

Ethiopia Synthesis Report

Review of the Conrad N. Hilton
Foundation's Investments
in Service Delivery
Models for Rural
Water Provision



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Executive Summary

As part of its Safe Water Initiative (SWI), the Conrad N. Hilton Foundation commissioned a review of its investments in Ethiopia, Ghana, and Uganda. The review's primary aim is to investigate the relevance of the Conrad N. Hilton Foundation portfolio as well as the effectiveness and sustainability of supported service delivery models (SDMs), including community-based management (CBM), publicly owned water utilities, and private-sector approaches, such as Safe Water Enterprises (SWE). This report presents the findings of the review in Ethiopia.

Ethiopia has received USD 20.69 million, or some 22% of the total across the three countries. This has largely focused on supporting SDMs (53%) through infrastructure development and the capacity strengthening of CBM, known as WASHCOs, in the three Woredas of Dera, Farta, and N. Mecha. Other supported areas include Woreda-level system strengthening (27%), complemented by national-level advocacy activities, receiving only a small proportion of the country's SWI allocation (4%). A unique feature of the portfolio in Ethiopia is the channeling of a significant proportion of funding through a single grantee to act as an umbrella for other grantees.

Progress has been made in strengthening Woreda-level WASH systems across most of the nine building blocks in all three Woredas. However, interventions have largely focused on specific aspects that are being monitored and strengthened rather than deep-rooted issues related to public administration, fiscal decentralization, and incentives that are much harder to influence but crucial in order to service sustainability.

All SDMs are found to face significant challenges in providing reliable, continuous, and safe water services with minor variations that are linked to systemic bottlenecks spanning all dimensions of sustainable service provision.

Although the water sector in Ethiopia is not undergoing an active reform process, the GoE is encouraging a series of more tactical shifts, including solarization of infrastructure, multi-village piped water supply managed by

public rural water utilities, and the constitution of Water Users Associations (WUAs). In addition, the government is no longer explicitly promoting low-cost technologies and self-supply, none of which are prominent features of the main Sustainable WASH program.

Looking forward, key priorities for the Conrad N. Hilton Foundation portfolio in Ethiopia could include:

- Evolving the portfolio to ensure greater alignment with key provisions of the third phase of the One WASH National Program (OWNP) under development, particularly in prioritizing multi-village piped schemes, solar-powered technologies and supporting the professionalization of Rural Piped Water Utilities (RPWUs).
- Encouraging grantees to assess the systemic bottlenecks for safe and sustainable service delivery and position themselves accordingly, while prioritizing service delivery quality.
- Being clearer on innovative approaches and putting a greater emphasis on gathering robust evidence, developing strategies for dissemination, influencing sector-level uptake through the OWNPN, and, ultimately, replication (e.g., the Woreda-wide approach).
- Re-assessing the hub functions (e.g., project management, learning, influencing) and revisiting the allocation of roles across grantees to leverage institutional strengths more effectively.
- Zooming out from the Woreda focus to address deep-rooted and systemic issues at regional and national levels, particularly around fiscal decentralization and water resource management.
- Identifying and funding additional grantees with the ability to address systemic challenges and bottlenecks at the national and regional levels.
- Ensuring that collective action is established in program design from the outset will require an explicit articulation of a common strategy to achieve a specific sector-level change.

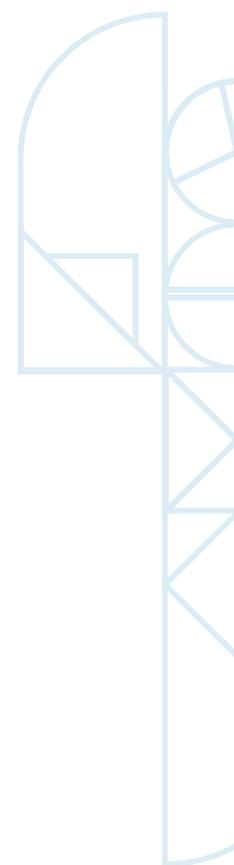
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Acronyms

CapEx	Capital Expenditure	SWP	Sustainable Water, Sanitation, and Hygiene Program
CapManEx	Capital Maintenance Expenditure	SWS	Safe Water Systems
CBM	Community-Based Management	TTC	Thermotolerant Coliform
CCM	Clean Clinic Model	WASHCO	Water, Sanitation and Hygiene Committee
CIFF	Children's Investment Fund Foundation	WHO	World Health Organization
CNHF	Conrad N. Hilton Foundation	WINS	WASH in Schools
CRS	Catholic Relief Services	WISE	Water in Schools for Everyone
ETB	Ethiopian Birr	WRI	World Resources Institute
FIETS	Financial, Institutional, Environmental, Technological, Social	WUA	Water Users Association
GoE	Government of Ethiopia		
IWRM	Integrated Water Resources Management		
KII	Key informant interview		
LSHTM	London School of Hygiene & Tropical Medicine		
MEL	Monitoring, Evaluation, and Learning		
MFI	Microfinance institution		
MWA	Millennium Water Alliance		
NTU	Nephelometric Turbidity Unit		
O&M	Operation and Maintenance		
OpEx	Operational Expenditure		
OWNP	One WASH National Program		
RPWU	Rural Piped Water Utility		
SDG	Sustainable Development Goal		
SDM	Service Delivery Model		
SWE	Safe Water Enterprises		
SWI	Safe Water Initiative		



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1. Introduction



The Conrad N. Hilton Foundation funds the Safe Water Initiative (SWI) to ensure reliable and safe water for one million people in low-income households, health facilities, and schools in sub-Saharan Africa. As part of the SWI's five-year strategic plan, the Conrad N. Hilton Foundation commissioned a review of its portfolio investments in the target geographies of Ethiopia, Ghana, and Uganda. The review's primary aim is to investigate the relevance of the Conrad N. Hilton Foundation portfolio as well as the effectiveness and sustainability of supported service delivery models (SDMs), including community-based management (CBM), publicly owned water utilities, and private-sector approaches, such as Safe Water Enterprises (SWE) since 2019.

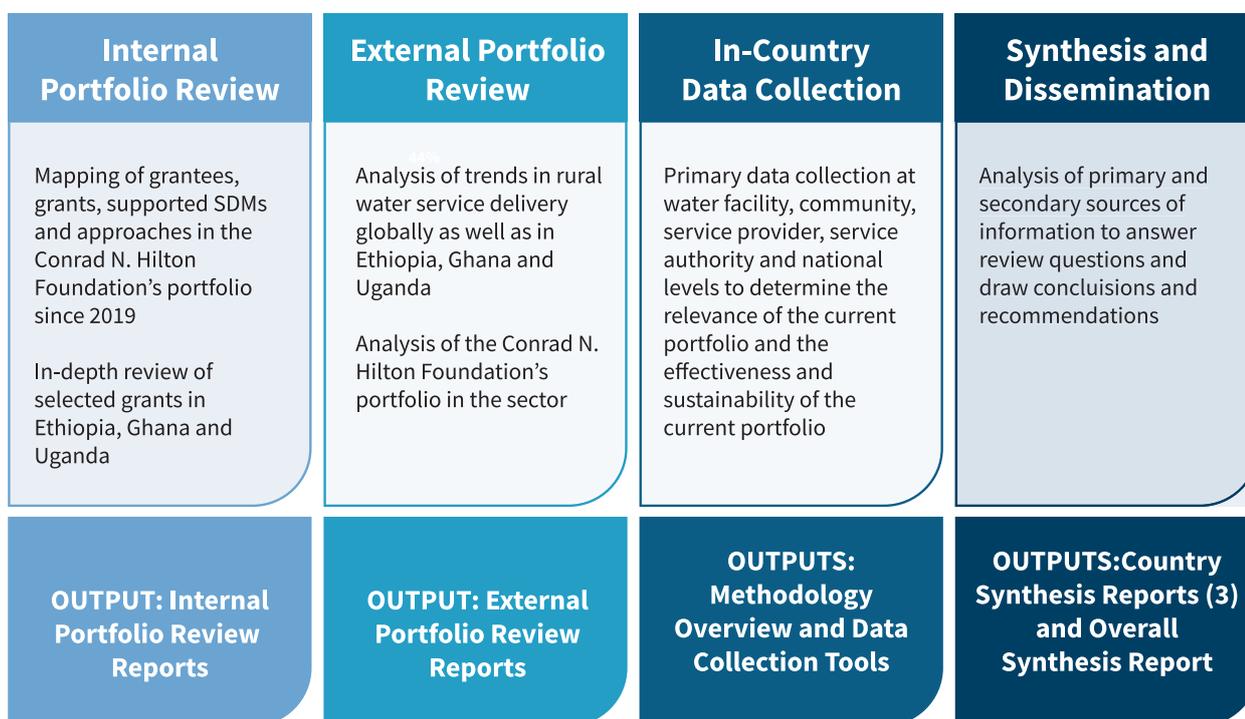
The review was conducted in four steps (see [Figure 1](#)). The internal portfolio review mapped and categorized the grants under the SWI in the three countries (Step 1) and was followed by an external review, which identified trends in rural water service delivery globally and in Ethiopia, Ghana, and Uganda (Step 2). Primary data was subsequently collected in all three countries to further determine the relevance of the portfolio in each target district and the effectiveness and sustainability of supported SDMs (Step 3). Findings from each of these steps were analyzed to answer the overarching review questions and draw conclusions and recommendations (Step 4).

The report presents the findings of the review in Ethiopia and is structured as follows:

- [Section 2](#) presents the methodology followed to answer the review questions.
- [Section 3](#) provides an overview of Ethiopia's water sector and, within this context, the Conrad N. Hilton Foundation's portfolio of grants.
- [Section 4](#) summarizes the review findings about the portfolio's relevance to the context and the effectiveness and sustainability of supported SDMs.
- [Section 5](#) highlights key conclusions emerging from the analysis.
- [Section 6](#) contains recommendations for the Conrad N. Hilton Foundation to strengthen the relevance, effectiveness, and sustainability of its portfolio in Ethiopia.

[Annex 1](#) contains the full review matrix, while [Annex 2](#) presents the grants included and excluded from the review, [Annex 3](#) presents the list of stakeholders interviewed, and [Annex 4](#) includes examples of replication. Similar reports are available for Ghana and Uganda, and a global synthesis report has also been produced.

Figure 1: Key Review Steps and Deliverables



2. Methodology



The review focused on assessing the relevance of the overall portfolio in strengthening district WASH systems and supporting the delivery of effective and sustainable services through capacity building of service providers and system strengthening of district-wide institutional support. Accordingly, the review did not focus on analyzing the effectiveness of individual grants or grantees but determined the strengths and weaknesses of collective efforts across the portfolio in Ethiopia. See Annex 2 for an overview of the grants included in the portfolio review.

The methodology reflects the Conrad N. Hilton Foundation's vision, articulated in its [Strategy 25](#), accounting for the reality of SDMs in the three countries and the scope of the current portfolio. Specifically, the methodology was developed around the broader SWI approach using the district as the predominant unit of scale, its commitment to seven target districts, and recognition of the need to strengthen WASH systems and the importance of strong partnerships with national and sub-national government, grantees, collaborators, and communities to achieve SDG 6.1. At the same time, the methodology accounts for the fact that some of the SDMs, for example, public utilities in Ghana and Uganda, operate at a larger scale than individual districts. It also accounts for indirect support provided to SDMs not currently present in the target districts, but which are important for rural water service provision at scale (i.e., Area Service Providers in Uganda).

Annex 1 provides the comprehensive review matrix and overarching framework for conducting the assessment; further details on the methodology are available

in an internal methodology overview note. The review matrix comprises nine review questions and 35 sub-questions, focused on three strategic questions that relate to relevance, effectiveness, and sustainability:

- **Strategic question 1: Have the Conrad N. Hilton Foundation's investments been relevant to the challenges of delivering rural water services in the target districts and countries?** This question analyzed the relevance of the portfolio to strengthen district-wide systems by determining whether these are targeting key gaps, have been designed and managed according to the principles of collective action, and are being replicated in other non-target districts.¹
- **Strategic question 2: To what extent are SDMs supported by the Conrad N. Hilton Foundation delivering safe water services?** This question focused on the effectiveness of rural water services in terms of their functionality, reliability, seasonality, water quality, accessibility, affordability, and inclusivity across all SDMs.

¹ Replication was conceptualized in four broad, often overlapping and not always linear steps: (i) initial grantee-led piloting of interventions; (ii) grantee-led replication through intervention uptake by other grantees or leveraging external funding for replication in other districts; (iii) comparatively ad-hoc government-led replication; and (iv) the final step of government uptake and promotion in sector documents (i.e., plans, policies, strategies, legal instruments) and roll-out at scale (either directly through government programs or indirectly through other actors such as the private sectors).

- **Strategic question 3: Are SDMs supported by the Conrad N. Hilton Foundation sustainable?** This question aimed at determining the likely sustainability of various SDMs, taking into account financial viability, the performance of key technical functions, the existence of sufficient institutional capacity at the service provider and service authority² levels to fulfill key functions, water resource management, and accountability measures.³

To answer these questions, multiple sources of primary and secondary data were used. All available documentation was reviewed and complemented by Key Informant Interviews (KIIs) at grantee HQ level, national, sub-national, and service provider levels, as well as community transect walks and direct water facility inspections.

An SDM-specific sampling approach was adopted that focused on water supply facilities within target districts to assess effectiveness and sustainability. Table 1 provides an overview of sampled water supply facilities visited as part of primary data collection. Due to the significant number of water facilities operating under CBM management, purposive random sampling was conducted, and the review was limited to facilities directly supported by the Conrad N. Hilton Foundation. In Ethiopia, three SDMs were analyzed: Community-Managed water points (Water and Sanitation Hygiene Committees or WASHCOs), Community-managed piped schemes (Water Users' Associations or WUAs), and utility-managed piped water schemes (Rural Piped Water Utility or RPWU).

Conducting the fieldwork in Ethiopia brought its own set of challenges. The main difficulties stemmed from regional insecurity in Amhara, challenging weather patterns,

SDMs are defined as a combination of infrastructure (either a water point fitted with handpump or piped water facilities to either individual households or standpipes) and the management arrangement required to ensure and deliver safe and affordable water services for users, which combines a service provider, a service authority, and the associated regulatory mechanisms at the national level.

and poor road infrastructure. As a result, five facilities in Farta and three in Dera that were pre-selected became inaccessible. A contingency-driven approach was then employed, leading to adjustments in the chosen facilities to align with the situation on the ground. Towards the end of data collection, the security situation became progressively more unstable, preventing an increase in the sample size. The final water facility sample in Ethiopia is presented in **Table 1**.

Table 2 provides a detailed overview of selected water facilities detailing the water source (either groundwater or spring supply), energy source (motorized, solar, or manual), and the age of the infrastructure (either less than five years or between five and ten years) for each SDM. Both WUA and RPWU manage piped water schemes, yet while WUAs oversee solar-powered schemes aged under five years old and that use both groundwater and spring sources, RPWUs mostly oversee motorized systems drawing from groundwater, with the majority of their infrastructure aged between five and ten years. WASHCOs operate 16 manual hand pumps, all constructed or renovated in the last five years.

On that basis, 20 KIIs were conducted with service providers, 27 transect walks were carried out in communities, and three Woreda

2 In Ethiopia, the service authority functions are carried out by Woreda Water and Energy Offices.

3 Sustainability, relating to water management, was encapsulated by using the framework denoted as «FIETS» (Financial, Institutional, Environmental, Technical, and Social). A multi-tiered approach was also used that recognizes the inter-connectedness between three pivotal levels: the water facility itself, the service provider overseeing its operations, and the governing authority responsible for regulation. The sustainability findings are presented accordingly.



interviews (involving 18 Woreda staff members) and three Amhara regional interviews (involving eight staff members) were conducted, as well as interviews with three representatives from the Ministry of Water and Energy. The complete list of interviewees is presented in Annex 3.

Table 1: Overview of water facilities sampled per target Woreda

Target district	Community-based Management		Rural public utilities-managed piped schemes ⁴
	WASHCO-managed water point	WUA-managed piped water facility ⁵	
Dera	6 (supported by the Conrad N. Hilton Foundation)		2 (one supported by the Conrad N. Hilton Foundation: Korata Rural Water Supply System)
Farta	10 (supported by the Conrad N. Hilton Foundation)	1 (supported by the Conrad N. Hilton Foundation)	
N. Mecha		2 (supported by the Conrad N. Hilton Foundation)	2 (not supported by the Conrad N. Hilton Foundation)

Table 2: Description of facilities in Ethiopia

		Utility		CBM
		RPWU	WUA	WASHCOs
Technology used	Piped water schemes			
	Hand pumps			16
Water source	Groundwater	2	2	16
	Spring	2	1	
Energy source	Motorized	3		
	Solar	1	3	
	Manual			16
Age of infrastructure	Less than 5 years	2	3	16
	5-10 years	2		

4 Given that the Conrad N. Hilton Foundation supports just one RPWU, surveying this single facility might not yield significant findings. Consequently, we surveyed all public utilities in the three Woredas.

