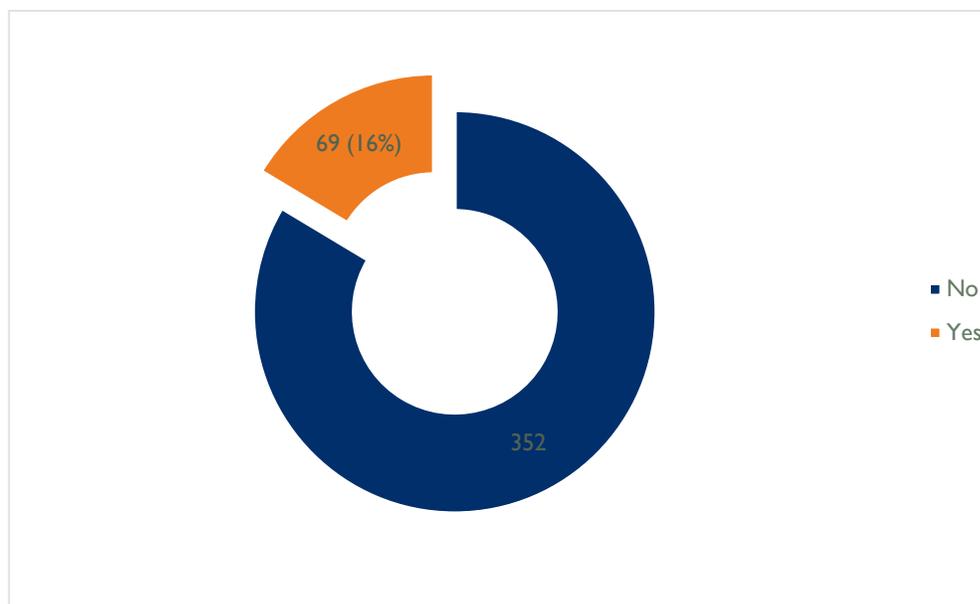


Figure 6. Households Using Latrine-Emptying Service

Respondents of FGD at Ejersa kebele reported: “The utility vacuum truck costs around 800 Ethiopian birr (ETB) (\$16.79), [which] was a reasonable cost, but the utility stopped providing emptying services 2 years ago. When we asked for emptying services, they told us there is no disposal site, and people are waiting until the service starts. Two participants emptying their latrine 4 months ago contracted a private emptier and paid ETB 2,000 (\$41.97) and 3,000 (\$62.96) per emptying services. [This] is not affordable for many households to use private emptying services.” This results in high service costs because of long distances, compared with the town’s previous cost of ETB 800 (\$16.82).

### Transportation

The utility is the primary entity responsible for providing fecal sludge transportation services. The utility has one vacuum truck that provided services daily before the closure of the dumping site by the town’s Environmental Protection and Climate Change Authority for environmental reasons, initiated by complaints from nearby residents, in August 2017. Private vacuum trucks from Addis Ababa provide fecal sludge transportation services by individual request.

### Disposal and Treatment

There is a high demand from residents, private businesses, and government institutions for an FSD site. Although the town has secured land for a new site, it has not developed it since the old site closed in 2017. The new site is located 5 km away from the eastern part of the town and 500 m from the road. The land falls under the Woliso Woreda Administration, and it was used for excavating raw material for construction and owned by an individual farmer. At the time of reporting, the site is being developed to start providing emptying services.

Even without a designated FSD site, emptying services are still provided by private vacuum truck operators. Without a formal disposal site, arrangements are made on an ad hoc basis between the truck operators and local farmers and with FSD sites in neighboring towns.

**SFD:** SWS developed the endline SFD (2021) with data collected from household surveys and triangulated with responses from focus group discussions, KIIs, and reports collected from KIIs. The hospital, university, prison, and hotels are not factored into this SFD analysis because the data were collected only at the household level. Those institutions thought they could better manage their waste with septic tanks. At the time of data collection, the town had no FSD site. Table 2 lists the assumptions that underpin its development.

Table 2. Estimates and Assumptions for Endline SFD

Item Required to Fill SFD	Estimate or Assumption	Source
Technology types	<p>The scope of the endline did not aim to capture the range of underground technologies (this is difficult to determine). The SFD is prepared based on the following technology types:</p> <ul style="list-style-type: none"> <li>• 44% of households use improved (washable slab) direct pit</li> <li>• 3% of households use condominium connection</li> <li>• 5% of households use pour flush into direct or offset pit</li> <li>• 34% of households use unimproved (traditional slab, damaged, or no superstructure) direct pit</li> <li>• 4% of households use pour flush connected to septic tank</li> <li>• 1% of households use automatic flush connected to septic tank</li> <li>• 7% of households use communal and public latrine</li> <li>• 1% of households use open defecation</li> </ul>	Endline household survey.
Containment types that are failed, damaged, or connected to an open drain	The SFD is prepared on the basis that 10% of all containment types are failed, damaged, or connected to an open drain.	Best estimate. The practice of households connecting their pit to drain, especially in the rainy season, is widely acknowledged and cited in the Ministry of Water, Irrigation, and Energy 2019 Situation Assessment Study. <sup>7</sup> It is difficult to determine a reasonable

<sup>7</sup> Ministry of Water, Irrigation, and Energy. 2019. Federal Democratic Republic of Ethiopia Situation Assessment Study and Preparation of Urban Wastewater Development Plan.

