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MILLE WOREDA WASH SDG MASTER PLAN

December 2021





Executive summary

This woreda WASH master plan contains the vision and strategies of Mille Woreda. This master plan aims for universal access to safe and sustainable water supply and sanitation and hygiene services for the entire population of Mille Woreda by 2030. The master plan provides a strategy towards achieving the set goals and visions for WASH in the woreda.

The Government of Ethiopia has carried out several initiatives to improve WASH services in the MDG and SDG periods. Ethiopia has had two 5-year Growth and Transformation Plans (GTP): GTP I was completed in 2015 and GTP II ended in 2020. These 5-year plans were developed at the national level with regions using them as a base to develop their annual and 5-year plans. GTP II did not include sanitation, hygiene, and institutional targets. However, there is a health sector development plan (HSDP) developed by Ministry of Health and Total Sanitation to End Open Defecation and Urination in Ethiopia (TSEDU) campaign developed jointly by the Ministry of Water, Irrigation, and Energy and the Ministry of Health in 2019 to eliminate open defecation and declare all woredas in Ethiopia ODF by the end of 2024. The campaign follows SDG targets and indicators. As the GTP II period concluded in 2020, Ethiopia is now moving to a ten-year comprehensive plan called the Prosperity Plan. For WASH, the Prosperity Plan envisions at least 100% basic service by 2030 based on SDG indicators.

With lack of comprehensive plan for WASH, there is a huge need for a long-term, woreda wide WASH master plan. The master plan is framed within the targets of the United Nations' Sustainable Development Goal 6 (SDG 6). The master plan is a full package containing a detailed plan for water, sanitation and hygiene, and institutional WASH components. The plan has also allowed the woredas to understand the status of their woreda and strategize on the means to achieve the SDGs.

The 10-year costed plan contains costs beyond building new infrastructure. It also includes mechanisms and costs for operation and maintenance, replacement, and direct support (monitoring, routine technical assistance, and training/retraining of service providers). The plan considers a variety of WASH service delivery models. The plan also helps to understand the costing gaps and henceforth uses them as evidence for resource mobilization.

The WASH SDG plan for Mille Woreda has been developed by the planning team drawn from district WASH sector offices of water, education, health, finance, administration, and women and children affairs. To support the planning process, IRC WASH developed Microsoft Excel-based planning tools. The aim of the tools is to support the handling quantitative data systematically and support the strategic planning and costing process of going from the current service to the desired, as per the agreed vision. The planning process involved a series of workshops with coaching and evaluation activities in between these workshops led by IRC WASH.

The WASH SDG master plan is prepared and owned by the woreda WASH sector offices with technical support from IRC WASH through USAID Sustainable WASH Systems Learning Partnership (SWS).

Mille Woreda is located in Afar Regional State, Ethiopia. Administratively, the woreda is divided into ten (10) rural and two (2) urban kebeles. The total population of the woreda is 113,914 (91,827 rural and 22,087 urban). The annual population growth rate of the woreda is 3%.

In rural kebeles, water supply is dominated by generator-powered distribution systems and solar-powered distribution systems. There are also a number of on spot schemes, including shallow wells fitted with hand pumps, solar powered on-spot water supply, and hand dug wells. Urban water supply in Mille Woreda is delivered through generator-powered with distribution systems generator-powered deep wells with distribution. In total, there are 31 schemes in the woreda, of which 11 are non-functional (non-functionality rate 35%). The SDG plan estimates that currently 7% of the woreda population has access to safely managed service and 24% to basic service and 69% of the woreda population has no access to water.



Sanitation access across Mille Woreda is dominated by pit latrines. There are no sewerage or pit emptying services, but some of the pit latrines used as private or shared are improved and safe considering the type of soil and possibility of ground water contamination. The most common sanitation facilities are private improved household pit latrines in situ (3,410 facilities) and private unimproved latrines (5,349 facilities). A smaller number of shared improved household pit latrines in situ have been constructed (581 facilities). In addition, 3,328 households have handwashing facilities of which 1,812 have handwashing facility with soap and water. There are 76 villages in Mille Woreda, of which 8 (11%) are reported as ODF, while 13 (17%) have received CLTSH triggering.

There are currently 16 schools and 17 health care facilities in the woreda. There are no schools that have achieved a basic level of water, sanitation, and hygiene service delivery in Mille Woreda. 11 of the schools in the woreda have no hygiene facilities, 14 schools do not have sanitation facilities, and 14 schools do not have water facilities. 15 of the health care facilities have no water service, 4 of the health care facilities have no sanitation facilities and 15 health care facilities have no handwashing facilities. 13 of the health care facilities have limited waste management facilities and all of the health care facilities have limited environmental cleaning practices in place.