5 It is important to note that the selection was based on the list MWA shared with us earlier in 2023, and at that time, the WUA facilities supported by the Conrad N. Hilton Foundation were managing piped water schemes only. Since the project has not yet ended and the legalization process of WASHCOs is ongoing, we expect the number of WUAs has increased.

3. Country Context and Portfolio Overview



3.1. Socio-Economic Context

Over the past three decades, Ethiopia has undergone significant constitutional reforms and adopted ambitious development plans to reduce poverty. These efforts have been followed by remarkable development progress, sustained economic growth (averaging 9.5% per year), rapid poverty decline, and the achievement of most of its Millennium Development Goals (MDGs) in 2015. These trends have translated into improvements in material conditions, including an increase in access to safe water and a reduction in under-five mortality rates (Federal Democratic Republic of Ethiopia, 2016; World Bank, 2020). Nonetheless, the country remains one of the poorest in the world, with a Gross Domestic Product per capita of USD 1,027 (World Bank, 2022).⁶ It faces considerable human development challenges and modest gains compared to other countries with similar rates of economic growth.

3.2. Rural Water Supply Management in Ethiopia

Ethiopia has made progress in extending water services over the last decades, but significant challenges remain to achieve ambitious national targets toward universal coverage by 2030.⁷ In addition to increasing

access, challenges include reducing disparities between rural and urban populations, keeping up with demographic growth, extending piped water services, and addressing issues related to low functionality and the poor financial viability of services. According to the Joint Monitoring Program, only 51% of Ethiopians overall and 42% of Ethiopians living in rural areas had access to “at least basic” water supply services in 2022. These proportions represent significant improvements since 2000, but the country remains below East African averages in terms of access to “at least basic” services and piped water services, particularly in rural areas.

Although a wide range of technologies are used to provide rural water services, the rural population in Ethiopia is predominantly served through a combination of unprotected hand-dug wells using rudimentary lifting devices, hand-dug wells fitted with hand pumps, protected springs, and drilled boreholes equipped with hand pumps (India Mark II or Afridev). A smaller proportion of the rural population (32% in 2022) is served through single or multiple village piped water schemes. Strategic government directives recommend wider use of solar-powered pumping, the expansion of piped water supplies, and the adoption of more advanced infrastructure, such as deep wells and multi-village piped water supplies, as a response to the growing impact of climate change (WHO, 2017).

The Government of Ethiopia (GoE) formally recognizes four SDMs for rural water services,

⁶ GDP per capita (current USD, 2022)

⁷ National targets include improvements in service delivery, which include aspects of climate resilience, WASH in institutions, and higher functionality rates. In rural areas, the main goal is to increase coverage by 25% with a minimum of 25l/person/day within 1 kilometer, including through 50% piped water schemes (GoE, Growth Transformation Plans II and III).



which combine project funding, project implementation, and management modalities (FDRE, 2011). These include conventional forms of community-managed water supply, whereby Woreda-led projects are “handed over” to Water and Sanitation Committees (WASHCOs) or Water Users Associations (WUAs), who are responsible for Operation and Maintenance (O&M); ii) communities supported by Micro-Finance Institutions to build and manage their schemes under the Woreda Water and Energy Offices’ supervision; iii) Non-governmental Organization (NGO) projects with a handover of service management to WASHCOs, and iv) Self-supply, which includes group-led self-supply, similar to the common form of community water supply but with higher community capital contributions, smaller schemes, and less formalized arrangements and household-led self-supply (FDRE, 2011).

Beyond project and funding modalities, rural water services are practically managed under three types of arrangements:

i. Community-based management, via WASHCOs or WUAs, has been promoted in all sector policies and O&M frameworks as a guiding principle of rural water management since 1994 and is still given priority in all regional proclamations. WASHCOs or WUAs are estimated to manage 200,000 water schemes⁸ and are mainly found in highly dispersed rural areas. As in other parts of the world, WASHCO and WUA management has historically been associated with community involvement and ownership as well as overall poor levels of service delivery (high levels of non-functionality, poor water quality, and limited financial viability affecting regular preventive or major maintenance).

ii. Rural public utility provision has been recognized since 2017 as a complementary management arrangement in response to the growing number of larger and more complex multi-village piped schemes and the need to professionalize rural water management. Rural public utility provision has been included as part of the One WASH National Program (OWNP) and is encouraged and strengthened by the GoE through technical support and upgrading WASHCOs/WUAs to rural public utilities. Currently, 80 main rural public utilities in the country serve populations between 1,000 and 100,000. Although this arrangement faces considerable challenges in terms of tariff collection and mobilization of skilled staff, it is associated with a higher level of formalization and capacity to fulfill key functions.

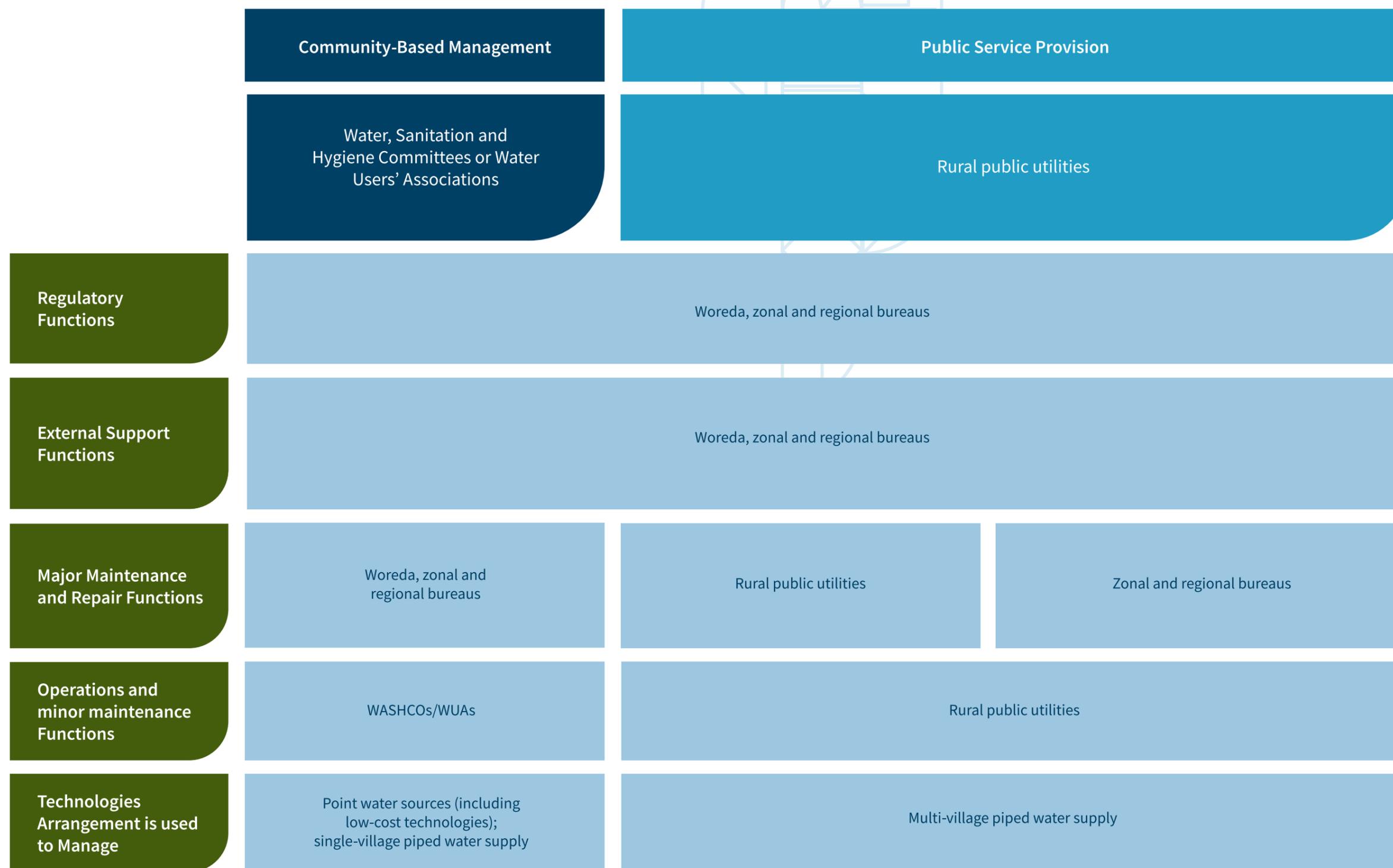
iii. Although GoE recognizes the challenge of regulating the provision of safe water services through self-supply and no longer actively promotes this arrangement,⁹ **household-led self-supply** remains a very common approach in rural areas.

The latest sector O&M framework set out in 2018 confirms this combination of approaches, centered on supported community-based ownership and management and complemented by the public-utility provision (MWIE, 2018). It also acknowledges the need for greater private sector involvement through spare part supply and service provision via structured Public-Private Partnerships. Figure 2 provides a schematic overview of Ethiopia’s rural water service management arrangements, detailing the actors responsible for regulatory and external support, major maintenance and repair, and day-to-day management functions under each arrangement.

8 Interview with the Ministry of Water and Energy, February 2023.

9 Between 2008 and 2014, self-supply was embedded into national programs as a complementary financing and management approach to achieving sector targets for rural water provision. Guidelines, programs, and manuals developed over that period translated GoE’s vision to stimulate and coordinate the adoption of Self-Supply, largely through GLSS under CBM (MWIE, 2012; MWIE, 2014; OWNP, 2019).

Figure 2: Overview of Rural Water Supply Management Arrangements in Ethiopia



Rural water service provision in Ethiopia has not been characterized by widespread innovations.

The formal recognition and push for self-supply in sector programming and the sector-wide coordinated funding and programming under the OWNPN have made Ethiopia a relatively innovative country for rural water supply over the last decade. However, with self-supply no longer encouraged by GoE and the limited progress made in testing innovative arrangements for rural water management at scale, Ethiopia is no longer ahead of the curve in terms of rural water supply. Nonetheless, a number of innovations have been tested over recent years in different regions of the country to strengthen support for WASHCOs and the broader enabling environment for service provision, which are presented below (Lockwood, 2019):

- iv. Under Community-Managed Projects, WASHCOs receive funding from the government and donors via local MFIs to construct and manage water services in exchange for 10% cash and in-kind community contribution. This has been seen as a positive approach to developing community-level managerial and technical skills, leading to higher levels of functionality.
- v. Tigray was the first region to have established water technicians in place at the kebele level in addition to the conventional Woreda Water and Energy Office. Following a first phase where technicians were responsible for a cluster of four kebeles, the regional government recruited technicians in all kebeles, accountable to the Woreda Water and Energy Office.
- vi. The Private Local Service Model was piloted as part of the OWNPN to complement the “base layer” of the kebele level water technicians by involving small private businesses in the provision of goods and services. It is seen as an important innovation by GoE for addressing the challenge of spare part supply chains.

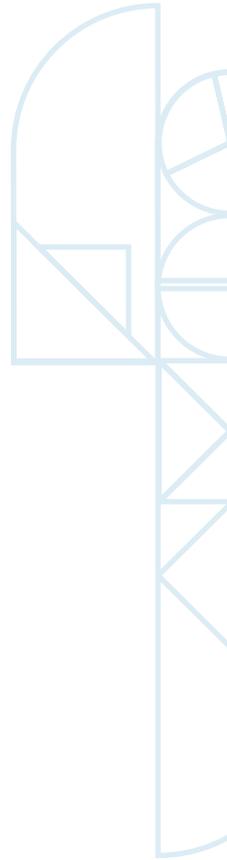
- vii. The Wahis Mai model has been piloted since 2013 in Tigray to increase functionality, reduce downtime, and inform program improvements through remote sensors, regular data collection, and a “rapid response” technical maintenance team.
- viii. Sharing water sources across rural and town areas and outsourcing rural hand-pump maintenance services to town utilities around Harar and Gobesa.

In addition, progress has been made to address the WASH financing environment. Microfinance institutions, or MFIs, have started to provide micro-loans to small and medium-sized enterprises to engage in spare parts supply and provide water supply operations and maintenance services (e.g., in the central Gondar zone in Amhara region and the rift-valley areas of Oromia region). At the Federal level, the WASH Financing Working Group is currently working on the development of a WASH financing strategy, which will identify alternative options, such as micro-loan services to community-based organizations, public rural utilities, and small and micro-enterprises involved in O&M activities.

3.3. Conrad N. Hilton Foundation’s Portfolio Overview

Of the total USD 91.9 million funding under the Safe Water Initiative since 2019, 80% was allocated to the three core countries, with Ghana receiving the most (USD 34.09 million), followed by Ethiopia (USD 20.69 million) and Uganda (USD 17.26 million). Within each country, grants were classified into one of three groups:

- i. **Support to SDMs.** The main objective of these grants is to support and improve rural water service delivery models.
- ii. **Strengthening of WASH Systems.** The primary objective of these grants is to improve the enabling environment and



elements of the WASH system, with the principal objective of achieving district-level improvements.

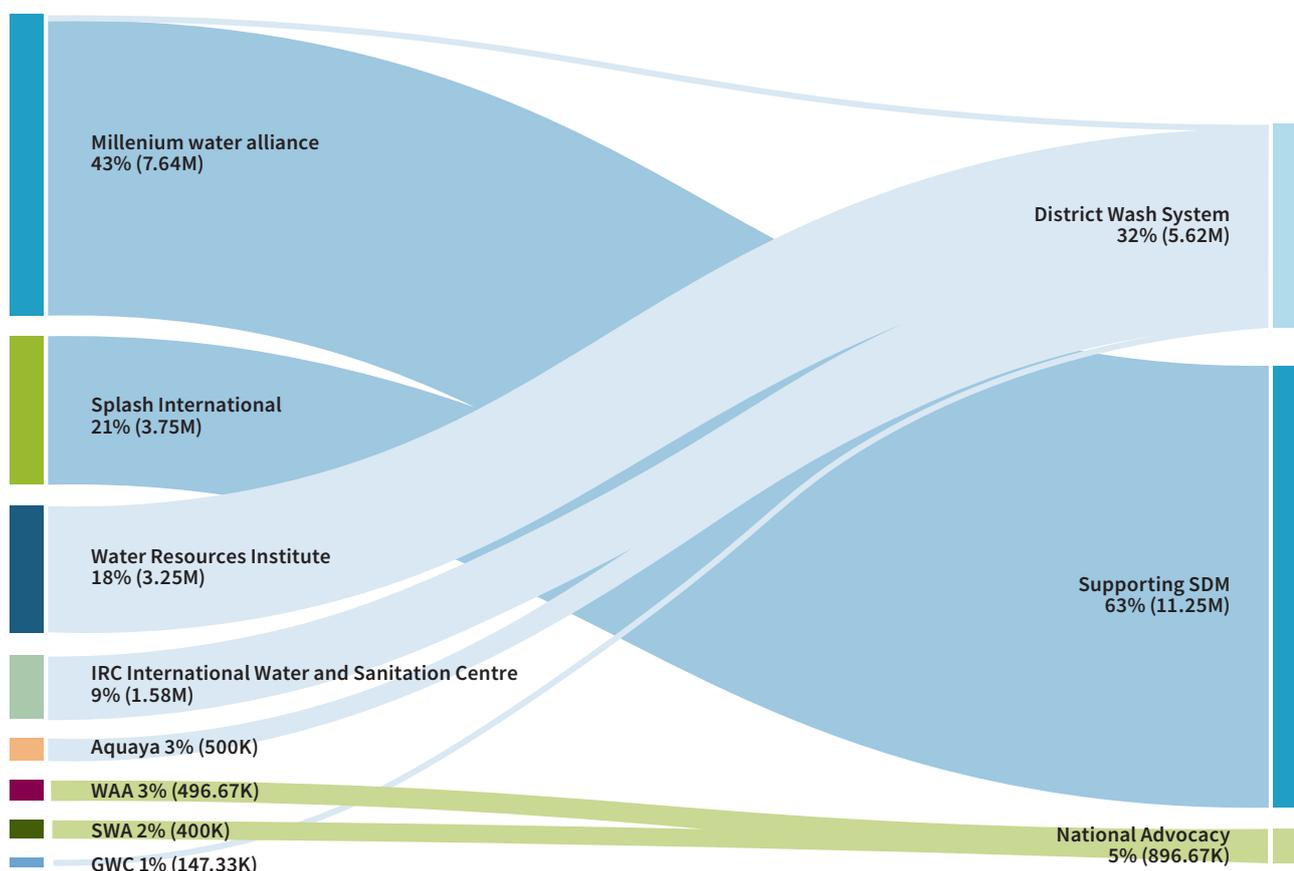
- iii. **National-Level Advocacy.** This classification of grants aims to mobilize political will, strengthen stakeholder coordination and communication, and increase accountability at the national level.