Item Required to Fill SFD	Estimate or Assumption	Source
		rate for the whole town across a 1-year period accurately. This SFD assumes 10%, which is considered conservative.
Emptying	Emptying rates: <ul style="list-style-type: none"> <li>1% of pits emptied manually</li> <li>46% of pits emptied by utility</li> <li>52% of pits emptied by private services</li> </ul>	Endline household survey. This presents the breakdown of respondents (16%) who reported emptying their pits.
Contents of on-site containment	100% of the proportion of contents of each onsite container is fecal waste.	Assumption, standard as per baseline.
Transport	100% of fecal sludge emptied is transported. It is unclear what percent is disposed of in the neighboring town's FSD site.	Assuming from the endline data that all 16% of the households' emptied waste was transported.
Treatment	No treatment.	No treatment.

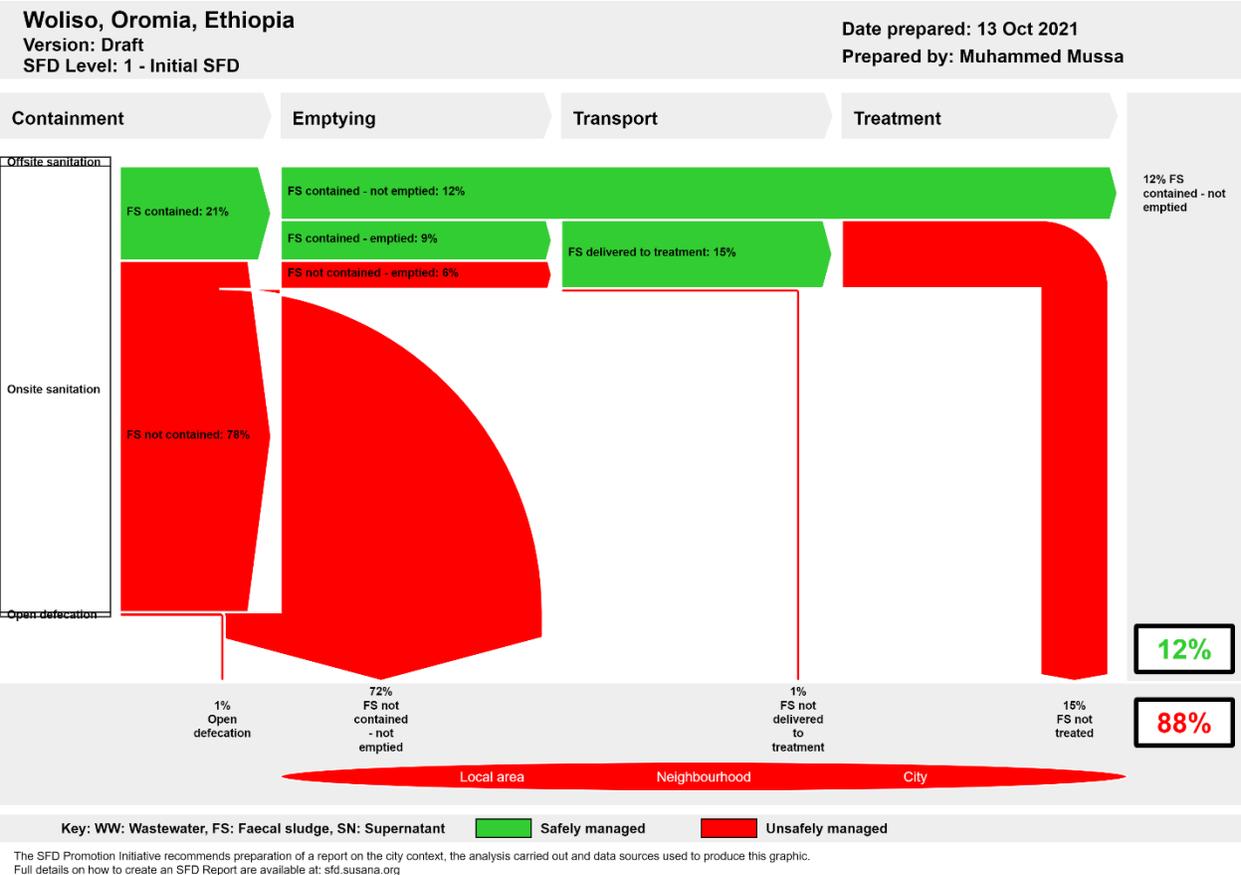


Figure 7. Woliso SFD October 2021

The endline household survey considered the containment of all slab and traditional latrines and discovered that the liquid waste from the unlined pits contaminates the groundwater because the water table is low.

The baseline survey found that the utility had an agreement with a private farmer for fecal sludge dumping on his land, but the town's Environment Protection Office closed the site in 2017 because of complaints from nearby communities. Woliso has had no FSD site since then; some individual households continue to make ad hoc arrangements with the private farmer. The endline survey asked households whether they had an improved slab and latrine superstructure rather than whether they had a lined pit (as in baseline).

Woliso's SFD (see Figure 7) shows that there was no improvement in safely managed fecal sludge from the baseline SFD of 18 percent. In 2021, 3 years after the baseline, only 1 percent of fecal sludge is contained safely in the onsite sanitation facilities, which is a 6 percent decrease from the baseline.