Mille Woreda have set the vision of achieving 100% coverage with at least basic WASH service in rural and urban areas. This is a big step from the current 31% of people served with at least basic services (17% in urban areas and 80% in rural areas) for water, 17% of people served with basic sanitation services, and 9% of people served with hygiene services.

The woreda has also set the vision of achieving 100% coverage with basic WASH services for all schools and health care facilities by 2030. This is a big step up from the current water, sanitation, and hygiene service of 25%, 0%, and 0% respectively in the schools and water, sanitation, hygiene, waste management, and environmental cleaning service of 12%, 0%, 12%, 24%, and 12% respectively, in health care facilities.

Strategies for ensuring that 100% of the population will have access to at least basic water services in 2030 include rehabilitation of broken-down schemes, and construction of new schemes. Together the proposed strategies are expected to ensure 157,684 people will be served with at least basic water services by 2030. In part, the improvements to water supply services in Mille Woreda will be achieved through the construction of new water supply schemes and a total of 66 schemes have been planned in 12 kebeles including the 2 urban settlements. In addition, sources that have potential serving more people than they currently are serving will have expansion work on their distribution systems. To further ensure water services are continuously available, a range of activities are planned for strengthening the enabling environment. This includes the establishment and legalisation of WASHCOs, continuous capacity building and follow-up of WASHCOs, tariff setting and revenue collection of community-managed schemes, strengthening spare part supply and maintenance services, strengthening utility-managed piped water supply, and strengthening water service monitoring.

Activities to improve household access to sanitation and hygiene services include constructing and upgrading existing latrines to improved latrines, community-led total sanitation and hygiene and sanitation marketing.

Between 2020-30 an average of about 1,700 latrines will be constructed annually, with a total of 18,888 new latrines to be constructed. Approximately half of all new constructions will be improved latrines with off-site treatment and half will be improved household latrines in-situ. In addition, a significant programme of upgrading the 5,349 unimproved latrines in Mille Woreda is planned between 2020-30. By 2030, no households in rural kebeles will access shared latrines: all household access will access either improved latrines with off-site treatment or improved latrines in-situ.

Beyond latrine construction and upgrading a range of sanitation and hygiene promoting and support activities are planned. In both rural kebeles CLTSH is planned, with community triggering activities scheduled between



2020-27, and by 2030 all 76 villages in rural and urban kebeles will be certified ODF. This will include post triggering follow-up, health education, verification and certification and the example of model households. A sanitation marketing centre and a programme of community awareness and demand creation is planned, with regular sanitation marketing campaigns and training for enterprises. Additionally, experience sharing, through conducted visits to high performing communities, will be organised. To ensure inclusion, subsidisation programmes will be created for full participation in poorer communities.

Achieving a basic level for water service in health care facilities will involve the extension of existing piped water supply systems to 11 of the schools presently with no service. Repair will be undertaken at the one school where water supply is presently limited, to bring the service level to basic.

Basic sanitation will be achieved through the construction of improved pit latrines at all of the 14 schools currently without sanitation services. At the one school where sanitation service is presently limited, locks will be installed at the facility to increase privacy and security of the facility to ensure basic sanitation service is provided. To achieve basic hygiene in all schools, handwashing facilities will be constructed in the 11 schools where there is presently no service. Additional activities, such as school WASH clubs, will also be established.

Achieving basic level for water service in health care facilities will involve the extension of existing piped water supply systems to 34 facilities: 15 into facility buildings and 24 into facility yards. Basic sanitation will be achieved through the construction of improved pit latrines in four health care facilities. In the 14 health care facilities where the sanitation service is presently limited, action will be undertaken to separate latrines, reconstruct for use by persons with disability, and install menstrual hygiene facilities, therefore ensuring that basic sanitation is achieved.

To achieve basic hygiene in all health care facilities, handwashing facilities at the point of care will be constructed in the 11 facilities where there is presently no service. Basic waste management will be achieved through the construction of incinerators at 13 health care facilities which are presently limited service. In addition, for the construction of ten new health care facilities planned for construction before 2030, all with basic water, sanitation, hygiene, and waste management, by 2030.

Estimated required costs to achieve the vision by 2030 are costs for Capital Expenditure (CapEx), Capital Maintenance Expenditure (CapManEx), Operation and minor Maintenance expenditure (OpEx), and Direct Support Costs (ExpDS). The total cost required for achieving 100% at least basic water service by 2030 is ETB 1.78 billion (45 million USD). The total cost required for achieving 100% at least basic sanitation and hygiene service by 2030 is ETB 3.29 billion (83 million USD). The total cost required for achieving 100% at least basic WASH service in schools by 2030 is ETB 6.47 million (164 thousand USD). The total cost required for achieving 100% at least basic WASH service in health care facilities by 2030 is ETB 28 million (713 thousand USD).