In Ethiopia, the Conrad N. Hilton Foundation focuses on three target Woredas: Dera, Farta, and North Mecha. The three target Woredas (out of 105) in the Amhara region have comparable population sizes of around 300,000 people and are predominantly rural and highly agrarian. Like many other Woredas in Ethiopia, Dera, Farta, and North Mecha grapple with numerous challenges, ranging from economic hardship and household poverty to political unrest and ethnic tensions, as well as prolonged droughts and dry spells. These Woredas were selected by the Conrad

N. Hilton Foundation based on pre-existing networks and expertise of the Millennium Water Alliance (MWA) and its partners. This approach aimed to leverage the established networks, local expertise, and relationships that partners had previously developed in these Woredas.

The Conrad N. Hilton Foundation support in Ethiopia has principally focused on support to SDMs. An allocation of USD 11.3 million was made for direct support to SDMs, encompassing both infrastructure development and capacity strengthening of WASHCos across all Woredas and a rural public utility in Dera. Furthermore, USD 5.6 million was allocated to strengthening the WASH system at the district level across several thematic areas, including water resource management, general institutional strengthening, coordination improvement, facilitation of collective action, and water quality monitoring. Additionally, USD 897,000 was allocated for national-level advocacy; see **Figure 3** below.

Figure 3: Funding Allocated per Focus Area in Ethiopia



In Ethiopia, the Conrad N. Hilton Foundation primarily channels its grants through MWA, accounting for 42% of the total reviewed country funding to implement the Sustainable WASH Program (SWP) in all three Woredas.¹⁰ MWA then distributes these resources to six partners (e.g., CARE, Catholic Relief Services (CRS), Food for the Hungry, IRC, WaterAid and World Vision) with distinct roles and responsibilities across Woredas and thematic areas (see Figure 4). Specifically, CARE is the thematic lead for governance and capacity building and is the Woreda lead for Farta. Catholic Relief Services serves as the thematic lead for WASH in healthcare facilities. WaterAid acts as the thematic lead for WASH in Schools and the Woreda lead for North Mecha. Concurrently, World Vision is the Woreda lead for Dera (refer to Table 3 for additional details). Through these grants, MWA and its partners aimed to enhance the sustainability and effectiveness of water services. The focus shifted from water infrastructure investments only to supporting continuous monitoring and institutional development for service authorities and providers while ensuring water quality and safety at consumption points. They developed a comprehensive, district-wide program designed not only to strengthen the infrastructure but also the foundational elements of the water system. MWA aimed to collect and document evidence from these initiatives, with the aspiration of using this successful model as a potential blueprint for replication across various Ethiopian regions and Woredas, thereby leveraging its impact.

The Conrad N. Hilton Foundation has also shown its commitment to water resource management by granting USD 5 million to the World Resources Institute (WRI). The WRI aimed to support the conservation of watershed services and encourage balanced water resource initiatives in the target Woredas. The grant also intended to foster collaboration between WASH and Integrated Water Resources Management (IWRM) through strategic alliances.

Splash received support to enhance WASH in schools in Ethiopia via the USD 2 million WASH in Schools Model for the Amhara program. While their current interventions are not primarily focused on the target Woredas, the intention was to adapt the WASH in schools model to rural areas and replicate their success in the target Woredas.

Furthermore, Ethiopia benefited from several cross-country grants. Notable examples include Aquaya's research on water quality, regional monitoring efforts from IRC, PATH's pilot studies of the chlorine SatisStation technology, and the advocacy efforts of the Sanitation and Water for All and WaterAid grants. However, these initiatives did not offer direct support at the district level.

¹⁰ In the case of Ethiopia, a significant amount of Conrad N. Hilton Foundation funding is channeled via a program of MWA entitled the Sustainable WASH Project; see: <https://mwawater.org/the-sustainable-wash-program-of-the-millennium-water-alliance-2019-2024/>

Figure 4: Overview of Grantees in the Target Woredas in Ethiopia, Under the Safe Water Initiative

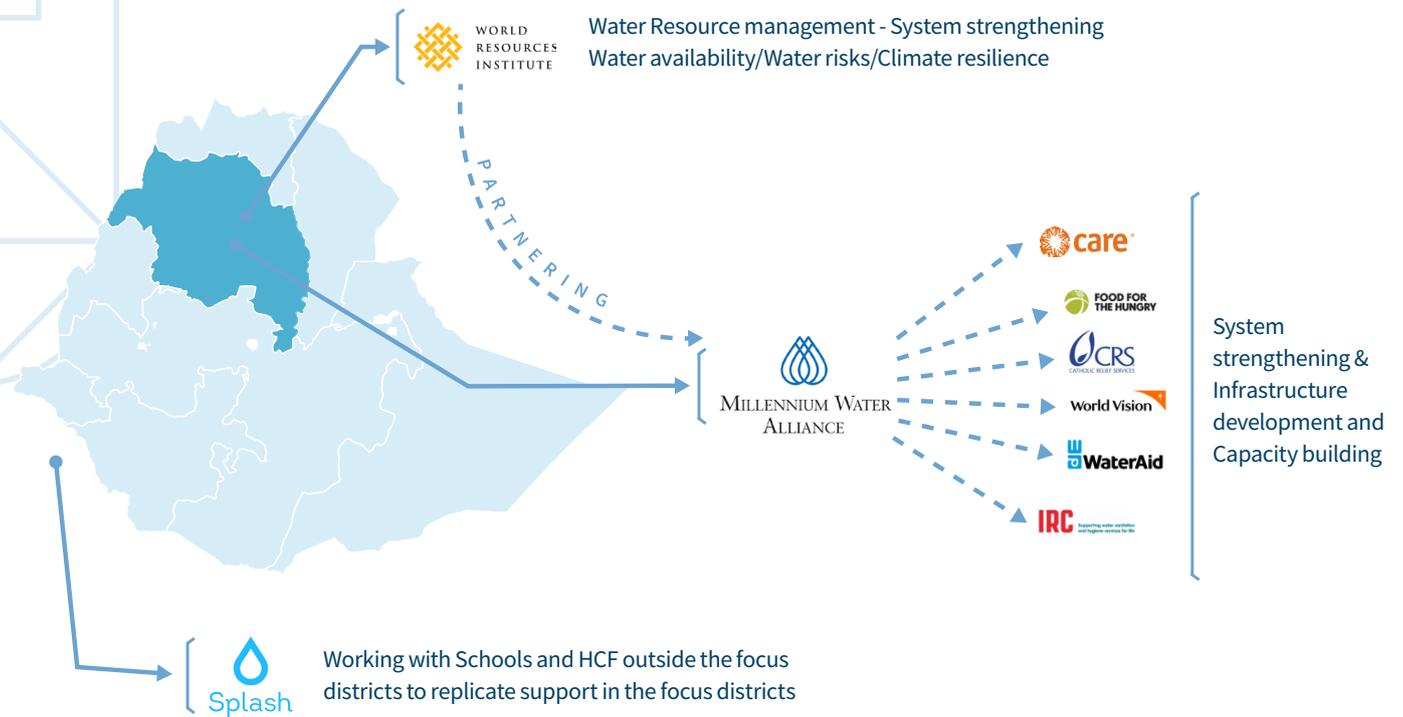


Table 3: Overview of Grantees' Roles Across the Target Woredas

	Dera	Farta	N. Mecha
Woreda-lead	World Vision	Care	WaterAid
Community-level water supply	World Vision: construction of new infrastructure (solar-powered motorized piped scheme and manual water pumps) Food for the Hungry: repair and extension of existing water infrastructure (manual water pumps and gravity-fed piped schemes)	Care: construction of new infrastructure (manual water pumps and motorized piped schemes) and repair and extension of existing water infrastructure (manual water pumps and gravity-fed piped schemes)	WaterAid: infrastructure construction, rehabilitation, and extension (solar-powered motorized piped scheme) Catholic Relief Services (CRS): infrastructure construction, rehabilitation, and extension (solar-powered motorized piped scheme)
Healthcare water supply	World Vision: capacity development for WASH in schools and healthcare facilities (manual water pumps and solar-powered motorized piped scheme)	WaterAid: construction of water infrastructure (motorized piped schemes, and solar-powered motorized piped schemes)	CRS: repair and extension of existing water infrastructure (motorized piped schemes and solar-powered motorized piped scheme)
Schools water supply	Food for the Hungry: construction, repairs, and extension of water infrastructure (manual water pumps) Splash: implementation of the WASH in school initiative.	Care: construction of water infrastructure (manual water pump) and repair and extension of existing water infrastructure (manual pumps and motorized water points)	WaterAid: construction of water infrastructure (motorized piped schemes)
Government-led monitoring and financial tracking		IRC	
Hub-lead		Millennium Water Alliance	
Thematic lead for WASH in schools		WaterAid	
Thematic lead for WASH in healthcare facilities		Catholic Relief Services	
Thematic lead for governance and capacity building		Care	
Improvement in watershed management		Water Resource Institute	

4. Review Findings



This section of the report focuses on the relevance of the Conrad N. Hilton Foundation portfolio in Ethiopia and the effectiveness and sustainability of supported SDMs. When reviewing the findings presented against each of these dimensions, and especially those concerning effectiveness and sustainability, the following key contextual considerations are required:

- The analysis encompasses three specific SDMs: i) WASCHOs managing water points, ii) WUAs managing piped schemes, and iii) RPWUs managing piped schemes.
- Facilities managed under RPWU direct provision are older than those managed under WASHCOs and WUA direct provision.
- Only one RPWU facility was supported by the Conrad N. Hilton Foundation.

4.1. Are Interventions Relevant to the Context?

- Interventions have been designed based on rigorous assessments and are relevant to the Woreda context, but efforts have focused on improvements to symptomatic aspects of system failure rather than deeper governance and financial issues that extend beyond the boundaries of the Woredas.
- The centrally- managed program has enabled harmonized approaches to program design, as well as coordinated implementation. However, the learning and influencing functions of the hub have not been so clearly articulated and, therefore, less effective at a strategic level.
- This setup has ensured alignment with broader trends and the trajectory of the sector in Ethiopia and program design based on complementarities among grantees. However, it has not been based on a strategic approach to rural water service management or designed to tackle deep-rooted issues of governance, financing, and water resource management.
- Several interventions are being replicated by grantees and the government. However, the current program does not include a clear pathway to evidence-based learning and strategic influencing for at-scale replication.

4.1.1. Are Interventions Addressing Key District Gaps?

The “bridge program” has provided a strong basis for designing a program relevant to the Woreda context. The Conrad N. Hilton Foundation allocated USD 1.5 million over 2017-2019 to strengthen the existing partnerships and design a five-year program and Monitoring, Evaluation, and Learning (MEL) framework based on thorough and collaborative assessments under the “bridge program.” Over that period, MWA coordinated ten in-depth assessments of the “WASH system” in each target Woreda,¹¹ under the leadership of selected grantees with experience working in Amhara and in consultation with the Woreda WASH team and local private sector stakeholders. However, despite the significant drought risk in Ethiopia and the three target Woredas, no climate resilience assessment was carried out as part of the bridge program. Results of these assessments were used to develop the building block baselines and inform the updating or development of ten-year Woreda-wide WASH strategic and costed plans and the design of the SWP. Three additional building block assessments were carried out in 2020, 2022, and 2023, respectively, to track progress in the WASH system against key indicators, under the guidance of IRC. Scores are presented per building block and year for each Woreda in [Figure 5](#).

Over 2018-2023, WASH systems have been successfully strengthened across all Woredas. While none of the building blocks were scored “strong,” and four were scored “very weak” in 2018, by 2023, only one building block was scored “very weak,” and eight were scored at least “strong.” Significant improvements to the legislative and policy framework in Dera and N. Mecha and learning and adaptation mechanisms in Farta are noteworthy (see [Box 1](#) below). However, the finance and water

resource management building blocks only reached a “moderate” level in Dera and Farta in 2023. Moreover, the finance building block declined from “moderate” to “very weak” in N. Mecha over the period, reflecting the very limited government Capital Expenditure (CapEx) budget allocation and disbursement and the lack of formal guidelines for WASHCO tariff setting (which extends well beyond programmatic boundaries). System strengthening activities under the SWP were identified based on the 2018 building block baseline, and the subsequent prioritization process was conducted with the Woreda WASH team. This process ensured a deliberate focus on systemic weaknesses affecting service delivery and a high level of relevance to the Woreda contexts. Interventions largely focused on strengthening the institutional, legislation, and policy frameworks, as well as planning, infrastructure development, infrastructure management, and monitoring, all of which were considered priorities.

Although relevant to the Woreda context, interventions did not always tackle deep-rooted, systemic challenges. Interventions aligned with the indicators of the building block assessment methodology and, as such, contributed to strengthening various areas tracked as part of the building block assessment. However, the critical building blocks of finance and water resource management were not prioritized within the SWP, and deep-rooted issues were not necessarily diagnosed and tackled. This can be explained by the challenging nature of these cross-cutting building blocks and a tendency to focus on the symptoms rather than the underlying causes or areas of weakness (e.g., public administration, incentives, and behaviors), which are much harder to understand and engage with at higher levels of the system, e.g., regional and national levels (see example in [Box 1](#)).

11 The assessments included the following: asset management, life cycle cost analysis, rapid water resource assessment, monitoring assessment, network analysis, political economy analysis, private sector assessment, service delivery equity analysis, sustainability check, WASH in healthcare facilities, and asset inventory.

Figure 5: Overview of Scores Across the Building Blocks in Dera, Farta, and N. Mecha Between 2018 and 2023¹²

Building Block	Dera		Farta		N. Mecha	
	2018	2023	2018	2023	2018	2023
Institutional	2.5	4	2.5	3.8	2.5	2.6
Legislation and Policy	1.3	4	1.7	3.3	1	2.7
Finance	2.6	2.6	2	2.8	2.6	1
Planning	2.8	4.6	2.2	4.2	2.6	3.2
Infrastructure development	3	3.3	2.7	3.3	3.3	4
Infrastructure management	3	3.8	2.8	3.3	3.3	3.6
Monitoring	2.8	2.8	2.3	3.3	2.3	3.5
Regulation	1.5	2.8	1.5	3	1.3	2.8
Learning and adaption	1.4	4	1	3.8	1	2.3
Water resource management	1.4	1.8	1	2	1.6	2.2

Strength

Very Weak	Weak	Moderate	Strong	Very Strong
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Box 1: Evolution of the “Legislation and policy” Building Block Between 2018 and 2023.

In 2018, the legal framework articulating mechanisms for WASHCOs and Woredas to interact was largely absent across all Woredas, leading to a “weak” score allocation. The vast majority of WASHCOs had not written their bylaws, the requirements of the regional proclamation on WASHCOs were not understood by Woredas, and WASHCOs and WUAs had not developed water safety plans. In 2023, most WASHCOs had been trained on their roles and adopted bylaws. Over that period, the Safe Water Systems (SWS) program trained WASHCOs and Woredas on their roles and responsibilities and supported the regional WASHCO legalization process.

Despite these improvements, challenges remain across all Woredas. Due to an insufficient budget allocation, zonal offices were not able to conduct training on WASHCO legalizations across all Woredas, which has resulted in an inconsistent process (e.g., different construction requirements applied for soak-away pits, cut-off drains, and drainage). In Farta, confusion remains around the process of establishing WUAs or rural public utilities for single village schemes. There is a limited understanding of bylaws, proclamations, and regulations among WASHCOs and a limited follow-up on the enforcement of by-laws by the Woreda and zonal office. In N. Mecha, regional proclamations and guidelines are not available at the Woreda level, leading to gaps in regulatory knowledge and practice.