The endline household survey shows that 21 percent of the households safely contained their fecal sludge; however, 9 percent of these were emptied, transported, and disposed of illegally in rivers and on open land by private vacuum truck operators. Illegal dumping increased with the closure of the disposal site. During the baseline, SWS learned that the utility had an agreement with a private farmer to dispose of fecal sludge on his land; however, the town's Environment Protection Office prohibited this arrangement in 2017 due to complaints from nearby communities. Woliso has not had a functional FSD site since 2017; some individual households continue to make ad hoc arrangements with the private vacuum truck and farmer. Additionally, having a high number of traditional pit latrines that are unlined, a low groundwater table, and high permeability of the soil are thought to contribute to the low rate of safely managed fecal sludge.

The FGDs in Woliso's four kebeles on the impact of poor sanitation conditions indicated that participants believe respiratory infections like the common cold and asthma are due to the unpleasant smell of solid and liquid waste and diarrhea is due to poor latrine use and water contamination. The groups' responses clearly indicate their view that poor fecal sludge management results in direct contamination of soil and water.

## Objective 2: To Qualify the Enabling Environment for Sustainable Sanitation Services in Woliso

The Woliso endline SFD shows that a very small percentage (12 percent) of liquid waste is safely managed. SWS carried out a CSDA to examine why such a high percentage of waste is unsafely managed. This tool provides a framework for assessing the comprehensiveness of the enabling environment for sanitation service delivery. SWS posed 17 questions addressing three broad pillars (enabling services, developing services, and sustaining services) concerning each component (containment, emptying, and treatment) of the sanitation service chain. The CSDA tool calculates a mean value for each step in the service chain, and the resulting CSDA graphic (see Table 3) is presented in traffic light form: green for satisfactory, yellow for improving, and red for poor.<sup>8</sup>

The sustainability checks, a framework developed by IRC for use across multiple WASH service types including urban sanitation, assesses enabling conditions for service delivery at three levels — service provider, service authority, and national — to determine whether services comply with minimum established norms and standards. The CSDA and sustainability checks generated comparable results.

Table 3. Woliso CSDA Scoring Matrix

Non-Sewered Sanitation			
	Toilet, Pit, or Septic Tank	Emptying and Transport	Sludge Treatment and Reuse
<b>Enabling</b>			
Policy, legislation	0.8	0.8	0.8
Planning, budgeting	0.3	0.3	0.3
Inclusion	0.5	0	
<b>Delivering</b>			
Funding	0.3	0.2	0.5
Capacity, outreach	0.7	0.2	0.2
Inclusion	0	0	
<b>Sustaining</b>			
Regulation, cost recovery	0.5	0.3	0.2
Institutions, service providers	0.3	0.1	0
Inclusion	0.2	0	

**Policy:** The federal government prepares policy, strategies, guidelines, and manuals. The government developed the national guidance to meet millennium development goals, called Growth and Transformation Plans I and II, and recently developed a 10-year prosperity plan in line with the sustainable development goals. The regional government implements national government policies and

<sup>8</sup> City Service Delivery Assessment for Citywide Inclusive Sanitation. 2020. User Guide. Available at: <https://incsanprac.com/files/CSDA%20Users%20Guide.pdf>

strategies according to the priorities of regional government. The government's goal is to provide all citizens with at least basic WASH services.

There are national and regional sanitation laws and regulations such as the Solid Waste Management Proclamation, the Integrated Urban Sanitation and Hygiene Strategy, Environmental and Public Health Rules and Directives, and the National Hygiene and Sanitation Strategy. The Public Health Proclamation No. 200/2000 states, "No person shall dispose of solid, liquid, or any other waste in a manner which contaminates the environment or affects the health of the society." The Environmental Pollution Control Proclamation No. 300/2002 says, "All urban administrations shall ensure the collection, transportation, and, as applicable, the recycling, treatment, or safe disposal of municipal waste through the institution of an integrated municipal waste management system." However, the policies are not fully implemented in Woliso despite being enshrined in the constitution. The Ethiopian Constitution declares, "All persons have the right to live in a clean and healthy environment."

**Roles and responsibilities:** Institutional roles for delivering and sustaining sanitation services in Woliso are well defined. All WASH sector offices have a clear role and responsibility to implement sanitation activities. The municipal office is responsible for the construction and management of solid waste, public and communal latrines, the FSD site, and the drainage lines, with technical support from the town water utility and other stakeholders. The town water utility is fully responsible for liquid waste management by providing latrine emptying, transport, treatment, and disposal or reuse; its Water Board members have direct oversight of the utility's public services, including sanitation services. The health office is responsible for prevention and control of disease through sanitation and hygiene promotion (awareness creation and behavior change to ensure a clean environment). The Environmental Protection, Forest, and Climate Change Authority is also responsible for enforcing environmental protection and sanitation laws and regulations, conducting primary environmental impact assessments before implementing any sanitation activities, and monitoring liquid and solid waste disposal to avoid human health risks and environmental pollution. However, sanitation has many actors that sometimes overlap, and many sectors do not fully understand the role they could play to strengthen sanitation systems.

**Pro-poor:** There is no independent structure for a low-income unit. The municipal office addresses the needs of low-income communities by facilitating the construction and maintenance of public and communal latrines. There is no subsidy for latrine-emptying services, but the cost of the utility vacuum truck is relatively cheaper than the private emptier.