Endorsement of Mille Woreda WASH SDG Masterplan

This woreda WASH SDG masterplan is signed by Woreda WASH Team (Woreda Water, Mines and Energy Office, Woreda Health Office, Woreda Education Office, Woreda Finance Office, and Woreda Administration) to support implementation of water supply, sanitation and hygiene services for the community and institutions.

The woreda WASH SDG masterplan was developed with the support from IRC WASH through USAID Sustainable WASH Systems Learning Partnership project.

The following Offices have endorsed the attached Woreda WASH SDG masterplan with signatures and official stamps.

Signatures:

For Woreda Water, Mines and Energy Office _____

For Woreda Health Office _____

For Woreda Education Office _____

For Woreda Finance Office _____

For Woreda Administration _____

Mille



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Abbreviations

BCC	Behaviour Change Communication
CapEx	Capital Expenditure
CapManEx	Capital Maintenance Expenditure
CLTSH	Community Led Total Sanitation and Hygiene
CWA	Consolidated WASH Account
DGIS	Directorate-General for International Cooperation
ETB	Ethiopian Birr
ExpDS	Direct Support Costs
GTP	Growth and Transformation Plans
HEP	Health Extension Program
HHs	Households
HSDP	Health Sector Development Plan
IEC	Information Education Communication
JMP	Joint Monitoring Program of the World Health Organization and UNICEF
MDG	Millennium Development Goal
MHM	Menstrual Hygiene Management
MoWIE	Ministry of Water, Irrigation, and Energy
NGOs	Non-Governmental Organizations
ODF	Open Defecation Free
OpEx	Operation and Minor Maintenance Expenditure
SDGs	Sustainable Development Goals
SLTSH	School Led Total Sanitation and Hygiene
TSEDU	Total Sanitation to End Open Defecation and Urination in Ethiopia
WASH	Water supply, Sanitation, and Hygiene
WASHCOs	WASH committees
WHO	World Health Organization
WWMEO	Woreda Water, Mines and Energy Office



1 Introduction

“Every person in Mille Woreda, by 2030, will have access to safe and sustainable water, sanitation and hygiene services in a conducive environment where water resources are sustainably managed”.

Mille Woreda WASH SDG master plan collective stakeholder vision, 2019

After the Millennium Development Goal (MDG) period which delivered improvements in access to WASH services, the Sustainable Development Goals (SDGs) were developed with the aim of ensuring sustainable water, sanitation, and hygiene services for all. Ethiopia achieved the water component of the MDGs by halving the proportion of the population without access to improved water services but did not achieve halving the proportion of the population without access to improved sanitation. The drinking water target of the SDGs (SDG 6.1) is, “By 2030, achieve universal and equitable access to safe and affordable drinking water for all”. The sanitation and hygiene target (SDG 6.2) is, “By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations”.

The Government of Ethiopia has carried out several initiatives to improve WASH services in the MDG and SDG periods. Ethiopia has had two 5-year Growth and Transformation Plans (GTP): GTP I was completed in 2015 and GTP II ended in 2020. Achieving these plans required huge resources and interventions. These 5-year plans were developed at the national level with regions using them as a base to develop their annual and 5-year plans. GTP II, which covered the period from 2016 to 2020, had targets to provide 85% of the rural population and 75% of the urban population with improved water supply access and decrease non-functionality rates to 7%. These national plans did not include Operational Expenditure (OpEx), Capital Maintenance Expenditure (CapManEx), and Direct Support Costs (ExpDS) that can ensure sustainability. Plans for water supply, sanitation, and hygiene were not addressed as integrated packages in these plans.

GTP II did not include sanitation, hygiene, and institutional targets. However, there is a health sector development plan (HSDP) developed by Ministry of Health. The plan includes an environmental hygiene section with a vision of increasing the proportion of households utilizing latrines from 20% to 82%, increasing the proportion of open defecation free (ODF) villages from 15% to 80%, and increasing the proportion of households using household water treatment and safe storage practices from 7% to 77%. It is stated that hygiene and environmental health will be improved through the application of the Health Extension Program (HEP) packages designed to decrease communicable diseases caused by poor hygiene and sanitation practices.

There is also the Total Sanitation to End Open Defecation and Urination in Ethiopia (TSEDU) campaign developed jointly by the Ministry of Water, Irrigation, and Energy and the Ministry of Health in 2019. The main objective of the campaign is to eliminate open defecation and declare all woredas in Ethiopia ODF by the end of 2024. The campaign follows SDG targets and indicators.

As the GTP II period concluded in 2020, Ethiopia is now moving to a ten-year comprehensive plan called the Prosperity Plan. For WASH, the Prosperity Plan envisions at least 100% basic service by 2030 based on SDG indicators. Though not yet approved, the Prosperity Plan is also not a full package for WASH as it does not include sanitation and hygiene or try to meet full coverage.