¹² The building block assessment exercise in Ethiopia was done by grantees and used as secondary source of data unlike the case of Ghana and Uganda where the assessment was done as part of this review. As a result, the presentation of information and color coding used varies in this report.

Other issues mentioned by Woredas during the interviews were not specifically tracked in the building block assessments and tackled in the Sustainable WASH program. For example, Dera and N. Mecha Woreda representatives stressed the recurring difficulty of monitoring and supervising large numbers of water points in the Woreda without kebele-level technicians or the challenges related to resource gaps for the implementation of the SDG program. These systemic and deep-rooted issues are not monitored in the building block assessment and are not directly tackled through the Sustainable WASH program. As a result, although building block scores have improved over time, fundamental issues remain across the Woreda-wide WASH system.

4.1.2. Are Interventions Designed and Managed According to Collective Action Principles?

The Sustainable WASH program provides an example of good practice in terms of program design. The extended program design period has enabled in-depth and standardized assessments to be carried out under MWA's coordination and Woreda leadership, providing a strong basis for applying the principles of collective action. At the end of the bridge program, all three Woredas were equipped with five-year costed WASH strategic plans, which provided a common vision and basis for designing the Sustainable WASH program interventions. Grantees signed MoUs with Woreda and regional governments, as well as with MWA, with clearly delineated roles and responsibilities across and within Woredas (see **Table 3**) to avoid duplication and build on areas of expertise. During program implementation, the SWP established a coordination platform for planning, implementation, and monitoring under the leadership of the Woreda WASH team.

Woreda-level involvement has centered on coordination rather than true leadership.

While all grantees consistently described government involvement during the bridge

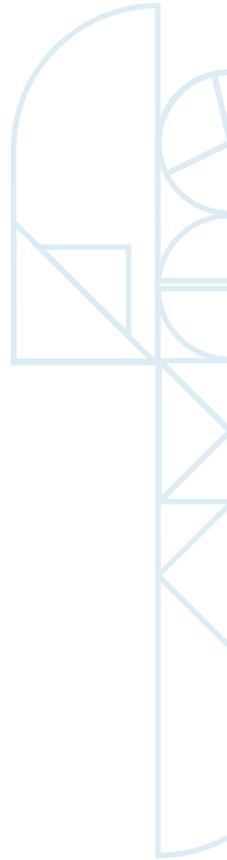
program, SWP implementation, and overall coordination, only a small set of grantees could articulate their vision of Woreda leadership. MWA, IRC, and CRS all stressed the opportunity of such a program to mentor stakeholders through systemic change and mentioned strengthened leadership as the ultimate objective. Representatives from the Woreda Water and Energy Office in all three Woredas echoed most grantees' perspectives, stressing their involvement in the assessment phase and in regular building block diagnostics and their ongoing role, mainly as program coordinators.

The Sustainable WASH program partnership structure is an effective setup for convening partner organizations and managing program implementation.

All grantees indicated being satisfied with the overall collaboration and coordination role played by MWA. The streamlining of processes (e.g., funding, reporting, monitoring) via a single organization, the clear delineation of roles and responsibilities across NGOs, the identification of thematic leads able to provide technical support in their area of expertise, and the establishment of coordination platforms have indeed facilitated communication and coordination, strengthened the alliance, and provided a solid ground for collaboratively strengthening Woredas. All grantees shared their overall appreciation for the partnership, and the working relationship developed across organizations, despite a small number mentioning being impacted by other partners' delays.

It is unclear whether the hub has strategically supported sector-level influencing within the Sustainable WASH program.

Beyond the effective coordination and financial disbursement role played by MWA, concerns were raised about the organization's ability to fulfill other more strategic functions of a "hub" given their existing sector role and position, such as adapting complementary approaches to service delivery models, facilitating learning among partners around the concepts of system strengthening, and





advocacy and influencing the broader sector. These functions also include assessing the ability of sub-grantees to fulfill their roles and contribute to systems-strengthening objectives within an overarching vision for the sector.

Grants are aligned with the overall trajectory of Ethiopia’s rural water supply sub-sector, but there are important gaps in the overall portfolio. The water supply sub-sector in Ethiopia is not currently characterized by an active reform process, and GoE recognizes the co-existence of different management arrangements and approaches to achieving its targets under the OWNPN. However, the government is encouraging the development of solar-powered infrastructure, multi-village piped water supply managed by public rural water utilities, and the constitution of WUAs and no longer explicitly promotes low-cost technologies. Despite this policy direction, the SWP only supported one multi-village piped water scheme managed by a rural public utility; four grantees supported self-supply and household-led low-cost technologies, and three WUAs were established due to the slow WASHCO legalization process. Beyond the choice of SDM, systemic issues that are well acknowledged in the sector related to the poor financial viability of services, the consolidation of services, or deeper governance issues related to local government staffing at kebele levels were not integrated into the program design.

The WASH SDG plans have provided the basis for identifying priority areas of support and splitting responsibilities across grantees but lack a strategic approach to rural water management. However, these plans do not provide strategic directions for different types of infrastructure, service levels, and different SDMs, including how these combine to reach universal and sustainable water services. The plans also do not adequately address systemic and deep-rooted issues that extend beyond the Woreda itself (e.g., water resource management and financial viability of Woreda-wide rural water services).

4.1.3. Are Interventions Being Replicated?

As outlined in the preceding section, rural water SDMs supported by the SWP program are fully aligned with the broader rural water sub-sector and mainstream in Ethiopia. The replication of interventions, therefore, refers to specific innovative approaches to rural water service provision. In the case of Ethiopia, this includes the City-wide WASH in Schools (WINS) model, the liquid chlorine dispensers, the Clean Clinic Model (CCM), and the broader Woreda-wide approach and associated Woreda-wide support. Refer to [Annex 4](#) for additional details on the WINS model and the liquid chlorine dispensers.

A range of interventions is being replicated by grantees through the SWP catalyzing fund to replicate pre-existing innovations developed by grantees, including the CCM, liquid chlorine dispensers, the inline chlorination system, and the city-wide WINS model. MWA partners (e.g., CARE, CRS, Food for the Hungry) have already shown interest in further rolling out liquid dispensers and inline chlorination systems beyond the SWP in other Woredas under the US-funded Safety Net Program and in the Oromia region. See [Annex 4](#) for further information on the WINS and liquid dispenser innovations.

Efforts to strengthen WASH monitoring are being scaled up at the regional level. IRC has been supporting the reconciliation of multiple data collection and reporting efforts at the Woreda level with the aim of establishing a single operational WASH monitoring system in each of the target Woredas. Efforts were initiated in 2018 under a US-funded program in Amhara (SusWASH) and pursued under the Conrad N. Hilton Foundation-funded grants (the bridge program and the SWP). Efforts included mapping data needs at Woreda, Zonal, and Regional levels, combining existing data sources into a single dataset, ground-truthing existing data, complementing datasets through additional inventory, developing a

data visualization tool, as well as training and coaching Woreda staff to integrate routine monitoring into annual planning and budgeting cycles. This experience has now been scaled up in the Amhara region via the Conrad N. Hilton renewal grants, establishing a regional monitoring system across all Woredas.

Figure 6 is a schematic¹³ showing four broad and overlapping stages of replication:

- i. Initial grantee-led piloting of interventions.
- ii. Grantee-led replication through intervention uptake by other grantees or leveraging external funding for replication in other districts.
- iii. Comparatively ad-hoc government-led replication.
- iv. Government uptake and promotion in sector documents (i.e., plans, policies, strategies, legal instruments) and roll-out at scale (either directly through government programs or indirectly through other actors, such as the private sector).

Figure 6 illustrates that the above-noted Conrad N. Hilton Foundation-supported innovations that are starting to be replicated are comparatively nascent and not yet fully anchored or embedded within government

systems at scale. In most instances, replication remains driven by grantees.

The pathway to evidence generation and scale is not yet fully articulated, and most of the above-noted Conrad N. Hilton Foundation-supported innovations that are starting to be replicated are largely grantee-driven and not yet anchored in government systems at scale. Despite some promising signs of uptake, grantees were not able to fully articulate an approach to identifying and introducing innovations, monitoring their implementation, learning from their success and failure, adjusting these along the way through adaptive management, and supporting their uptake by GoE in a more deliberate and strategic way. Instead, most grantees described replication of their normal fund-raising activities and discussed these interventions as new organizational approaches that they would naturally seek to replicate in new programs, regardless of the availability of evidence of success. This is particularly the case for innovations, such as the liquid chlorine dispenser, which faces significant issues of community uptake and payment, as well as the local availability of liquid chlorine, which threatens its viability. In spite of these challenges, it is already being replicated in other programs (see [Annex 4](#)).

13 Innovations were determined based on KIIs with grantees, and the relative positioning of the innovations along the continuum was determined based on insights from the external portfolio review and consultations with grantees.

Figure 6: Replication Continuum



4.2. How Do Water Facilities Perform?

- Facilities managed by WASHCOs meet the design yields but experience frequent downtime and are significantly affected by seasonality. In contrast, facilities managed by WUAs and RPWUs are less consistent in meeting the design yields and face downtime but show greater resilience to seasonal variation.
- Although WASHCOs provide water supply for a limited number of hours, WUA and RPWU face even greater restrictions, with fewer operational days and more limited recorded hours of supply.
- RPWU facilities provide the safest water, with WUA-managed facilities performing moderately well on water quality and WASHCO facilities performing the worst.
- WASHCO facilities have long waiting times for water collection. By contrast, WUAs and RPWU facilities provide on-premise water access and public taps with less than 30 minutes of wait time.

4.2.1. How Reliable are the Services?

Surveys reveal high functionality rates, but yield and reliability challenges are experienced across facilities managed by all three SDMs. Using a binary (“yes/no”) definition of functionality, based on whether the water facility produces any water at the time of the survey, all WASHCO and WUA facilities were assessed as functional (Figure 7). For RPWU-managed facilities, two out of four were partially functioning (i.e., one out of every three points of the network was not functioning). However, a more detailed assessment, which included evaluations of yield (a minimum of 10L/minute) and reliability (extent of disruptions¹⁴), showed that many of these water facilities encountered performance challenges. While all WASHCOs met the design yield, 53% experienced multiple downtimes in the recent three months. One in three surveyed WUA facilities failed to reach the design yield of 10 liters/minute, and two-faced several downtimes over the past three months. Moreover, three out of the

14 Number of breakdowns recorded in the last three months.

Figure 7: SDM Performance – Functionality, Reliability, and Yield

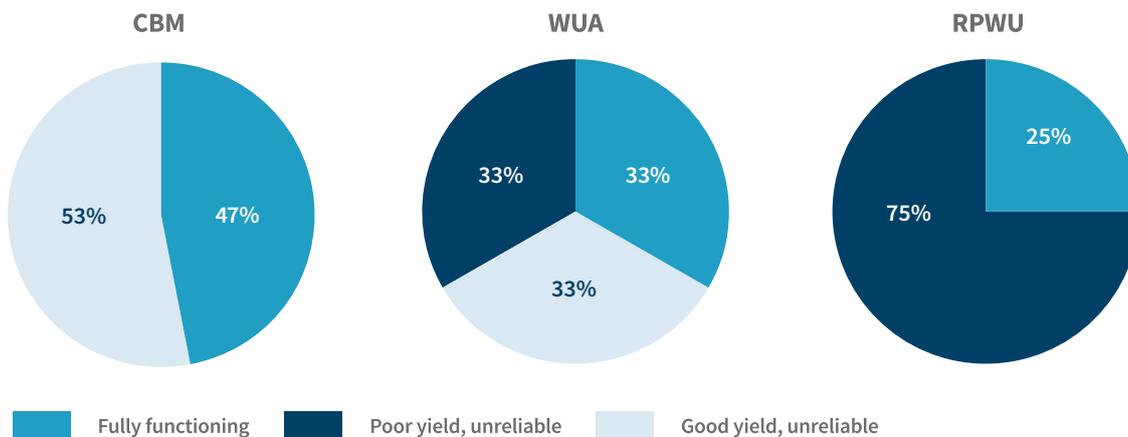
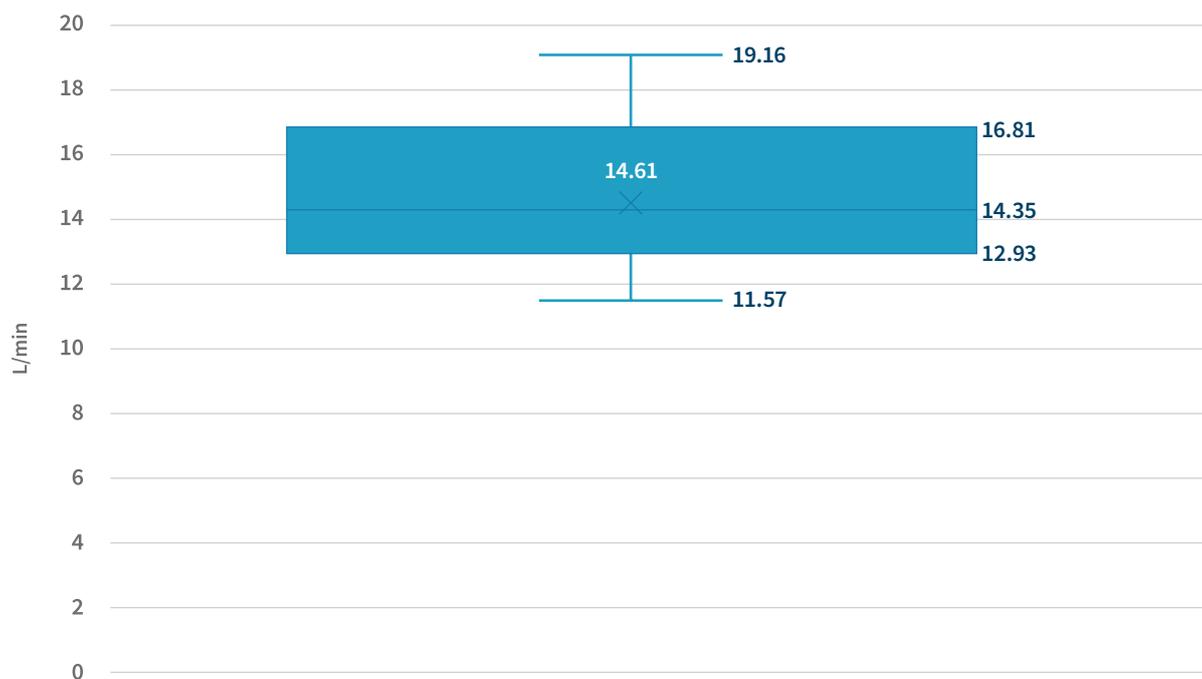
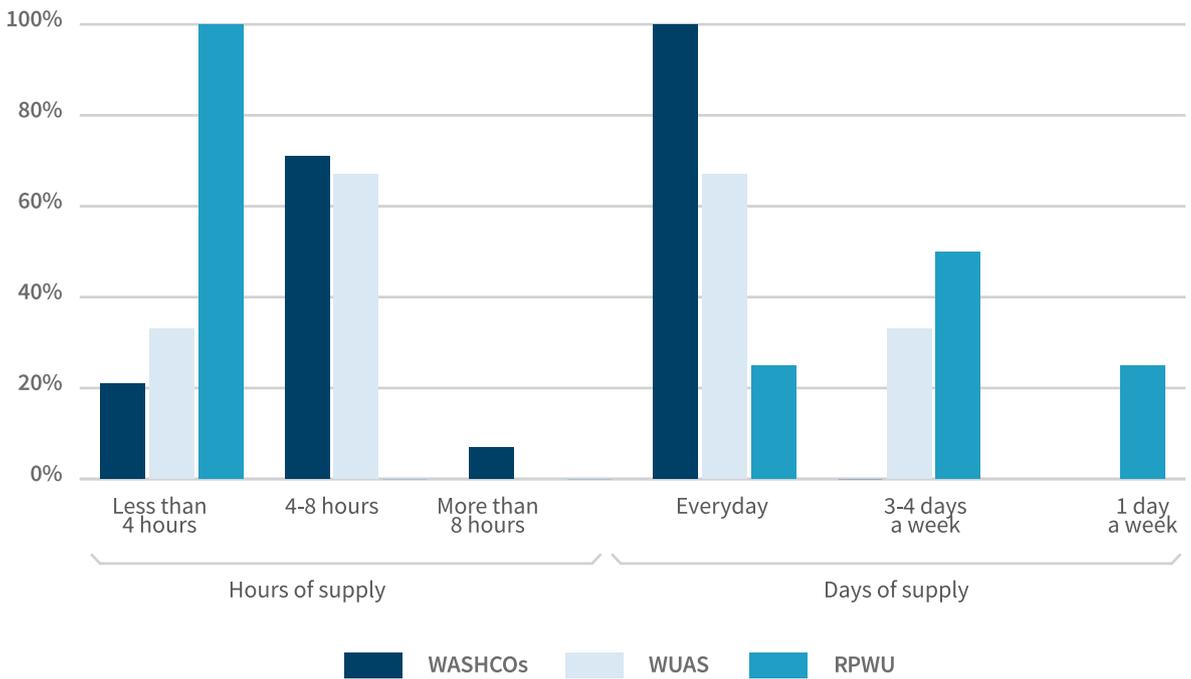


Figure 8: Yield of WASHCO Facilities¹⁵



15 The box-and-whisker plot depicts the yield distribution of hand-dug well facilities in Liters per minute (L/min). The median yield, represented by the “X” inside the box, falls just above 14 L/min, suggesting that half of the well facilities have a yield above this value and half below. The lower 25% of the wells have yields falling below the bottom of the box, approximately 12 L/min, and the upper 25% have yields above the top of the box, roughly 16 L/min. The whiskers extend to nearly 10 L/min on the lower end and up to about 20 L/min on the higher end, indicating the range of yields for most of the well facilities, with very few, if any, outliers.