**Planning:** The town's WASH sector, led by the municipal office, has a strategic plan that includes sanitation. Sanitation investments are incorporated into an investment plan, such as an annual or medium-term work plan that addresses the improvement of sanitation services by the Urban Local Government Development Program. Staffing and other operating plans are handled through the regular government budget. Regarding the sanitation service level and SDG targets, neither the municipality nor the utility has established targets for sanitation services to hold themselves accountable for maintaining or improving services over time.

**Funding:** The town’s WASH sector develops and manages its operational plan, but the finance and economic development office purchases the required services, materials, and equipment on the town’s behalf. The water utility has an independent administration and purchases its goods and services directly.

**Capacity:** All municipality, health, and utility offices have a structure to provide sanitation services pertaining to their offices’ responsibilities. However, the utility’s sewerage team is under capacity, with only one vacuum truck operator and two support (non-technical) staff.

**Regulation:** Woliso’s health and environment offices and Climate Change Authority provide regulatory oversight within many constraints. The regulations cover on-site household latrine technologies, construction of sanitary facilities, urban sanitation, sanitation promotion and advocacy, and the sanitation services delivery chain. Oromia regional governments developed environmental and public health regulations and directives for the region, but Woliso has not fully implemented them due to the scarcity of resources (financial, human, and logistical). Other challenges include the lack of appropriate solid and liquid waste disposal sites, lack of community interest in managing solid and liquid waste disposal, and little enforcement of laws against illegal liquid and solid waste dumping.

**Cost recovery:** Due to the lack of an FSD site, the utility does not provide pit-emptying services. Its fee was set prior to 2017. It is expected that the utility will revise the service fee, taking into account the inflation rate. The current emptying fee is considered low by the utility and does not cover costs. Committees and enterprises that operate communal and public latrines charge a service user fee to cover operational and minor maintenance costs.

**Institutions:** The town administration coordinates and monitors all town and kebele development activities, including sanitation. All town sanitation offices are directly accountable to the town administration. Town municipal offices coordinate the overall solid waste management activities in collaboration with the kebele administration. The municipal office directs the kebele sanitation offices to facilitate and improve coordination and implementation of sanitation activities. The health office, through its kebele-level urban health extension workers, reaches the community to promote sanitation activities. The water utility is accountable to the town Water Board. The Water Board is led by the city manager and includes representatives from most stakeholders in the sector, including civil society. Currently, the utility has no dumping services due to the closure of the dumping site.

The assessment reveals that the system has some of the elements required for basic service delivery and that policies and institutional arrangements delineating clear roles and responsibilities are in place. Nonetheless, stakeholders are not aware of most policies, strategies, and directives supporting the implementation of urban sanitation that provides a framework for a better sanitation service.

### Objective 3: To Qualify the Nature of Relationships among Local Actors Involved in Service Delivery

As in the baseline, the endline ONA examined three relationship types — information sharing, problem solving, and coordination — among the participating organizations. The ONA simulation produced several graphics depicting the nature of the relationships, strength of interactions among actors, and

quantitative metrics commonly used in the discipline of systems mapping (e.g., density, reciprocity, degree). The result is a fully interactive, publicly accessible, user-friendly tool that can be used by SWS and other stakeholders. Interactive maps can be accessed online.<sup>9</sup>

**ONA:** The Woliso Learning Alliance has 14 regular members (individuals) who actively participate in its activities. The alliance primarily includes government actors, plus one informal public latrine committee, which is reflective of the lack of private sector and NGO actors working in the sanitation sector in the town. The cohesiveness of the network decreased over the previous midterm review period, with reported connections decreasing for all three types of relationships. Coordination and problem-solving relationships decreased by more than half. The SWS team attributes the decreasing connections primarily to the short-term challenges of COVID-19 lockdowns and gathering restrictions, which all took place in the lead-up to the endline survey. Despite declining trends, the alliance appears healthy across functional areas, collaborating and sharing in all three types of relationships. The SWS team observed that the leading actors generally remained consistent. More findings are available in the companion report, “Ethiopia Endline Social Network Analysis.”<sup>10</sup>