Because the Prosperity Plan is not comprehensive for WASH, there is a huge need for a long-term, woreda wide WASH master plan. The main purpose of the woreda WASH SDG master plan is to address both access and sustainability. It is a full package containing a detailed plan for water, sanitation, and hygiene, as well as institutional WASH components. The plan helps to understand the woreda’s WASH status and strategize how to achieve the SDGs.

The 10-year costed plan contains costs beyond building new infrastructure. It also includes mechanisms and costs for operation and maintenance, replacement, and direct support (monitoring, routine technical assistance,



and training/retraining of service providers). The plan considers a variety of WASH service delivery models such as the commonly practiced self-supply, community managed, and utility managed service delivery models for water supply and community-led total sanitation and hygiene (CLTSH), school-led total sanitation and hygiene (SLTSH), and sanitation marketing approaches for sanitation and hygiene. The plan also helps to understand the costing gaps and henceforth uses them as evidence for resource mobilization.

The WASH SDG master plan is prepared and owned by the woreda WASH sector offices with technical support from IRC WASH through USAID Sustainable WASH Systems Learning Partnership (SWS).

1.1 The development of the woreda WASH SDG master plan

The discussion to develop the Mille Woreda WASH SDG master plan started from the 3rd Mille Learning Alliance meeting following the request by the Woreda Administration.

The WASH SDG plan for Baka Dawla Ari Woreda has been developed by the planning team drawn from district WASH sector offices of water, education, health, finance, administration, and women and children affairs.

To support the planning process, IRC WASH developed Microsoft Excel-based planning tools. The aim of the tools is to support the handling quantitative data systematically and support the strategic planning and costing process of going from the current service to the desired, as per the agreed vision. The tool supports planning and costing infrastructure needed over longer periods to provide universal services for all and planning for all necessary activities to sustain these services including operation and minor maintenance, capital maintenance, and direct support to service providers. An overview of the sheets included in the water, sanitation and hygiene, and institutional WASH planning tools can be found in Annex 1.

The planning process involved a series of workshops with coaching and evaluation activities in between these workshops led by IRC WASH.

The concept for developing the master plan and the experience from Amhara region was presented at the 6th Learning Alliance meeting in August 2019. The learning alliance recognised that it is a good opportunity to have a long-term plan for the woreda to mobilize fund and work with development partners to achieve SDG 6 targets. A planning team was established, and members were assigned responsibility for following the planning process. The planning team included representatives from across the woreda government, including Woreda Administration Office, Woreda Water, Irrigation and Energy Office, Woreda Health Office, Woreda Education Office, Woreda Finance and Economic Cooperation Office, Woreda Women and Children Affairs Office, Mille Town Water Utility, and the Pastoral Community Office.

The role of the Learning Alliance in the planning process was to provide a platform for the initial WASH SDG master plan proposal, discuss methodologies, review and revise datasets and agree upon planning targets. Through a series of Learning Alliance meetings, planning workshops and support, the Mille Woreda WASH SDG master plan has been developed.

The planning team drew upon multiple data sources to inform the planning process. The initial water supply asset inventory, life-cycle cost analysis and sustainability check assessment data were collected in early 2017. Since then, the asset inventory has been periodically updated with new schemes and the status of existing schemes, and the latest version was used as the baseline for the plan. In total, the planning team met 8 times between September 2019 and September 2020 to validate the planning data, develop targets for all aspects of WASH, explore and agree on aspects of service delivery and financing, enter data in the tool and review and revise the planning results, and discuss and agree upon the future implementation of the WASH SDG master plan.

Workshop 1 (September 2019): In this workshop, the planning team had an introductory training on the water planning tool. The main objective of the workshop was to discuss the basic concepts of SDGs, to provide training on the SDG planning tool and data requirement and to discuss and develop timeline for the planning process.



The discussion was supported with the demonstration of similar activity from another program in the Amhara Region and the Excel planning tool. The planning team took the responsibility of collecting information and filling in the excel planning tool until the next workshop.

The planning team was tasked with responsibilities of updating the existing inventory data on water supply, sanitation, and hygiene across the woreda, cleaning, verification, and analysis of the data for use as the baseline for the SDG master plan.

The woreda planning team reviewed and decided on a vision, collected data for woreda information, and selected a new infrastructure option as a draft after the first workshop was conducted. The team identified new infrastructures required to achieve full coverage/access to all by 2030, considering and providing attention to planning assumptions like the number of users per scheme, the life span of water schemes, and cost of water schemes. The woreda agreed to achieve at least 100% basic access to water by 2030.