Figure 9: SDM Performance - Hours and Days of Supply



four RPWU facilities did not meet the design yield of 10 liters/minute and faced multiple downtimes within the last three months.

Seasonal variability affects WASHCO facilities, while WUAs and RPWUs exhibit greater resilience. The survey was conducted during the rainy season, prompting further investigation to determine the influence of seasonality on the yield and functionality of water facilities. The findings indicated that, while WASHCO facilities demonstrated high yields during the survey period (as shown in Figure 8), they were more affected by seasonal variation. Notably, 47% of these facilities reported experiencing water shortages during the dry period. This is particularly concerning given that Ethiopia often grapples with intense drought episodes, rendering shallow hand-dug wells less resilient and more vulnerable in the dry season. In contrast, seasonality did not emerge as a significant concern for the piped water network schemes (i.e., WUA and RPWU facilities).

Hours of water supply and continuity of service are challenging across all management arrangements, with WUAs and RPWUs showing even fewer operational days and more limited hours of supply. The survey findings offer a detailed understanding of service continuity and hours of supply for the water facilities (Figure 9). Only 6% of the surveyed WASHCOs offer continuous services without any constraints on supply hours. Conversely, most have a variable supply duration, ranging from two to three hours to a maximum of eight hours daily. Most of these facilities typically provide an average of four hours of water supply, generally segmented into two shifts, between 7 and 9 am and between 5 and 7 pm. When examining WUA and RPWU facilities, the findings are striking. Only two surveyed facilities supply water every day, offering an average of four hours of water, typically split across two shifts. The remaining facilities operate in just one shift daily, with fewer operational days weekly (one to three days a week). For example, the Anbesame facility delivers water only once a week.¹⁶

¹⁶ There is no sector benchmark in place related to hours of supply and continuity of service.

4.2.2. How Safe is the Water?

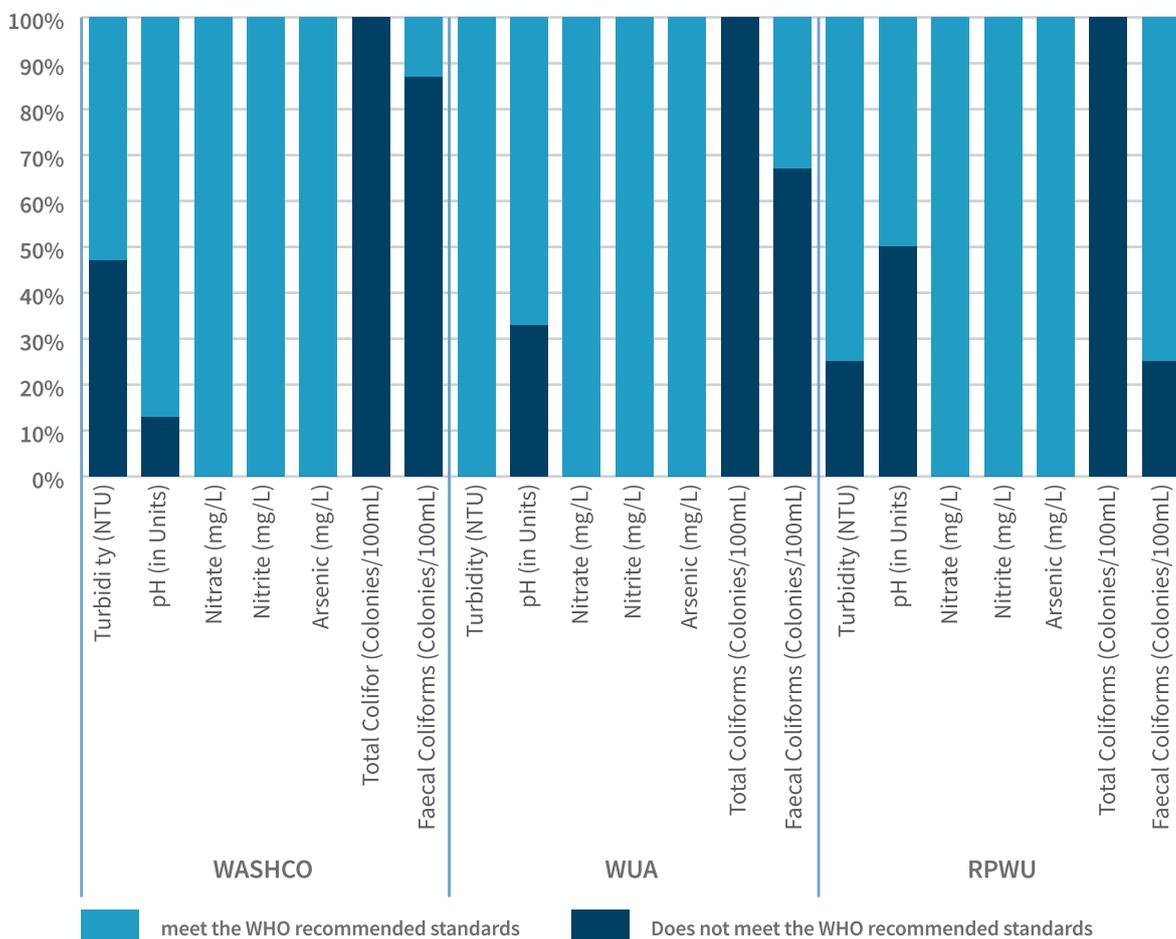
RPWU facilities provide safer water than WUA and WASHCO facilities.

Figure 10 details the performance of the three SDMs against WHO standards for physio-chemical properties such as pH (between 6.5 and 8.5), NTU (<5 NTU), and inorganic constituents like nitrates (<50 mg/L), nitrites (< 3 mg/L), and arsenic (0 mg/L). It also covers standards for coliform contamination: total coliforms (0 CFUs/100ml) and fecal coliforms (undetectable in 100ml). When considering physio-chemical water quality, most facilities do not meet the WHO-recommended standards. Only one facility managed by an RPWU, two facilities managed by WUAs, and four facilities managed by WASHCOs adhere to these WHO guidelines. However, the inorganic water quality is satisfactory across all facilities, all adhering to WHO guidelines. In terms of pathogen contamination, every facility

displayed issues with Total Thermal Coliforms concentrations. Although few facilities were entirely free from fecal contamination, the results were notably better for those managed by RPWU. Only one RPWU site tested positive for fecal coliform contamination.

To address the contamination issue of the water points managed by WASHCOs, partners have installed low-cost liquid chlorine dispensers. However, these dispensers face challenges that underscore the need to strengthen the local supply of liquid chlorine and spare parts. There is also uncertainty regarding households’ ability to sustain costs over time, equivalent to USD 2 per year, coupled with a lack of systematic long-term monitoring by Woreda offices. These issues pose threats to consistent safe water access in the long run (see Annex 4 for additional information on liquid chlorine dispensers).

Figure 10: SDM Performance – Water Quality



4.2.3. How inclusive are the Services?

Survey findings highlight accessibility gaps in WASHCO facilities, including long waiting times for water collection. By contrast, WUAs and RPWU facilities offer on-premises water access and public taps with less than 30 minutes of wait time. The survey results provide a detailed understanding of water facilities' compliance with accessibility criteria, specifically regarding on-premises water availability and collection times. Among the water facilities surveyed under WASHCO management, none of the water point facilities were found to be directly supplying water to households on their premises. Consequently, these facilities did not meet the criteria for classification as safely managed water supplies on the Joint Monitoring Program (JMP) drinking water ladder. Only 33% of the surveyed facilities met the criteria for basic water supply on the JMP drinking water ladder, as they offered collection times within 30 minutes for a roundtrip, including queuing. **Figure 11** displays the average waiting times, including queuing, for all WASHCO facilities. It reveals that over 75% of the points have a collection time that exceeds 30 minutes, with the longest wait time slightly exceeding an hour and an outlier at one hour and thirty minutes. For WUA facilities, only one piped scheme lacked household connections and relied solely on public taps. All others included a significant number of household connections and none of the public taps with a waiting time exceeding 30 minutes. Similarly, RPWU facilities also included a substantial number of household connections, and all public taps surveyed had a waiting time of less than 30 minutes.

While WASHCO, WUA, and RPWU facilities prioritize accessibility to vulnerable communities, especially women, a significant gap exists in provisions for individuals with disabilities. All facilities managed by WASHCOs, WUA, and RPWU are easily accessible to vulnerable communities. There were some clear efforts under all SDMs to accommodate

vulnerable groups at water facilities, including women and the elderly. However, only one WASHCO facility and two WUA facilities were designed to accommodate people with disabilities (e.g., featuring appropriate tap heights), and none of these facilities had ramps or personnel to assist individuals with disabilities.

Almost all water users are paying the tariffs, although approximately one-quarter described the tariffs as unaffordable for WASHCOs, WUAs, and RPWUs. When surveying the service providers, nearly 75% of the facilities managed by WASHCOs, WUAs, and RPWUs confirmed that tariffs are being paid and are affordable for households.¹⁷ This is consistent with findings from the transect walks, where only a few households expressed negative sentiments regarding tariff affordability. Notably, these concerns were primarily among elderly residents, and this trend was observed across all three Woredas.

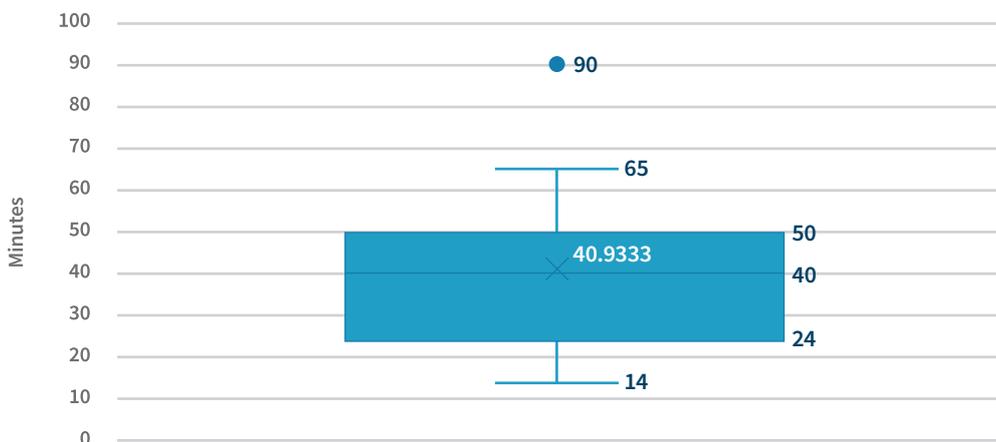
The average tariff costs are as follows:

- WASHCOs have an average fixed tariff of USD 0.20/month.
- WUA and RPWU public standpipes have an average volumetric tariff of USD 0.98/m³.
- WUA and RPWU private connections have an average volumetric tariff of USD 0.39/m³.

While WASHCO tariffs are cheaper for users overall, the difference in tariff is less significant than expected, given the relative cost of managing hand pumps compared to piped networks. As noted above, almost all water users are paying the tariffs, although approximately one-quarter described the tariffs as unaffordable for WASHCOs, WUAs, and RPWUs. There is no established process for setting tariffs, but most WASHCOs (eight) describe involving the community in the decision, and three note receiving technical advice from the Woreda Water and Energy Office in calculating the tariff.

17 Affordability was assessed by reviewing households' requests for exemptions from payment or financial assistance to pay their tariffs.

Figure 11: Collection time for WASHCOs



4.3. How Sustainable are the Service Delivery Models?

- All SDMs face significant institutional challenges spanning legal registration (WASHCOs), reliance on volunteers (WASHCOs and WUAs), lack of reporting requirements (WASHCOs) or poor reporting practices (WUAs and RPWUs), and inadequate staffing (RPWU).
- The majority of WASHCOs and all WUAs and RPWUs routinely collect a tariff that can cover OpEx on WASHCO-managed water points but is insufficient to cover OpEx of piped networks managed by WUAs and RPWUs or major repairs across all SDMs.
- Although all SDM respondents report having taken measures to protect the water facilities from pollution, none of the SDMs have documented these measures or regularly monitored water availability.
- Formal mechanisms for involving users in decision-making are in place, and all SDMs indicate sharing performance data with users, but transparent management is impaired by the limited formality and lack of specific requirements, particularly for WASHCOs.

4.3.1. Are Institutional Capacities in Place?

Overall, institutional capacity is low for all SDMs and service authorities, with numerous challenges noted across the board, including lack of expertise, funding, available staff, and accountability mechanisms.

Staffing and skill gaps are evident across the three SDMs to varying extents. WASHCOs are not legally registered, operate on a voluntary basis, and are exempt from reporting requirements. All three WUAs are legally registered but operate on a voluntary basis, and two of these do not submit the required technical and financial reports (Figure 12). Although RPWUs would be expected to be better structured and professionally managed, they also face significant challenges related to filling reporting and staffing positions (only one quarter is fully staffed), and one utility is not yet legally registered. Skill gaps were noted by most respondents (18/23), with WASHCOs predominantly lacking O&M skills and WUAs and RPWUs lacking finance skills. Training on accounting and minor maintenance had also widely been provided to WASHCOs (15/16) but less consistently for WUAs (one out of three) and RPWUs (one in four). The key barriers to institutional capacity strengthening for WASHCOs and WUAs identified by service authorities revolve around the voluntary nature

of committee members, resulting in a lack of motivation and low levels of commitment. It was also noted that only WASHCOs with water facilities constructed by NGOs or donors typically received training, whereas those implemented by the government did not.

The service authority’s capacity to support is limited by its lack of available resources and accountability mechanisms. Woreda Water and Energy Offices described having insufficient numbers of technical staff and inadequate budget allocations to effectively monitor and support water facilities as required, reflected in the survey data, where half of the WASHCOs that requested technical support from the Woreda received it, and half did not, with similar patterns found for WUAs and RPWUs. The constraints are felt equally across the three Woredas, with no indication in the data of any Woredas performing better or worse than others in this regard. Very few of the water facilities report being incentivized or sanctioned by the Woreda Water and Energy Office (3/23). Two WASHCOs describe having received verbal warnings, one over the mishandling of a thief and the other for having poor-smelling water. By contrast, one RPWU describes

receiving a letter of recognition. As noted in the service authority interviews, influence over water facility management is inhibited by the absence of formal accountability mechanisms between the Woreda Water and Energy Office and water facilities.

4.3.2. Are SDMs Financially Viable?

RPWUs and WASHCOs are the most financially viable SDMs as far as Operational Expenditure (OpEx) is concerned, though all facilities are reliant on their Woreda Water and Energy Offices for major repairs, which face significant budget limitations to cover these expenditures.

Most water facilities routinely collect tariffs, with some exceptions for WASHCOs. All RPWUs and WUAs collect volumetric tariffs, and ten of 16 WASHCOs collect fixed-rate tariffs every month. Three WASHCOs collect tariffs only when O&M is required on an ad-hoc basis, and the remaining three do not collect any tariffs at all (see [Figure 13](#) and [Figure 15](#)). The affordability of tariffs is discussed above in Section 4.2.3.