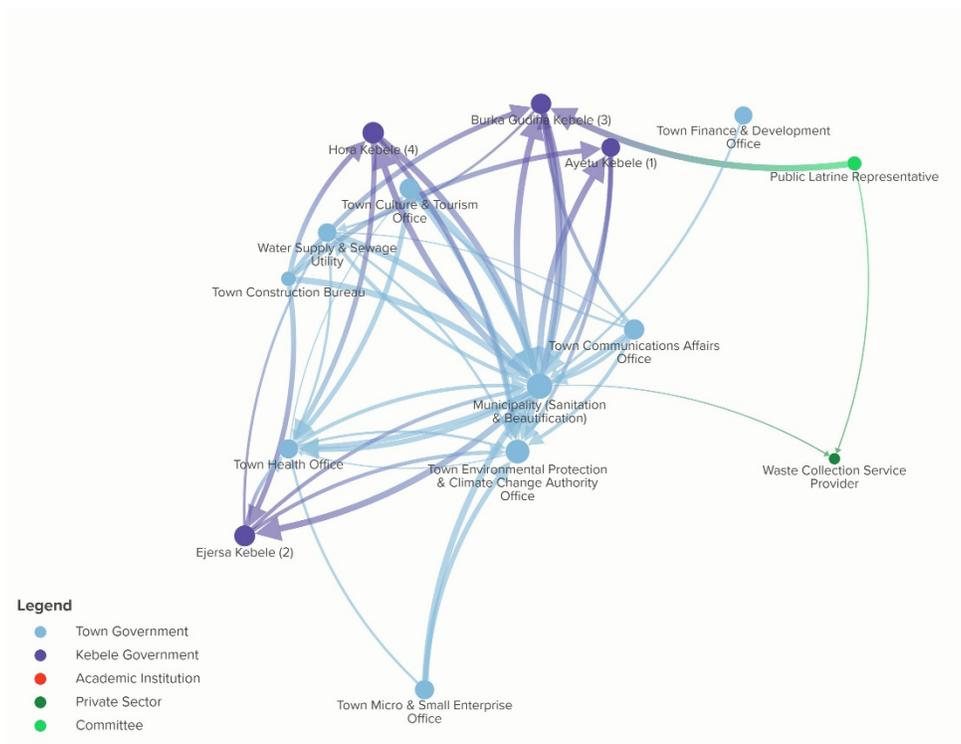


Figure 8. Direct Coordination among Members of the Woliso Learning Alliance

<sup>9</sup> Available at: <https://kumu.io/lincllc/sws-woliso-endline#woliso> (accessed January 7, 2022).

<sup>10</sup> Hempfling, C., Ristovsky, B., and Fromer, F. 2021. Ethiopia Endline Social Network Analysis. Available at: <https://www.globalwaters.org/resources/assets/ethiopia-endline-social-network-analysis>