Workshop 2 (February 2020): The main objective of this workshop was to present draft SDG plan (data collection, data entry, setting assumptions) for discussion to get feedback on each planning steps, discuss on the challenges of planning process and find solutions, evaluate the timeline for the planning process and develop ideal schedule to finalize the plan, and introduce sanitation and hygiene woreda SDG planning tool. The team took additional responsibility and set timeline for further development of the plans.

Workshop 3 (June 2020): The main objective of this workshop was to verify all data from the different excel sheet filled with the support of SWS local facilitator and further edit the planning tool, to discuss on the master plan narrative report outline and make a start with filling all the necessary information in bullet points under each outline titles which will be used for the development of the narrative report.

Workshop 4 (January 2021): This two-day validation and launching workshop included WASH stakeholders beyond WASH sector offices from the woreda, zone and region. The planning team from water, health and education presented their respective office plans. Participants suggested the approval of the plan by the management of each WASH sector office and the Woreda Cabinet Council after incorporating the comments to be used as a WASH roadmap for the woreda.

1.2 Outline of the document

The Mille Woreda WASH SDG master plan outlines the development path for achieving full access to water, sanitation and hygiene services for all people living and working in Mille Woreda by 2030. All aspects of service delivery are considered for, planned, and costed. The WASH SDG master plan focuses on the following thematic areas:

- **Water supply and water quality** components support the attainment of access to sustainable basic and safe water services by everyone in Mille Woreda by 2030. The plan includes provision of water supply service for households, schools, and health care facilities, and defines the service delivery models, financing mechanisms for providing and sustaining the service and strategic actions for achieving the objectives and set targets. All water supply lifecycle costing aspects are considered, including capital expenditure (CapEx), capital maintenance expenditure (CapManEx), operational expenditure (OpEx) and direct support costs (DSC).
- **Sanitation and hygiene** components aim to increase access to improved and reliable sanitation services to households and institutions by 2030. The SDG master plan defines the service delivery models, financing mechanisms and cost recovery and strategic actions for achieving the objectives and set targets. Sanitation and hygiene in schools and health facilities are included to support the attainment of basic hygiene services on site in educational and health institutions.
- **Woreda capacity development** components support orientation, capacity building and technical assistance to streamline roles and strengthen capacities of the woreda for effective SDG master plan implementation, and ongoing monitoring and evaluation.



- **Partnerships and implementation** arrangements components determine the role of various actors and the coordination mechanisms for the plan implementation.
- **Monitoring, evaluation and learning** components define monitoring, evaluation and learning framework for plan implementation and accountability.

Following the general introduction of the woreda SDG master planning in Mille in this section, Section 2 introduces the main SDG service level definitions and national targets. Section 3 provides information on the woreda context. Section 4 presents an analysis of the current WASH situation in Mille related to water services, sanitation and hygiene services, and WASH in health care facilities and schools. The vision of the WASH situation in the woreda by 2030 is presented in Section 5. Section 6 presents strategies for going from the current situation, as presented in Section 4, to the vision, as presented in Section 5. An analysis of the lifecycle costs for achieving the Mille WASH vision is presented in Section 7. Finally, a plan for monitoring and evaluating the plan's implementation is presented in Section 8.



2 National targets and SDG definitions

The Ethiopian government has given high priority to WASH in its development agenda. The Ministry of Water, Irrigation, and Energy (MoWIE) leads the government's effort in water supply development in the country while the Ministry of Health leads with respect to sanitation and WASH in health care facilities. The Ministry of Education leads with respect to WASH in school. This section introduces the global and national WASH service ladders and targets. As stated above, the Prosperity Plan envisions at least 100% basic service by 2030 based on SDG indicators. Henceforth, for this master plan, the SDG targets and JMP ladder are used for planning.

Water supply development priorities feature in the country's main development instrument, the GTPs. The JMP of the World Health Organization (WHO) and UNICEF is responsible for monitoring progress made towards meeting SDG 6. For water service, the JMP differentiates between safely managed services, basic services, limited water services, unimproved services, and use of surface water.

Table 1: JMP indicators for water service

Ladder	JMP Indicator
Safely managed	Drinking water from an improved water source which is located on premises, available when needed, and free from faecal and priority chemical contamination
Basic	Drinking water from an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing
Limited	Drinking water from an improved source for which collection time exceeds 30 minutes for a roundtrip including queuing
Unimproved	Drinking water from an unprotected dug well or unprotected spring
Surface water	Drinking water directly from a river, dam, lake, pond, stream, canal, or irrigation canal

As part of the two GTPs, the Ethiopian government has set norms and standards related to water service levels, differentiating between rural and urban water services. The goal of GTP II in rural areas was to ensure universal access in line with GTP I norms while reaching 85% of people with the GTP II standards. This includes supplying more water within a shorter distance and improving water quality (Table 2). Safely managed service is not included in GTP I or GTP II.

Table 2: Water service level standards according to GTP I and GTP II compiled from GTP documents.