Figure 12: Indicators of Service Providers’ Institutional Capacity

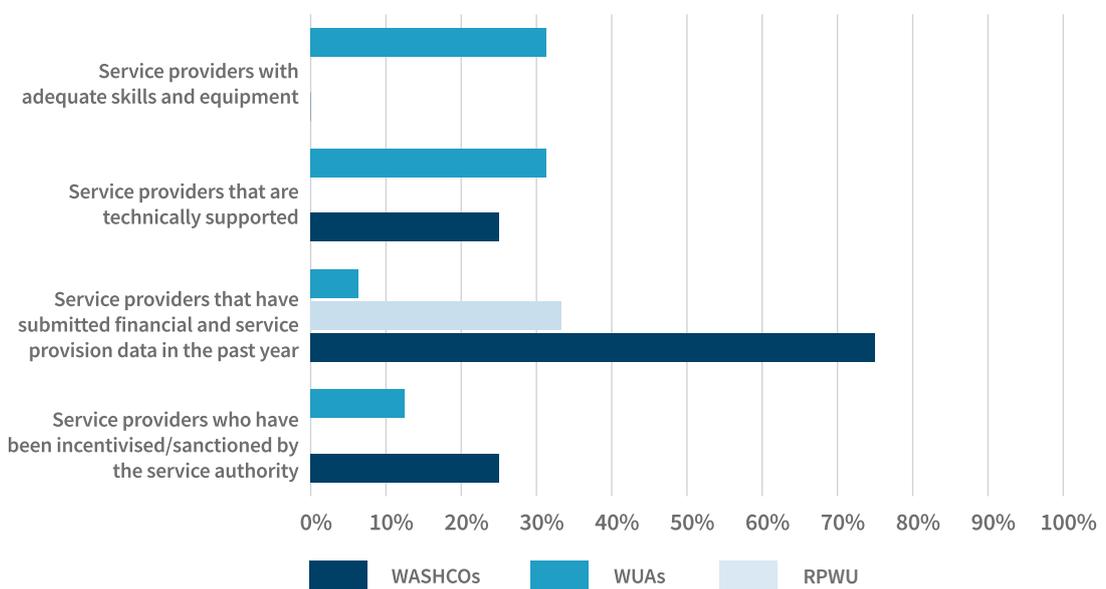
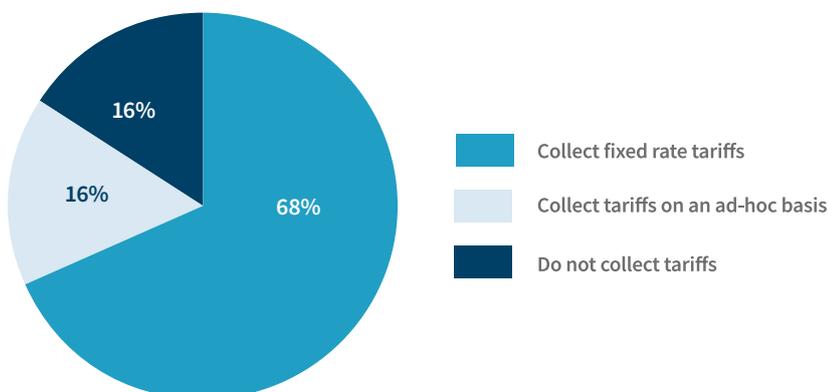


Figure 13: % WASHCOs and WUAs Collecting Tariffs



While most water facilities cover their OpEx, several newer facilities have received limited investment in O&M activities. An initial data review indicates that almost all WASHCOs (15/16) can cover OpEx, with one in the negative, four breaking even, and 11 retaining a surplus. However, several of the facilities have been constructed recently, and only seven of the WASHCOs (43.8%) have performed O&M activities in the past two years and nine since being built. As such, the average annual OpEx/capita for WASHCOs is USD 0.07, and the average annual revenue/capita is USD 0.19 (Figure 14), contrasting with WUA, where only one-third of facilities can cover OpEx, with an average annual OpEx/capita of USD 1.26 and an average annual revenue/capita of USD 0.58. All three WUAs report high O&M costs in the past two years for their solar-powered piped networks. While these costs are higher than those for maintaining water points, it is important to note that the O&M costs for solar-powered systems are still lower than piped water schemes that operate on fuel. While, like WASHCOs, there are no fuel costs for this technology, there are staffing costs, accounting for the relative increase in OpEx. Despite three out of four RPWUs covering their OpEx, the remaining utility's OpEx outstrips its revenue to such an extent that the average annual OpEx/capita (USD 4.67) is higher than the average annual revenue/capita (USD 3.97). Both of these figures are significantly higher than WASHCOs and WUAs, due in part to the relatively higher number of staff (average of 5 personnel for WUA versus 16 for

Utilities), the larger size of the facilities, and the additional fuel and energy costs. There is also evidence that some RPWUs are not operating at full functionality and experiencing supply shortages, as discussed above in section 4.2.1.

Tariff collection is not sufficient to cover costs for major repairs. The responsibility for Capital Maintenance Expenditure (CapManEx) falls under the Woreda Water and Energy Offices, which operate on a limited annual budget (e.g., Ethiopian Birr 100,000 or some USD 1,787 in Dera). Out of all 23 water facilities surveyed, only the four RPWUs have carried out major repairs in the last five years, though the specific details of these are lacking. This is partly because the RPWUs are older (constructed approximately seven years ago) than WASHCO facilities, most of which have been installed in the last three years.

The majority of facilities maintain financial records, but annual budgeting processes are largely absent. While most (11/16) of WASHCOs compile financial reports, none have agreed on annual budgets that they are using for planning purposes (see Figure 15). A similar trend was found with WUAs and RPWUs, where all facilities compile financial reports, but only one RPWU has an agreed annual budget. This single RPWU is also the only water facility with all three financial management practices in place (Anbesame Town Piped Water Supply). Financial reporting to the Woreda Water and Energy Office is not mandatory for service providers, but RPWUs are accountable to their boards to provide this data, and all four report doing so.

Figure 14: Average Annual OpEx/capita Compared to Average Annual Revenue

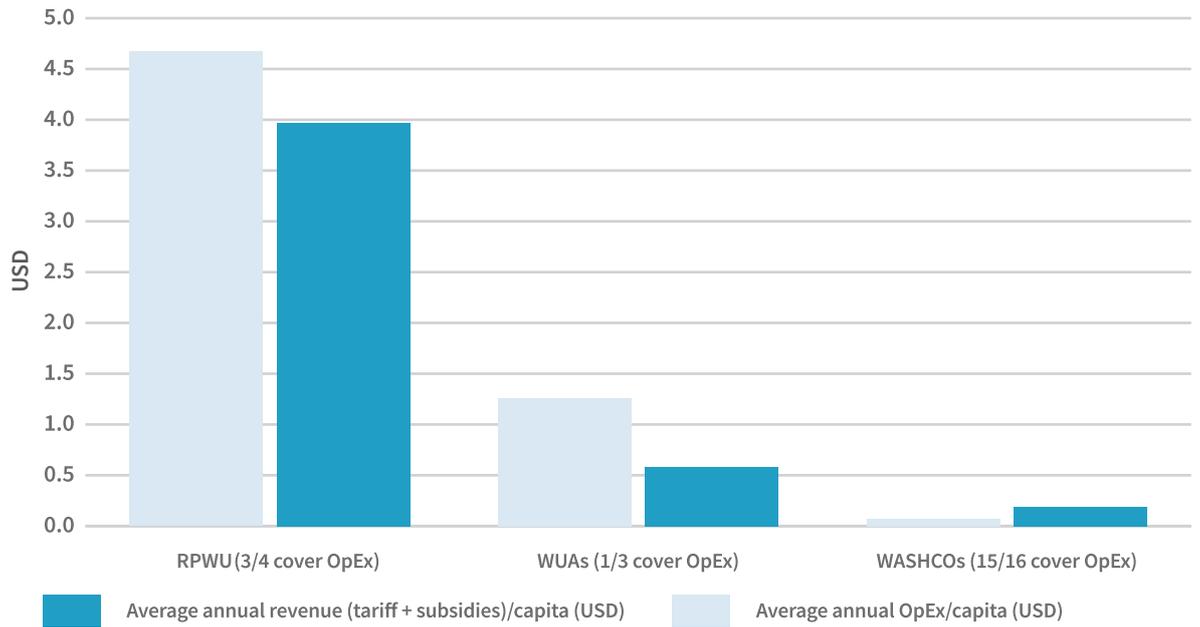
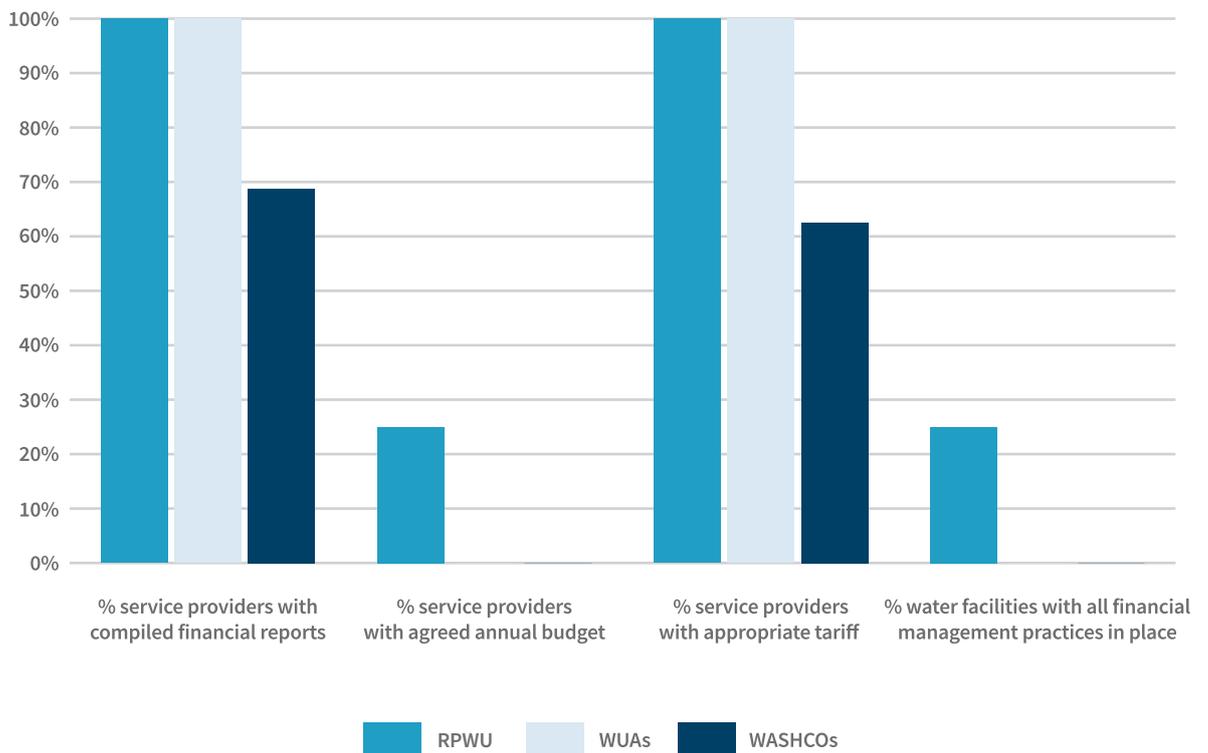


Figure 15: Adoption of Financial Management Practices in Ethiopia¹⁸



¹⁸ In this review, affordable tariffs are defined as those that all users can pay without financial assistance.

4.3.3. Are Technical Functions Performed by Service Providers?

Technical functions are not being carried out consistently as required due to a lack of skills, availability of spare parts, and limited capacity of the service authority to provide support.

The O&M capability of service providers aligns with the complexity of the technology.

All the WASHCOs surveyed manage manual hand pumps, which is a relatively simple technology to operate and maintain. Out of these, 43.7% were deemed able to perform repairs in line with technical expectations¹⁹ (Figure 16). As noted above, most WASHCO hand pumps were recently constructed, and only half of the facilities described performing any O&M to date. Examples of WASHCO rehabilitation work described in the survey include replacing pipes and plungers, head work maintenance, and changing the U-seals.

By contrast, WUAs are managing piped networks, which is a more complex technology to maintain, and while they are a step towards RPWUs, their institutional setups are more similar to that of WASHCOs.

As such, it is unsurprising that none were assessed as having sufficient O&M capability due to the absence of the requisite technical expertise. The more professional nature of RPWUs was expected to increase the likelihood of technical capacities to conduct O&M. Yet, only one of the four RPWUs was deemed sufficiently capable of carrying out O&M activities, which may be caused by high staff turnover or an inability to attract technically trained personnel. Only one of the water facilities (Anbesame Town Piped Water Supply) had a documented O&M plan to guide planning.

Limited water quality measures are in place across the Woredas, especially for piped

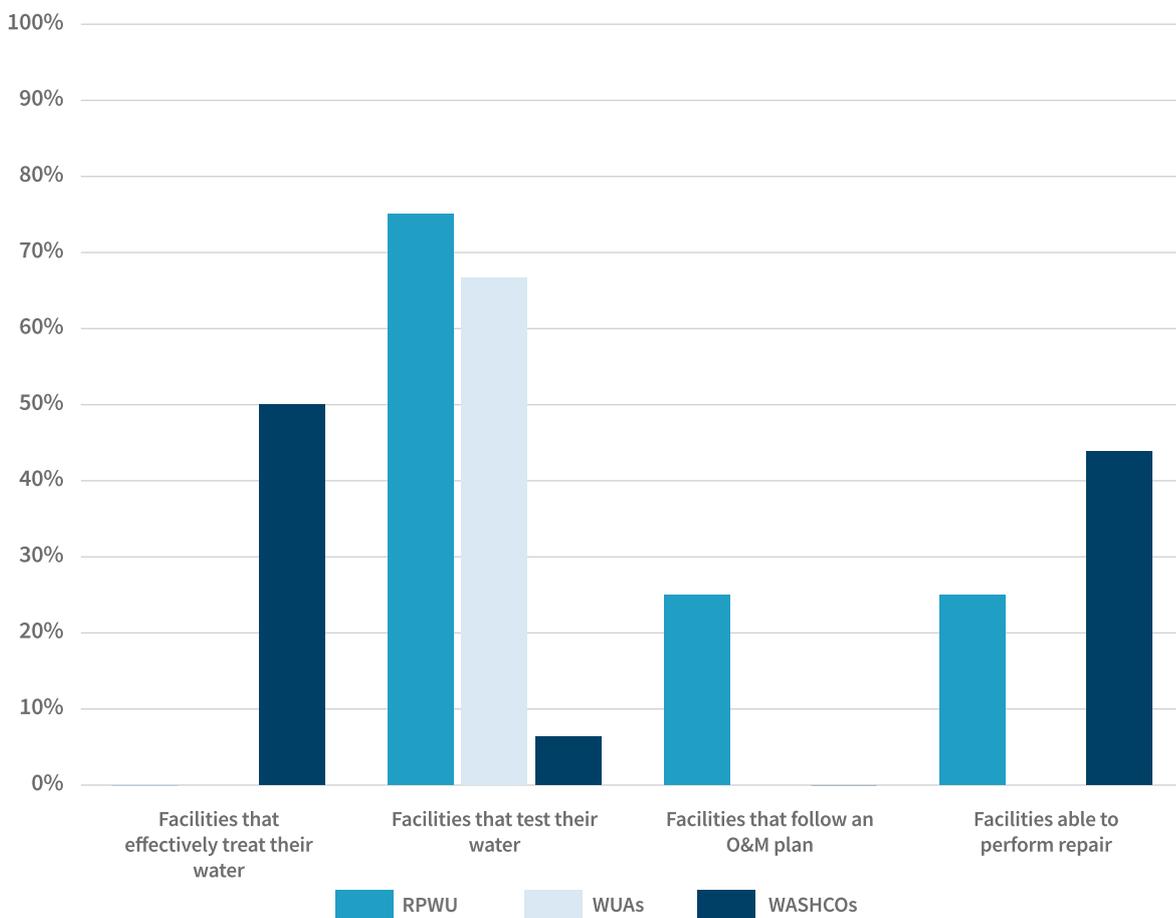
schemes. As noted in the previous section, a high proportion of water facilities have poor physio-chemical properties and fecal coliform contamination (especially for hand-dug wells). None of the water samples taken show signs of residual chlorine, indicating that either insufficient quantities of chlorine are being applied or chlorination is not taking place. However, six of the WASHCOs (all in Farta) report using safe water dispensers to treat their water with chlorine when collected in jerry cans. This would help improve the water quality for these communities but is reliant on water users having continued access to chlorine over time and consistently applying the chlorine when collecting water. The assumption that both these conditions can be met over time presents potential limitations for the sustainability of such practices. Despite evidence to the contrary, three additional WASHCOs report treating their water (not using the safe water dispensers), as do two of the three of the WUAs and three of the four RPWUs (both the WUAs and RPWUs also report periodically testing the water quality). This suggests that insufficient quantities of chlorine are being applied to improve the water quality (if it is applied at all).