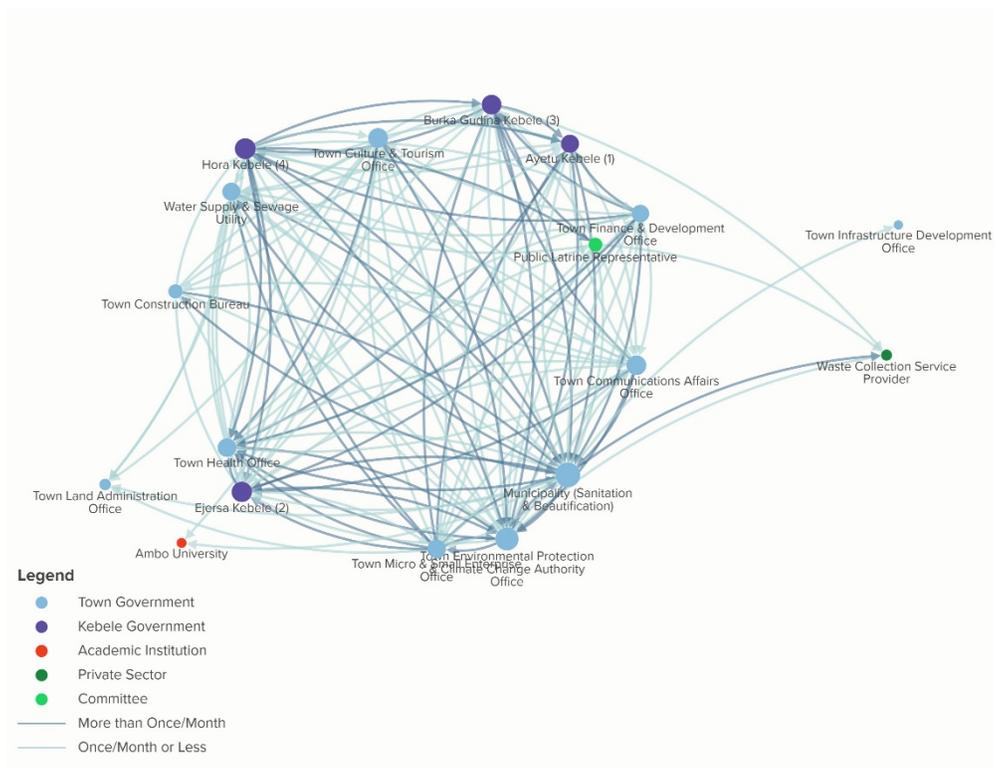


Figure 9. Information Sharing among Members of the Woliso Learning Alliance

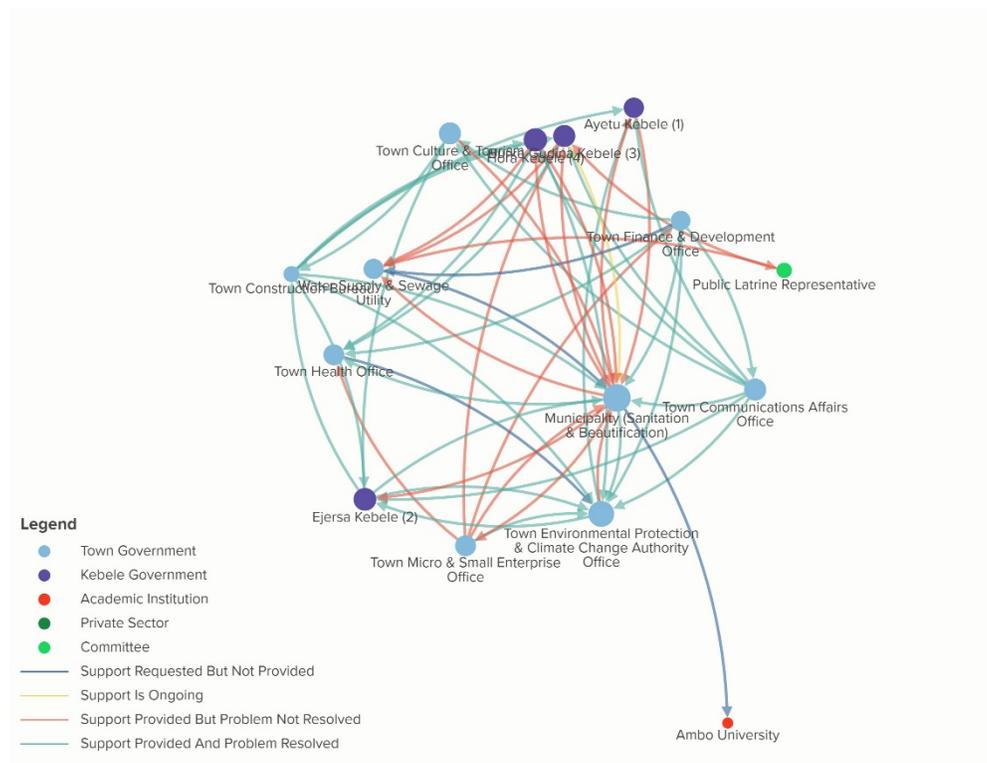


Figure 10. Problem Solving among Members of the Woliso Learning Alliance

## Discussion and Conclusion

Over the course of SWS, the percentage of households with no latrines decreased from 16 percent to 9 percent. This may in part be attributed to SWS from sanitation activities carried out by or through the learning alliance (e.g., public awareness and promotions events, provision of training for WASH sector officials). Additionally, the development of shared latrine management guidelines and establishment of shared latrine management committees trained to apply the guidelines improved the operation and maintenance of public and communal latrines.

Only 12 percent of fecal sludge is safely managed in Woliso. SWS recognizes that there is a high prevalence of unlined pits (78 percent) that subsequently infiltrate and pollute the surrounding environment and groundwater because the water table is low (3–5 m). Furthermore, fecal sludge from improved latrines is not always handled safely; 9 percent is disposed of illegally into bodies of water and private farmland (through arrangements with the owners) because the town does not have a FSD site. Increasing the amounts of safely managed fecal sludge depends on WASH stakeholders' coordinated activities, shared vision, attention to the quality of safely contained (lined) pits, secure designated land for safe fecal sludge disposal, and funding for the construction of FSD sites.

The weak sanitation enabling environment contributed to the low sanitation coverage in Woliso. Even with sufficient federal and regional policies and strategies, local WASH officials lack a clear understanding of their respective roles and responsibilities. The utility is insufficiently staffed to carry out its mandate with regards to sanitation. Additionally, poor human resource structures, poor logistical abilities, and the lack of financing for constructing an FSD site and running the soft component of sanitation activities limited the ability to increase the proportion of safely managed fecal sludge.

Woliso procured land for an FSD site but has not started construction of the site and additional shared latrines because the municipal government does not have the funds to complete the work. The work is also impeded by the community members near the newly secured site who expressed their opposition to the new location. Sustaining any improvement in sanitation service delivery will be a challenge and will require strategic change at all levels, including the service authority level. Sanitation plans need to continue focusing on a collective action approach and develop strategies to address the ongoing initiatives in close collaboration with the existing learning alliance members and private service operators.

There is a need to look beyond “software” interventions (i.e., awareness and promotion) to ensure WASH system sustainability to support town sanitation services. SWS identified several capacity constraints at the service authority and service provider level and addressed some of these through provision of training events for learning alliance members, community members, decision makers, utility staff, and health extension workers. It also facilitated and organized learning visits about shared latrine fecal sludge management and supported the learning alliance's and decision makers' efforts to procure land for an FSD site. At least to some degree, these efforts improved the service authority's and service providers' performance.

## Recommendations

The findings of the endline show improvement in the town's sanitation services since the start of the project. All findings were shared and discussed with the learning alliance at a final learning alliance meeting in August 2021. The following recommendations are directed at the learning alliance:

- Woliso's municipal government, in collaboration with the utility and Environment Protection and Climate Change Authority, need to secure a permanent FSD site approved by the town and regional council and included in the town's master plan, as well as allocate sufficient funding through its annual budget. Until this long-term solution is secured, a temporary disposal site can be used as a short-term solution. This will enable the utility to provide critical emptying services to households, particularly those that are unable to afford services from private emptying operators.
- The town health office should use its urban health extension workers to sensitize households regarding the importance of building lined pit latrines to avoid contaminating groundwater and to safely contain fecal sludge.
- Local officials and technical staff need to receive regular training on the national and regional sanitation policies, strategies, and knowledge management requirements to promote the sustainability of sanitation activities and build on the current momentum gained through the project.
- The learning alliance needs to actively seek ways to improve high-level coordination, perhaps through activities organized around key functional and priority areas like monitoring, regulation, or hygiene promotion, and consider possibilities for joint activities for capacity building or service provision.