Category	Population	Water quantity		Accessibility			Water quality		Reliability	
		GTP I	GTP II	GTP I	GTP II	JMP (basic service)	GTP I and GTP II	JMP (basic service)	GTP II	JMP (basic service)
Rural	< 2,000	15 lpcd	25 lpcd	Within 1500m	Within 1000m	No more than 30 minutes round trip including queuing	In line with water quality standards of WHO	No faecal or priority chemical contamination	N/A	Available when needed.
Category 5 town	2,000 - 20,000	20 lpcd	40 lpcd	Within 500 m	Within 250 m				Uninterrupted for at least 16 hours per day	
Category 4 town	20,000 - 50,000		50 lpcd							
Category 3 town	50,001 - 100,000		60 lpcd							
Category 2 town	100,001 - 1 million		80 lpcd							
Category 1 town	> 1 million		100 lpcd							



2.1 Sanitation and Hygiene definitions and targets

The JMP defines sanitation and hygiene services with respect to whether people access safely managed, improved with on site or off-site safe treatment; basic, improved private facilities; limited, shared with multiple households; unimproved sanitation services, and practices open defecation.

Up to GTP II, there have not been specific targets for sanitation and hygiene in Ethiopia. GTP II states that there is a need to decrease communicable diseases caused by poor hygiene and sanitation practices. This will be done through the application of the Health Extension Program. Table 3 and Table 4 show JMP indicators and Ethiopia's national indicators.

Table 3: National and JMP indicators for sanitation

Ladder	JMP Indicator	National Sanitation Indicators	Technology Type
Safely managed	Use of improved facilities* that are not shared with other HHs and where excreta are safely disposed in situ or transported and treated offsite.	<i>Improved Sanitation Facility:</i> A sanitation system that is safe and cleanable, sealed (with an appropriate lid and vent pipe) to discourage exposure to flies, other animals, and the environment, as well as promote dignity and privacy. Safe disposal** of human waste protects the quality of drinking water, enhances the safety of women and children, and promotes dignity and self-esteem.	Flush/pour-flush to a piped sewer system or septic tank, pit latrines, ventilated improved pit latrines, composting toilet, pit latrine with slab.
Basic	Use of improved facilities that are not shared with other HHs.	<i>Onsite Sanitation:</i> A sanitation system where human waste is contained either in a pit, chamber, vault, or septic tank.	Pit latrines, ventilated improved pit latrines, pit latrine with slab.
Limited	Use of improved facilities that are shared between two or more HHs.	<i>Communal latrines:</i> Communal latrines are located in or near housing areas and are used by the community - people living in nearby houses who have no household latrines.	Flush/pour-flush to a piped sewer system or septic tank, pit latrines, ventilated improved pit latrines, composting toilet, pit latrine with slab.
Unimproved	Use of pit latrines with no slab or platform, hanging latrines, bucket latrines, traditional pit latrine.	<i>Basic/unimproved sanitation facility:</i> A fixed point of defecation system that does not fully satisfy any of the indicators for improved sanitation facility.	
Open Defecation	On fields, forests, bushes, water bodies, or other open space.	<i>Open defecation</i>	

*Improved facility: Include flush/pour-flush, septic tank, or pit latrines, ventilated improved pit latrines, composting toilets, or pit latrines with slabs.

**Safe disposal: In the national context, if the facility is onsite, not emptied but not contaminating the environment, then it is considered safely managed.

Table 4: JMP indicators for hygiene

Ladder	Indicator	Technology type
Basic	Hand washing facility on premises + soap + water	Fixed or mobile, sink with tap water, buckets with taps, tippy taps, designated jugs, or basins. Bar soap, liquid soap, powder detergent, soapy water (excluding ash, soil, sand, etc.).
Limited	Hand washing facility on premises	Fixed or mobile, sink with tap water, buckets with taps, tippy taps, designated jugs, or basins.
No facility	No facilities	

2.2 Institutional WASH definitions and targets

National and JMP definitions for institutional WASH show significant differences. While the main components are similar, there is no standard for the service ladder at the national level. Table 5, Table 6 and Table 7 show sanitation and hygiene JMP indicators for schools and health care facilities separately.



Table 5: JMP water ladder for institutional WASH

	Schools	Health Care Facilities
Basic	Drinking water from an improved source is available at the school.	Water is available from an improved source on the premises.
Limited	An improved source (piped, protected well or spring, rainwater, packaged or delivered water).	An improved water source within 500m of the premises.
No service	No water source or unimproved source (unprotected well or spring, surface water).	Water is taken from unprotected dug well or spring, or surface water sources. Or an improved source that is more than 500m from the facility. Or the facility has no water source.