According to service authorities, effective technical management of facilities is limited by several barriers in the Woredas. WASHCOs and WUAs are often limited by the technical expertise required to undertake O&M, the availability of spare parts for minor repairs, the poor quality of construction, and the theft of spare parts. Service authorities described struggling to maintain good communication and consistent monitoring of all the WASHCOs and WUAs in their Woredas due to the high number of water facilities compared to the low number of Woreda Water and Energy Office staff. Challenges were also noted with RPWUs, who do not always share their technical reports as required, further limiting the extent to which service authorities can fulfill their technical monitoring role.

¹⁹ Criteria assessed to determine O&M capability include: i) Whether the water facility had undergone any rehabilitation since its original design; ii) A description of the O&M activities undertaken; iii) How often O&M activities were undertaken; iv) Who performs major technical functions; and v) The observed quality of the water point when surveyed



Figure 16: Water Facilities Performing Key Technical Management Practices



4.3.4. Are Water Resources Effectively Managed?

There is limited evidence of any water resource management or monitoring of water resources occurring across the focus Woredas²⁰.

Although most respondents cite having adopted measures to protect their water facilities, none have documented measures for protecting water resources. The majority of respondents cite actions taken to protect their water facilities, such as fencing and ensuring the water source is far from latrines, agricultural land, and animals. These actions appear to have been more successful for RPWUs, where three of the four facility water

samples do not have fecal coliforms present, compared to just three of 19 for WASHCOs and WUAs. However, none of the facilities surveyed have documented measures taken to protect water resources more broadly due, in part, to a lack of collective action for water resource management undertaken at the Woreda level beyond some reforestation initiatives.

None of the water facilities surveyed monitored overall water availability. While such monitoring of water resources is arguably beyond the remit and capacity of WASHCOs and WUAs and, to a lesser extent, that of RPWUs, greater efforts could be made to collect relevant data in this regard. For example, only two RPWUs and none of the WUAs describe tracking water abstraction from all resources,

²⁰ It is important to note with respect to this finding that the Conrad N. Hilton Foundation has made minimal, only one-off investments in water resource management to date and the focus of this portfolio review is on SDMs.

and there is no monitoring of groundwater levels in place (see Table 4). Likewise, despite the noted seasonal variability of water supply for manual hand pumps (see previous section), there is no evidence of WASHCOs using even rudimentary methods (e.g., monitoring shallow wells) to approximate when water is running low during the dry season. However, responsibility for water resource management falls under the Woreda Water Resource Development Office, which should be coordinating and engaging with facilities to support data generation and sharing; yet, no such activities were mentioned in survey responses.

4.3.5. Are Service Providers Accountable?

The three SDMs operate within legal and institutional frameworks that contain limited formalized accountability mechanisms, thereby constraining the extent to which they can be held accountable.

Users are better represented in WASHCOs than in WUAs and RPWUs. Over half of WASHCOs reported having formal mechanisms for user involvement in decision-making (see [Figure 17](#)), compared to only one of the three WUAs and half of the Utilities. This is likely due to the smaller population size WASHCOs serve and their closer proximity to the community, making it easier to incorporate user feedback into planning and decision-making. The same number of WASHCOs also reported having effective complaint-handling mechanisms in place, consisting of direct communication with WASHCO members and whether the complaint-handling mechanisms described were practical/feasible and not negated by the complaint being reported. All WUAs and RPWSUs described having a complaint-handling mechanism in place, which included direct communication with staff members, the opportunity to register complaints at offices for three facilities, and a suggestion box at one. According to the transect walk data, of the users who made complaints, just under half were resolved for WASHCOs, two-thirds for

WUAs, and none for the RPWUs. This suggests that WASHCOs and WUAs are more responsive to complaints than Utilities, though the dataset is too small to draw concrete conclusions.

WASHCOs, WUAs, and RPWUs all report sharing technical and financial performance data with users, but in the absence of specific protocols, the practice varies across facilities.

The majority of WASHCOs (14 out of 16) indicated sharing technical and financial data, which consists primarily of hours of supply (12/14) and fees/tariffs (9/14). For WUAs and RPWUs, five out of seven share technical data with users, which includes hours of supply (100%), infrastructure improvements (60%), and maintenance performed (60%).

Transparent management of WASHCOs is impaired by limited formality and poor administration, while RPWUs are reliant on their board to maintain accountability. In the absence of formal reporting requirements for committee members to carry out duties and a lack of formal accountability to the Woreda Water and Energy Office, transparent management and reporting are contingent on a given WASHCO's willingness and capacity. Likewise, RPWUs may not hold frequent board meetings, and while they are accountable to their board, regular reviews of activities are not always carried out as required. In North Mecha, for example, the service authorities argued that RPWUs are not sufficiently accountable to their boards due to weak monitoring and supervision. The Woreda Water and Energy Office is not responsible for issuing sanctions against non-compliance and relies on the board to keep the RPWU in check.

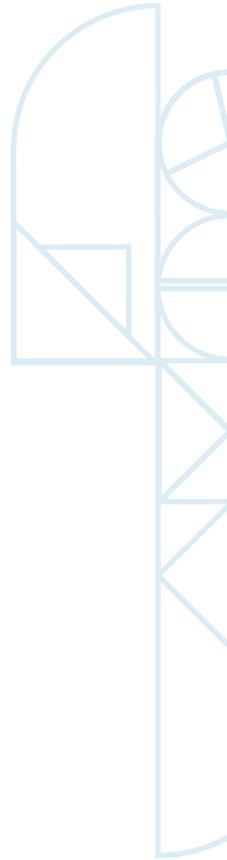
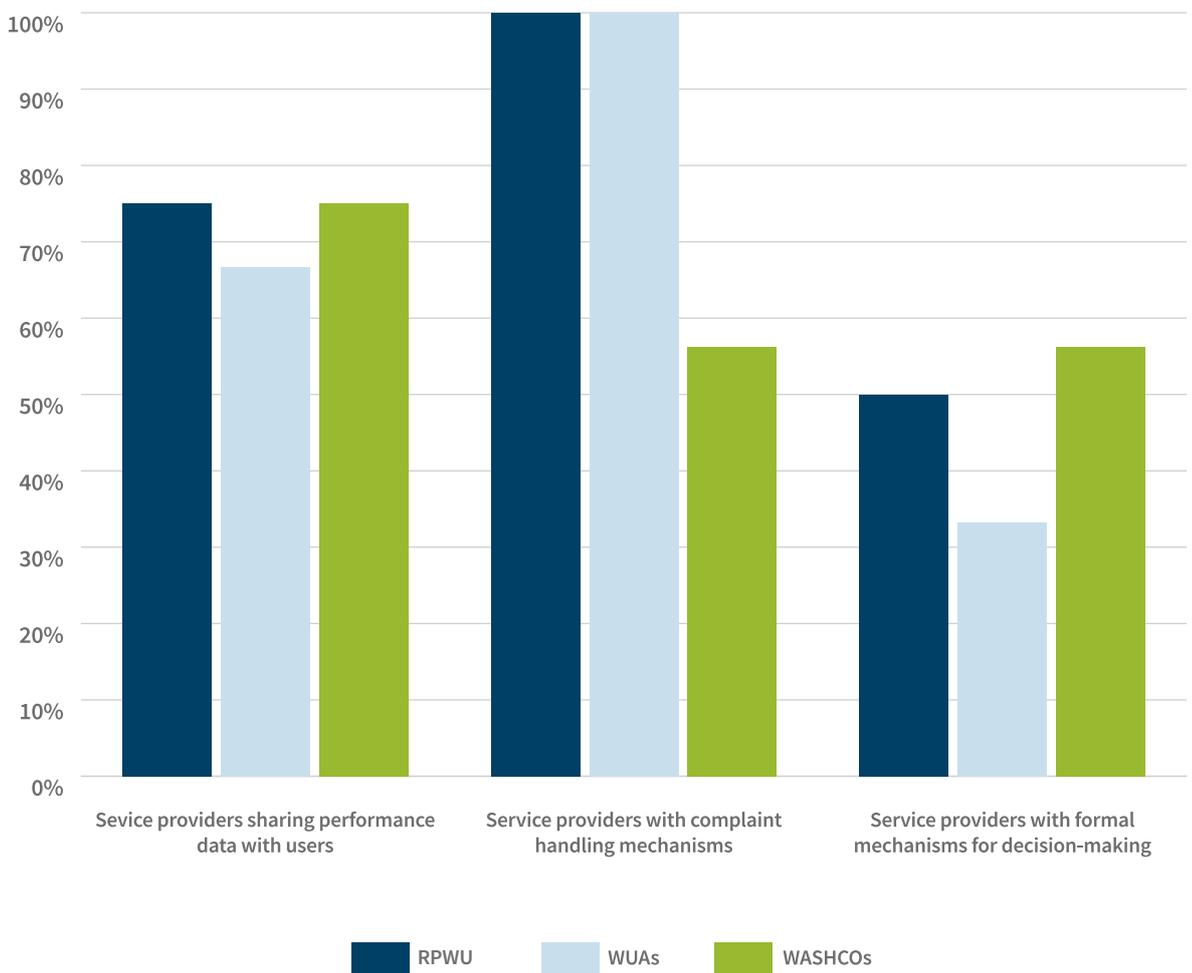


Table 4: Water Resource Management Practices in Ethiopia

	% service providers with information on water resource availability for all water sources	% service providers that monitor and report water abstraction from all water sources	% service providers with documented measures for protecting water resources
WASHCOs	0%	0%	0%
WUAs	0%	0%	0%
Utilities	0%	50%	0%

Figure 17: Accountability Indicators for Service Providers



5. Conclusion



Ethiopia received USD 20.69 million under the SWI, focused on supporting SDMs (53%) through infrastructure development and capacity strengthening of WASHCOs and one rural public utility in Dera. This was followed by strengthening the WASH system at the district level (27%) across several thematic areas and complemented by national-level advocacy activities (4%). One important characteristic of the portfolio in Ethiopia is the channeling of 42% of the funding through MWA.

The SWP partnership, coordinated by MWA, is an effective mechanism for convening partners and managing program implementation, but the hub's learning and influencing functions have not been maximized. The combination of a bridge program and central management via a single partner has enabled the SWP to be designed based on harmonized Woreda needs assessments and effectively managed to ensure streamlined roles and responsibilities, fluid communication, and reporting. However, concerns about existing grantees' ability to fulfill more strategic functions related to the adoption of complementary approaches to service management, facilitation of learning around the concepts of system strengthening, and influencing the broader sector to achieve collective impact have been raised by various stakeholders.

Progress has been made in strengthening Woreda-level WASH systems, but efforts have not effectively tackled deep-rooted,

systemic issues. Noteworthy improvements have occurred across most of the nine building blocks in all Woredas, particularly for legislative and policy frameworks in Dera and N. Mecha and learning and adaptation mechanisms in Farta. However, interventions have largely aligned with specific indicators of the building block assessment methodology rather than deep-rooted issues related to public administration, incentives, and fiscal decentralization, which are much more difficult to understand and influence but crucial to service sustainability. In addition, the critical building blocks of finance and water resource management were not prioritized to date by grantees.

Although all water facilities managed by WASHCOs, WUAs, and RPWU were functional on the day of the visit, all SDMs face significant challenges in providing reliable, continuous, and safe water services with some minor differences. Of note, WASHCOs meet their design yields but are prone to frequent downtime and are significantly affected by seasonal changes. By contrast, facilities managed by WUAs and RPWUs, while less consistent in meeting design yields, show greater resilience to seasonal variations and face similar downtime issues. Regarding service hours, WASHCOs provide water supply for only a limited number of hours per day. This constraint is even more acute in WUA and RPWU-managed facilities, which have fewer operational days. In terms of water quality, RPWU facilities stand out for providing the



safest water. WUA-managed facilities perform moderately well in maintaining water quality, while WASHCO facilities are the least effective in this regard. A significant difference is also apparent in the accessibility of water. WASHCO facilities are characterized by long waiting times for water collection. On the other hand, WUAs and RPWUs offer more accessible options, such as on-premise water access and public taps with a wait time of less than 30 minutes.

All SDMs face significant institutional, technical, financial, and environmental sustainability challenges that reflect the broader enabling environment of water service provision in Ethiopia:

- Institutional challenges across all SDMs. WASHCOs are not legally registered, operate voluntarily, and are exempt from reporting requirements; WUAs are legally registered but operate voluntarily and do not submit the required technical and financial reports. Although RPWUs would be expected to be better structured and more professionalized, they also face significant challenges related to filling staffing positions and reporting.
- Financial resources are too low to cover all expenditures: the majority of WASHCOs, all WUAs, and RPWUs routinely collect tariffs that can cover OpEx on WASHCO-managed water points but are insufficient to cover OpEx of piped networks managed by WUAs and RPWUs. Also, tariffs and Woreda budgets are insufficient to cover major repairs across all SDMs.
- Technical management of water facilities is low across all SDMs, even for simple technologies such as hand-dug wells, and is hindered by limited technical expertise, low availability of spare parts, and poor quality of construction at both service provider and Woreda levels.
- Although respondents cite having taken measures to protect the water facilities

from pollution, none of the SDMs have documented these measures or regularly monitored water availability.

- Formal mechanisms for involving users in decision-making are in place, and all SDMs indicate sharing performance data with users, but transparent management is impaired by the limited formality and lack of specific requirements, particularly for WASHCOs.

The Conrad N. Hilton Foundation grant-making is aligned with the trajectory of Ethiopia's rural water supply sub-sector, but there are important gaps in the overall portfolio.

The water supply sub-sector in Ethiopia is not currently characterized by an active reform process, and GoE recognizes the co-existence of different management arrangements and approaches to achieving its targets. However, the government is encouraging a number of important shifts, including the development of solar-powered infrastructure, multi-village piped water supply managed by public rural water utilities, and the constitution of WUAs, and no longer explicitly promoting low-cost technologies and self-supply. The grant portfolio only focused on one rural public utility, yet several grantees continue to support self-supply and household-led low-cost technologies. Beyond the choice of SDM, issues that are well acknowledged in the sector related to the poor financial viability of services, the need for consolidation, scaling up of circuit rider models tested in other regions, or deeper governance issues related to local government staffing at kebele levels were not integrated into program design.

Although grantees complement each other, more deliberate efforts to link interventions toward common strategic priorities were lacking. The Woreda WASH SDG plans and the initial building block assessments have provided a solid basis

for identifying priority areas of support and delineating responsibilities among grantees. However, these plans do not provide strategic direction or articulation of different types of infrastructure, service levels, and SDMs in reaching universal and sustainable water services and addressing systemic and deep-rooted issues that extend beyond the Woreda itself (e.g., water resource management and financial viability of Woreda-wide rural water services). These elements could be developed to complement the SDG WASH plans. Further support for Woreda leadership, providing a stronger basis for selecting appropriate SDMs, and tackling deep-rooted issues beyond the building block assessment indicators were all less well addressed.

Several opportunities exist to evolve the portfolio in Ethiopia to address these challenges.

Looking forward, key priorities for the Conrad N. Hilton Foundation portfolio in Ethiopia could include to:

- Evolve the portfolio focus to ensure greater alignment with key provisions of the third phase of the OWNPN, currently under development, particularly in prioritizing multi-village piped schemes and solar-powered technologies and supporting the professionalization of WUAs and RPWUs.
- Encourage grantees to assess the bottlenecks behind safe and sustainable service delivery more strategically and to adapt programming and interventions accordingly, for example, through capacity assessments or full life-cycle cost analysis.
- In some cases, this could lead to a repositioning towards specific SDMs or population segments (i.e., focus support on remote and hard-to-reach areas or RUWPs). Grantees should be encouraged to articulate the added value of combining different SDMs in each target Woreda and ensure service (water)

quality is prominent in program design and closely and consistently monitored.