## Annex A. Woliso CSDA Scoring

Pillar	Non-Sewered Sanitation Questions		Toilet, Pit, Septic Tank	Emptying and Transport	Sludge Treatment	Evidence / Scoring (for Each Stage of the Chain)
<b>Enabling: Current policies, planning issues, and budgetary arrangements</b>	<b>Policy and Legislation</b>	<b>N.1.1 Policy:</b> Is use of non-sewered sanitation services enabled by an appropriate, widely known, acknowledged, and available national or local policy?	1	1	1	1: Policy is appropriate, widely known, acknowledged, and available
						0.5: Policy is appropriate but not widely known, acknowledged, or available, or policy exists only as a guideline or strategy without legal force
						0: Policy is not available or is inappropriate to the context
		<b>N.1.2 Institutional Roles:</b> Is responsibility for non-sewered sanitation service delivery clearly assigned to institution(s) with well-defined roles, responsibilities, and mandates?	1	1	1	1: Responsibility is clearly assigned to institution(s) with well-defined roles, responsibilities, and mandates
						0.5: Responsibility is unclear or ambiguous, or roles, responsibilities, and mandates are poorly defined
						0: No institution(s) have well-defined roles, responsibilities, and mandates for non-sewered sanitation
	<b>N.1.3 Legislation / Regulation:</b> Are there national and/or local legislation and regulatory mechanisms for non-sewered sanitation, backed by any necessary complementary codes, specifications, schedules, etc.?	0.5	0.5	0.5	1: Legislation and regulatory mechanisms are comprehensive, in place, and widely publicized	
					0.5: Legislation and regulatory mechanisms are comprehensive and in place, but not widely publicized	
					0: Legislation and regulatory mechanisms are inadequate or do not exist	
	<b>Planning and Budgeting</b>	<b>N.1.4 Targets:</b> Are service levels and targets for non-sewered sanitation specified in current approved plans?	0.5	0	0	1: Service levels and targets are clearly specified and officially adopted
						0.5: Service levels are specified, but targets are not stated or not officially adopted
						0: No reference to service levels or targets

Pillar	Non-Sewered Sanitation Questions		Toilet, Pit, Septic Tank	Emptying and Transport	Sludge Treatment	Evidence / Scoring (for Each Stage of the Chain)
		<b>N.1.5 Budget Lines:</b> Are there annual and medium-term budget lines for non-sewered sanitation, including both hardware and software?	0	0.5	0.5	1: Annual and medium-term budget lines for non-sewered sanitation exist and include hardware and software 0.5: Annual and medium-term budget lines are unclear, poorly defined, or lack adequate software components 0: There are no budget lines for non-sewered sanitation
	<b>Inclusion (carried over from left)</b>	<b>I.6 Planning and Budgeting:</b> Does the policy, planning, and budgeting process address inclusive sanitation services, according to the definition agreed upon with stakeholders?	0.5	0	0	1: Inclusion is explicitly considered in policy and is required in the planning and budgeting process 0.5: Inclusion is mentioned in policy but not explicitly or weakly required in the planning and budgeting process 0: There are no inclusion criteria in policy or planning and budgeting process
	<b>Funding</b>	<b>N.2.1 Investment Plan:</b> Is there an investment plan for non-sewered sanitation hardware and software, which includes all the components necessary to achieve service-level targets (N.1.4) over the medium term?	0.5	0.5	0.5	1: There is an investment plan, which includes all the components necessary to meet targets over the medium term 0.5 There is an investment plan, which includes some (~50%) of the components necessary to meet targets over the medium term 0: There is no investment plan, or one that is totally inadequate to meet targets over the medium term
		<b>N.2.2 Adequate Funding:</b> Are annual funding allocations for non-sewered sanitation sufficient to achieve service-level targets (N.1.4), and are they used as planned?	0	0	0.5	1: Funding allocations are sufficient and used as planned 0.5: Funding allocations are only partially sufficient or partially used as planned 0: Funding allocations are totally inadequate or not used as planned
<b>N.2.3 Coordination:</b> Are there effective mechanisms for coordination of non-sewered sanitation investments between		0.5	0	0.5	1: Mechanisms exist and are effective at coordinating investments 0.5: There are some partially functional mechanisms	

Pillar	Non-Sewered Sanitation Questions		Toilet, Pit, Septic Tank	Emptying and Transport	Sludge Treatment	Evidence / Scoring (for Each Stage of the Chain)
		donors, between donors and government, and within government?				0: Mechanisms do not exist, or exist on paper only and are ineffective
	Capacity and Outreach	<b>N.2.4 Institutional Capacity:</b> Is responsibility for delivery of non-sewered sanitation services mandated to fully established and appropriately structured institutions?	0.5	0.5	0.5	1: The mandated institutions are fully established and appropriately structured 0.5: The mandated institutions are not fully established or appropriately structured 0: There are no mandated institutions, or they are very weak
		<b>N.2.5 Staffing:</b> Do the mandated institutions have adequate levels of qualified staff to carry out their mandates?	0.5	0	0	1: The institutions have adequate levels of qualified staff to carry out their mandates 0.5: The institutions have some qualified staff, but not at adequate levels to carry out their mandates 0: There are no mandated institutions, or they have wholly inadequate staffing levels
		<b>N.2.6 Outreach:</b> Are there active promotion programs for safe non-sewered sanitation, behavior change, and community engagement?	1	0	0	1: There are systematic programs promoting safe non-sewered sanitation, behavior change, and community engagement 0.5: Some outreach activities are being carried out on an ad hoc basis 0: No outreach activities are being implemented
	Inclusion (carried over from left)	<b>2.7 Technology:</b> Are there affordable, appropriate, safe, and adaptable technologies available to meet the needs of women, poor, and vulnerable people, according to the agreed-upon definition?	0	0	0	1: There are suitable options available to address the needs of most poor and vulnerable people 0.5: There are options that address the needs of some poor and vulnerable people, but they are not sufficient or complete 0: Options available to meet the sanitation needs of poor and vulnerable people are grossly inadequate