Table 6: JMP sanitation ladder for institutional WASH

	Schools	Health Care Facilities
Basic	Improved sanitation facilities at the school that are single-sex and usable (available, functional, and private), at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.	Improved sanitation facilities with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.
Limited	Improved sanitation facilities at the school that are either not single-sex or not usable	At least one improved sanitation facility, but not all requirements for basic service are met.
No service	Unimproved sanitation facilities or no sanitation facilities at the school.	Toilet facilities are unimproved (pit latrines without a slab or platform, hanging latrines and bucket latrines), or there are no toilets or latrines at the facility.

Table 7: JMP hygiene ladder for institutional WASH

	Schools	Health Care Facilities
Basic	Handwashing facilities with water and soap available.	Functional hand hygiene facilities with water and soap and/or alcohol-based hand rub available at point of care or within 5 meters of the toilet.
Limited	Handwashing facilities with water but no soap available.	Functional hygiene facilities available at either point of care or toilets but not both.
No service	No handwashing facilities or no water available.	No functional hand hygiene facilities are available at either point of care or toilets.

The national definition for health centres and health posts and schools is presented in Table 8 and Table 9, respectively.

Table 8: National health facility WASH indicators

Health Institution	Water	Sanitation	Hygiene
Hospital and health centre	Running water in inpatient rooms, outpatient examination rooms, shower facility for delivery rooms.	Toilet access for inpatients.	Hand washing facility chemicals with soap or other disinfectants in all rooms.
		Toilet facility with hand washing for outpatients, considering persons with disabilities and full-term pregnant women.	
Health posts	Running water in delivery rooms and examination rooms.	Male/female separated VIP or improved latrine considering persons with disabilities and full-term pregnant women.	Hand washing facility with soap in the compound.
			Hand washing facility with soap in delivery and examination room and outpatient department.

Table 9: National school WASH indicators

Parameters	Standard
Minimum package	Full package of WASH services (latrine, hand washing, menstrual hygiene management (MHM) facilities, urinals, drinking water fountains/taps).



Placement	Latrine for male and female students must be separated and placed in opposite directions.
	Latrine to student ratio should be one latrine stance for 50 girls and one for 75 boys.
Facility features	Latrines should provide adequate and separate access (male/female) to persons with disabilities both in accessing the latrine (ramp) and support mechanisms (handrail) for sitting or standing.
	Each latrine block should have a handwashing facility with soap or ash as a cleaning agent.
	Separate room for MHM (washing, changing, and waste disposal).
	Adequate and safe water supply should be available in schools. There should be a drinking fountain or tap. At least one tap for 100 students.
Latrine stance ratios	One stance/cubicle per 50 girls and one toilet for female staff in rural schools.
	One stand/cubicle and one urinal per 75 boys and one toilet for male staffs in rural schools.
	In urban schools, the number of seats to student ratio should be one stance for every 25 girls and one toilet for female staff and one stance plus one urinal for every 50 boys and one toilet for male staff.
	At least one toilet cubicle, each should be accessible for staff, boys, and girls with disabilities. This includes level or ramped access, a wide door, and sufficient space inside for a wheelchair user or helper to manoeuvre, and the provision of support structures such as a handrail and toilet seat.



3 Woreda context

Mille Woreda is situated along the main Addis Ababa-Djibouti highway, about 50 km south of the administrative capital of the Afar Region, Semera. The woreda covers an area of about 5,345 km² and the population is only partly settled, with a large part of the rural population consisting of pastoralists. The woreda is comprised of two urban kebeles and ten rural kebeles. Mille Woreda owes its name to the Mille River, a tributary of the Awash River, which flows through this woreda. Part of the Administrative Zone 1, Mille is bordered in the north by Dubti Woreda, east by Gereni Woreda, west by Chifra Woreda, southwest by Addaar Woreda, and in the south by Gewane Woreda which belongs to zone three of the region. Towns in Mille include Mille and Adaytu.

The climate is hot and dry for most months in the year, with a short distribution of precipitation of two pronounced rainy seasons, one expected in April and the other during July and August. The monthly potential evapotranspiration is expected to be very high and monthly mean air temperature ranges from 26.1 °C in December to 35.6 °C in June, exceeding 30°C from April to September.

The highest point in this district is Mount Gabillema, at 1,459 meters, a dormant volcano in the south-eastern part. Roads in this woreda include the road between Chifra and Mille, which is 105 kilometres in length. Important local landmarks include the Yangudi Rassa National Park, which covers the southeast corner of Mille, and the archaeological sites at Hadar and Dikika where specimens of *Australopithecus afarensis*, an extinct species of australopithecine which lived from about 3.9–2.9 million years ago, have been recovered. Figure 1 shows the administrative boundaries for all woredas in Ethiopia. Overlaid and coloured are the five zones in Afar Region. Mille Woreda is part of zone 1, and has been indicated in red.