- Place a greater emphasis on structured and evidence-based innovations, with efforts focused on identifying innovative approaches, gathering robust evidence, developing strategies for dissemination, and sector-level influencing. In the Ethiopian context, where the OWNPN provides a unique platform for replicating successful models and approaches at scale, evidence generation coupled with strategic influencing would likely glean rapid results if conceived strategically from the program's outset.
- Re-assess the various hub functions (i.e., project management, learning, advocacy, and influencing) and revisit the allocation of roles across grantees to leverage sector-level presence and institutional strengths more effectively.
- Zoom-out from the Woreda focus to address deep-rooted and systemic issues at regional and national levels, particularly around public administration, fiscal decentralization, and water resource management.
- Strengthen existing – and potentially identify and fund additional – grantees with the ability to address systemic challenges and bottlenecks at the national and regional levels; this should include supporting RPWUs, for example.
- Ensure that collective action is established in program design from the outset, which will require an explicit articulation of a common strategy to achieve a specific sector-level change.



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Annex 1: Portfolio Review Matrix

CRITERIA	CODE	REVIEW QUESTION	SUB-QUESTION
RELEVANCE	R.1.1	Are interventions strengthening key district-wide gaps?	What are the key strengths and gaps of the district-wide WASH system?
			Are interventions in each target district designed to address these gaps?
			Are interventions in the target districts based on an assessment of the WASH system?
	R.1.2	Are interventions designed and managed by the principles of collective action?	Are interventions coordinated/designed under the leadership of the district?
			To what extent is the support provided to the service delivery models complementary to other Conrad N. Hilton Foundation (CNHF) grants in the district and the support of other development partners where relevant?
			Are interventions aligned to the trajectory of the rural water supply sub-sector?
	R.1.3	What stage of replication are the interventions currently at?	Have grantees mobilized external funding to replicate interventions in other districts or countries?
			Have local or national governments anchored interventions in their systems (vision, policy, funding) and mobilized funding to replicate in other districts?
			What are the barriers to replication and external funding leveraging?
EFFECTIVENESS	E. 2.1	How do water facilities perform in terms of service delivery?	To what extent are water facilities functional?

Annex 1: Portfolio Review Matrix

CRITERIA	CODE	REVIEW QUESTION	SUB-QUESTION
EFFECTIVENESS			To what extent does the water facility meet the national criteria for continuity, reliability, and seasonality?
			To what extent do water facilities provide water services that meet safe water quality standards and targets?
			To what extent do water facilities meet accessibility criteria?
			To what extent are water facilities accessible to disabled users?
			To what extent are water services affordable to users?
			To what extent are water facilities serving vulnerable groups?
	SUSTAINABILITY	S. 3.1	Are the service delivery models financially viable?
To what extent are the service delivery models able to cover operational expenditure (OpEx)?			
To what extent are service delivery models able to cover capital maintenance expenditure (CapManEx)?			
			What are the key barriers to reaching the financial viability of service delivery models?
S. 3.2		Are key technical functions performed for the water supply facilities across the service delivery models?	To what extent are operations, minor, and major maintenance activities regularly carried out?
			To what extent is water being treated and its quality monitored routinely?
			What are the key barriers to ensuring the proper technical management of service delivery models?
S. 3.3	What is the level of institutional capacity across the service delivery models?	To what extent are service authorities and service providers equipped with the relevant technical and financial skills?	

Annex 1: Portfolio Review Matrix

CRITERIA	CODE	REVIEW QUESTION	SUB-QUESTION
SUSTAINABILITY	S. 3.3	What is the level of institutional capacity across the service delivery models?	To what extent does the service authority provide regular technical support to service providers?
			To what extent does the service authority monitor the performance of the service provider?
			To what extent are resources (vehicles, cash, personnel, time, etc.) available to fulfill key functions at the service provider and service authority levels?
			To what extent are key governance requirements (i.e., leadership, committed workforce) met at the service provider and service authority levels?
			To what extent are appropriate regulatory measures in place, adhered to, and enforced?
			What are the barriers to strengthening the institutional capacity of service delivery models?
	S.3.4	How are water resources managed across the service delivery models?	To what extent are appropriate measures adopted to protect water resources?
			What are the barriers to managing water resources adequately?
	S. 3.5	To what extent are service providers accountable?	To what extent are users represented in the decision-making structures of the service provider?
			To what extent are service providers accountable to users and local and national governments?
What are the barriers to the transparent management of water facilities?			



Annex 2: Grant Selection for the Review

Grant Number	Grantee
18014	Millenium Water Alliance
17287	Millenium Water Alliance
26629	Millenium Water Alliance
27555	Water Resource Institute
28123	WaterAid
27554	Splash International
26631	IRC International Water and Sanitation Centre
28459	Sanitation and Water for All

Annex 3: List of Key Informant Interviews

Organization	Individual	Position
CARE	Gardachew Tiruneh	Senior program manager food and system program
	Manyahlshal Ayele	Food and water system coordinator
	Adugnaw Tedesse	Senior program manager for SWP
CRS	Genene Abera	WASH program manager
	Ashenafi Alabachew	Program manager for WASH and SWP
	Dejene Yigzaw	Project Coordinator
Dera Woreda water and energy office	Tadese Bezuneh	Water supply team lead
	Habtamu Adugna	Water quality expert
	Maregn Asfaw	Planning, monitoring, and evaluation team lead
	Belachew Gedamu	Scheme administration team lead
	Zeynu Esa	Office head
Farta Woreda water and energy office	Gasha Abebe	Data supply expert
	Addise Tarekegn	Water technician
	Bantie Kune	Schemes administration team lead
	Endalkachew Wonde	Planning and monitoring team lead
	Firehiwot Dejene	Water resource management expert
	Zeneb Tesfa	Water quality expert
	Geta Tade	Water supply engineer
Food for the Hungry	Abiyu Walelign	Finance expert
	Misgana Wakjira	WASH program manager
IRC	Abebaw Azagi	WASH Coordinator
	Lemessa Mekonta	Country Director
Ministry of Water and Energy	Girmachew Addisu	Monitoring and learning advisor
	Tamiru Gedefa	Lead executive officer
	Haymanote Belete	Post-construction lead

Annex 3: List of Key Informant Interviews

Organization	Individual	Position
MWA	Tamene Chaka	Country representative
	Mussie Tezazu	Monitoring, evaluation, and learning manager
	Selamawit Tiruneh	Project Coordinator
N. Mecha Woreda water and energy office	Mulugeta Chane	Planning and Monitoring Team Lead
	Desalegn Ejigu	Energy team lead
	Ademe Alamrew	Water supply team lead
	Mulu Edil Asres	Scheme administration team lead
	Abebe Worku	Office head
OWNP	Abiy Girma	WASH coordinator
	Amhara Regional government	Water schemes administration director
	Maru Alemu	Regional One WASH office coordinator
	Betegibar Wudaj	Planning, monitoring, and evaluation expert
	Ayinsegn Mekonnen	Regional water schemes administration team lead
South Gondar zonal water and energy department	Abebaw Alemu	Schemes management, operation, and maintenance team lead
	Yimer Nigate	Water supply engineer, materials supply
Splash	Nasser Ferej	Program Strategy
	Yodit Mekuria	Country director
	Addisu Shewamoltot	Behavior changes and partnership senior manager
	Mekonnen Addisu	Regional director for Amhara
WaterAid	Tinebeb Tamir	Planning, monitoring, and reporting specialist
	Gashaw Kebede	Director of Technical Services
	Abera Tsegaye	Project Coordinator
Water Resource Institute	Francesca Battistelli	Water program associate
	Zablon Adane	Water program associate
	Muluneh Bimrew	Programs and Research Specialist, Water Program
West Gonjam zonal water and energy department	Asefa Teshale	Schemes administration operation and maintenance department team lead
	Alealign Titayu	Planning, monitoring, and energy department
World Vision	Dureti Tessema	Focal person for SWP
	Habtam Achenef	Consortium coordinator
	Tafach Andargie	Area program manager

Annex 4A: Replicating Liquid Chlorine Dispensers to Improve Water Quality at Point of Use

Piloting liquid chlorine dispensers to improve water quality: a 2015 study on water quality conducted by MWA and the University of North Carolina revealed high levels of microbiological contamination in sampled sources as well as household-level water supply. These results, combined with the sporadic powder chlorination of water supply by Woreda water and energy development offices, led MWA to approach Evidence Action to pilot its low-cost liquid dispenser already tested in Malawi and Kenya. 250 community water points were equipped with such technologies between 2017 and 2018 in Farta, Dera, and N. Mecha under the Dispensers for Safe Water Initiative. Program monitoring activities confirmed high levels of acceptance by the community in 2020 (with 69% of sampled households using chlorine dispensers) but highlighted the need to strengthen the local supply of liquid chlorine and spare parts; the uncertainty around households' ability to cover costs over time (equivalent to USD 2 / year) and the lack of long-term monitoring by Woreda offices, threatening long term safe water access.

The innovation: Chlorine dispensers manufactured in Kenya, containing three liters of liquid chlorine, are installed directly at a community water point. The valve dispenses a 3 ml dose of chlorine (at 1.25% concentration),



enough to treat 20 liters of water and provide safe water for 72 hours. In Ethiopia, the project provided liquid chlorine for free for one year initially, after which the responsibility for operation and maintenance was handed over to the communities and the local government. Eligible communities were selected based on a set of criteria, including the presence of active WASHCOs/WUA, regular fee collection, protected water source with year-round service, and community willingness to pay for liquid chlorine and use chlorine dispenser (community sensitization, demonstration).²¹

Rolling out the liquid chlorine dispensers: building on the pilot phase, liquid chlorine

21 This technology complements inline water treatment technology for piped water supply, also piloted by MWA partners.



dispensers have been installed under the Sustainable WASH program on a further 585 water points, and an additional 345 are planned to be installed by 2024 across the three focus Woredas. Building on the lessons from the pilot phase, several adjustments were introduced in the roll-out phase:

- Free chlorine was provided to communities for six months instead of one year to stimulate greater community ownership.
- Local private entrepreneurs were trained to manufacture liquid chlorine in Bahir Dar, which enabled two local manufacturers to begin liquid chlorine production and distribution, reduce the cost of transport, and increase community access.
- Support was provided to the national standard authority and Ministry of Health at the federal level and to the regional standards agency to develop a standard for chlorine concentration at the point of delivery and include it in the draft national standards for chlorine production in Ethiopia.

The rollout phase will be completed in 2024 when further lessons can be drawn. So far, ongoing monitoring has shown comparatively lower levels of uptake than in the pilot phase, which can be explained by a combination of limited follow-up support from government offices, variable levels of community willingness to pay for liquid chlorine, and a shortage of free chlorine in Bahir Dar, despite efforts to develop the supply. Under the US-funded Safety Net Program, CARE and CRS have already shown interest in installing liquid chlorine dispensers in drought-prone areas, and Food for the Hungry has already installed these in an additional 12 Woredas in the Amhara region and is considering a further expansion to 11 Woredas.

Annex 4B: Replicating A City-Wide Wash in Schools Model and Adapting It to The Rural Context

Testing the model: Splash has been piloting WASH in Schools since 2008 in Addis, initially in a few schools, then across all government schools under Project WISE (Water in Schools for Everyone). Through this work, Splash takes a citywide approach to tackling WASH challenges, including providing infrastructure and behavior change training and strengthening menstrual hygiene services. Splash also introduces measures to ensure sustainability, including encouraging municipal governments to provide 50% capital funding (USD 8 million to fund toilet construction) and closely monitoring the government's funding allocation to maintain WASH infrastructure behavior change programming beyond its initial implementation (Figure 18).¹ A randomized control trial by the London School of Hygiene & Tropical Medicine (LSHTM) conducted in 2022 found promising improvements in handwashing with soap, and an increase in school attendance attributed to Splash's interventions.²

Replicating the model in the Amhara region:

Since 2022, Splash has begun replicating its model across all 56 government schools in Bahir Dar and has secured a 40% financial contribution from the government for construction. Adaptations have included the drilling of deep boreholes, the installation

of solar panels to overcome limited water availability and power shortages, the involvement of health extension workers and religious leaders in behavior change activities, the delegation of behavior change activities to local partners, and the support to the development of a 10-year financial strategy to secure an operations and maintenance budget from year two onwards.

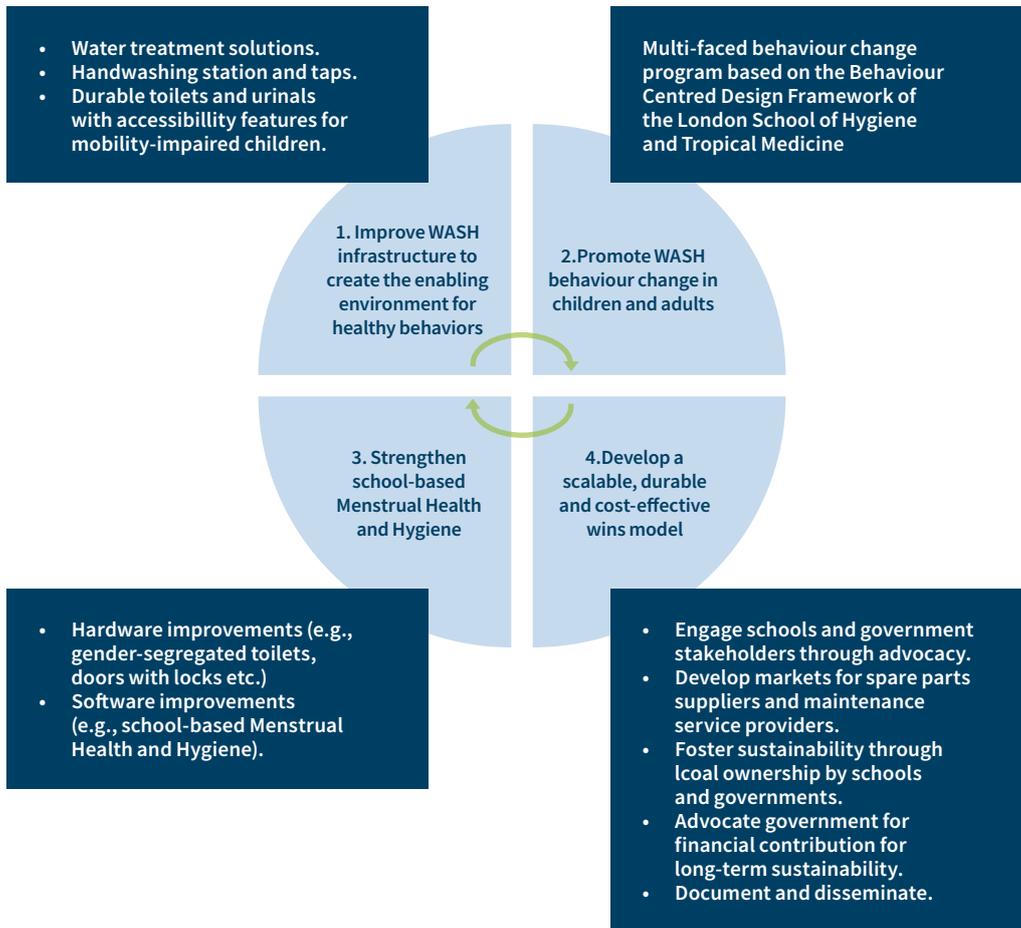
Contextualizing the model to rural contexts:

Splash is working closely with the MWA and Food for the Hungry to adapt the model to rural contexts under SWP, starting in Dera, where construction is underway in 3 schools. An O&M budget should also be mobilized from mid-2023 onwards and is estimated to be USD 107,692 annually through agreements with city and regional administrative bodies. At the same time, Splash is planning on replicating its model in three more cities under another project partly funded by the Children's Investment Fund Foundation (CIFF) (50%) and government (30%) and other donors (20%) currently under proposal development. Despite challenging external factors (demographic growth leading to an increase in the number of schools, water scarcity, price inflation, and weak supply chains), the model is a positive step toward addressing WASH in schools holistically.

1 The WISE project is co-funded by CIFF, China Foundation for Rural Development, the Conrad N. Hilton Foundation, and Rotary International, amongst others, for a total of USD \$38.9 million over the period 2019-2024 in Ethiopia and India.

2 By 2023, the project will have reached 481 schools in Addis out of the 562 total schools

Figure 18: Splash’s School WASH model



Conrad N. Hilton Foundation: Safe Water Initiative

The Conrad N. Hilton Foundation's Safe Water Initiative, using the district as a unit of scale, focuses on system-strengthening and service delivery to ensure reliable, affordable, and safely managed water to 1 million people in low-income households, health facilities, and schools in sub-Saharan Africa. The Safe Water Initiative contributes to building local capacity, narrowing gaps between those living in disadvantage and others, and generating evidence to inform regional, national, and global actors — with the end goal of improved health and socioeconomic outcomes for all.

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