Pillar	Non-Sewered Sanitation Questions		Toilet, Pit, Septic Tank	Emptying and Transport	Sludge Treatment	Evidence / Scoring (for Each Stage of the Chain)
		<b>2.8 Funding:</b> Are there specific funding mechanisms to support appropriate, safe, and adaptable sanitation services to all users, including women, poor, and vulnerable people, according to the agreed-upon definition?	0	0	0	1: There are funds, plans, and mechanisms to meet the needs of most people, including the poor and vulnerable
						0.5: There are funds, plans, and mechanisms to meet the needs of some poor and vulnerable people
						0: There are few or almost no funds, plans, and mechanisms to support poor and vulnerable people
<b>Operating and Sustaining</b>	<b>Regulation and Cost Recovery</b>	<b>N.3.1 Cost Recovery:</b> Can non-sewered sanitation service providers cover their full operating costs and make reasonable profits from user fees and/or local revenue or transfers?	0.5	0.5	0	1: Full operating costs are covered, and reasonable profits are generated
		0.5: Operating costs are partially covered, with minimal profits or with service quality compromised				
		0: Service providers are sub-standard or very few because operating costs cannot be covered				
		<b>N.3.2 Monitoring:</b> Are there adequately staffed institutions that monitor performance, health, and environmental standards for non-sewered sanitation?	0.5	0.5	0.5	1: There are adequately staffed institutions that monitor performance, health, and environmental standards
		0.5: There are institutions that partially monitor performance, health, and environmental standards				
		0: There is no institution that monitors performance, health, and environmental standards				
		<b>N.3.3 Enforcement:</b> Are failures to meet non-sewered sanitation performance standards systematically monitored, and are sanctions applied where relevant?	0.5	0	0	1: Performance standards exist, are monitored, and have sanctions applied
		0.5: Performance standards exist and are monitored, but no sanctions are applied				
		0: Performance standards (if they exist) are not monitored				
		<b>N.3.4 Staffing:</b> Do the institutions responsible for non-	0.5	0	0	1: The entities have sufficient qualified staff for adaptive planning of non-sewered sanitation services expansion

Pillar	Non-Sewered Sanitation Questions		Toilet, Pit, Septic Tank	Emptying and Transport	Sludge Treatment	Evidence / Scoring (for Each Stage of the Chain)
	Institutions and Service Providers	sewered sanitation have sufficient qualified staff to undertake adaptive planning and implementation for service expansion?				0.5: The entities have insufficient staff for adaptive planning of non-sewered sanitation services expansion
		<b>N.3.5 Staff Development:</b> Do the institutions responsible for non-sewered sanitation have active and gender-aware staff-development programs and incentives to retain workers?	0.5	0	0	0: The entities have inadequate staff and are unable to undertake adaptive planning for non-sewered sanitation services
		<b>N.3.6 Health and Safety:</b> Is the health and safety of non-sewered sanitation workers adequately protected and monitored?	0	0.5	0	1: The entities have staff development programs and incentives to retain workers
		<b>N.3.7 Private Sector Capacity-Building:</b> Are there ongoing programs and measures to build the capacity of private sector service providers to deliver non-sewered sanitation services?	0	0	0	0.5: The entities have either staff development programs or incentives to retain workers, but not both
						0: There are no staff development programs or incentives to retain workers
						1: The health and safety of non-sewered sanitation workers is adequately protected and monitored
						0.5: The health and safety of non-sewered sanitation workers is partly protected and monitored
						0: The health and safety of non-sewered sanitation workers is not protected or monitored
						1: Private service providers are organized, and capacity building is being implemented according to an agreed-upon plan
						0.5: Private service providers are not well organized, and limited capacity building is implemented on an ad hoc basis
				0: Private service providers are organized poorly or not at all, and no capacity building is carried out		

Pillar	Non-Sewered Sanitation Questions		Toilet, Pit, Septic Tank	Emptying and Transport	Sludge Treatment	Evidence / Scoring (for Each Stage of the Chain)
Inclusion (carried over from left)		<b>3.8 Growth:</b> Are sanitation services keeping pace with population growth?	0	0	0	1: Sanitation services are expanding significantly faster than the population, and the number of people with unsafe sanitation is decreasing
		0.5: Sanitation services are more or less keeping pace with population growth				
		0: Population is growing significantly faster than sanitation services, and the number of people with unsafe sanitation is increasing				
		<b>3.9 Planning from Evidence:</b> Are sanitation data routinely collected, including from women, poor, and vulnerable people, according to the agreed-upon definition, and are the data used for planning services?	0.5	0	0	1: Sanitation data are routinely collected citywide and used for planning services
		0.5: Sanitation data are collected on an ad hoc basis with incomplete spatial coverage or are not used for planning				
		0: Sanitation monitoring data are rarely collected				
	<b>3.10 Outcomes:</b> Do the city's sanitation systems actually provide safe sanitation services for all users, including women, poor, and vulnerable people, according to the agreed-upon definition?	0	0	0	1: Safe sanitation services are affordable and available to all users, including poor and vulnerable people	
	0.5: Safe sanitation services are available to about half of poor and vulnerable people					
	0: Safe sanitation services are not available to many poor and vulnerable people, or this is not known					
			Scores	9.5	5.5	5.5

## References

The following documents were consulted in the preparation of this report:

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