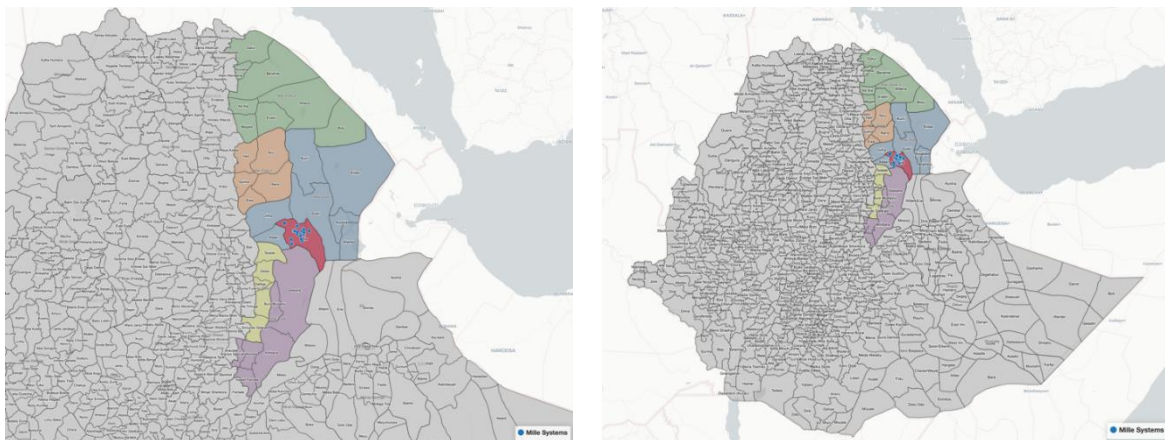


Figure 1: Map of Mille Woreda

Administratively, Mille Woreda has urban kebeles: Mille 01, with a population of 12,694, and Adaytu, with a population of 9,393. There is a total of 10 rural kebeles: Bekeridar & Abelidaar has the largest population, at 12,631, and Ledi the smallest, at 2,708. All the woreda sector offices use population data from the woreda finance office. According to this data, the total population of the woreda is 113,914 (91,827 rural and 22,087 urban). The annual population growth rate of the woreda is 3% and current population density amounts to about 21 people per km², which is significantly less than the Ethiopian average of 102 and slightly less than the Afar average of 25 people per km². There are 19,973 households (HH) in the woreda, with an average household size of 6 people.

Economic development in Mille Woreda is limited. Livelihoods are typically trade activities and government employment. Average monthly income varies from less than 1,000 ETB to over 7,500 ETB, with 75% achieving between 1,000 to 3,000 ETB monthly. The average monthly household expenditure for water is 155 ETB.



There are 16 schools in Mille Woreda found across all 12 kebeles. High schools are found in Mille 01 and Adaytu urban areas, and in each rural kebele there are 1-2 elementary schools. Across Mille Woreda there are a total of 17 health care facilities. Of these, six are health centres and 11 are health posts.



4 Situational analysis

4.1 Water services

4.1.1 Water infrastructure

In rural kebeles, water supply is dominated by generator-powered distribution systems and solar-powered distribution systems. There are also a number of on spot schemes, including shallow wells fitted with hand pumps, solar powered on-spot water supply, and hand dug wells. Urban water supply in Mille Woreda is delivered through a total of six systems. Mille Town has four generator-powered with distribution systems each serving over 1,250 people, and in Adaytu Town there are two generator-powered deep wells with distribution. All sources and schemes delivering water in urban kebeles are functional. In total, there are 31 schemes in the woreda, of which 11 are non-functional (non-functionality rate 35%) (Table 9).

Across the rural kebeles of Mille Woreda there is a total of 75 household connections from distribution systems. These are largely concentrated in the Harsis & Bedaalu kebele, but household connections are also found in four other kebeles. In urban kebeles, household connections are concentrated in Mille Town, where there are connections to 1,153 households. In Adaytu there are 415 household connections.

Table 10: Type of schemes and functionality in Mille woreda

Type of scheme	Number of beneficiaries	Functional	Non-functional	Total
Hand dug well fitted with hand pump	360	0	1	1
Shallow well fitted with hand pump	576	4	5	9
On spot water supply (solar powered)	576	0	2	2
Generator powered with distribution serving 1250	1250	9	1	10
Generator powered scheme with distribution serving 2500	2500	1	1	2
Solar Powered Scheme with distribution serving 1250	1250	3	1	4
Solar powered scheme with distribution serving 2500	2500	1	0	1
Generator powered deep well with distribution for Adaytu	8231	2	0	2
Total		20	11	31

4.1.2 Water service level

Based on the currently functional schemes in each kebele, the number of people that these schemes can serve with safely managed and basic water services, and the number of people per kebele, currently 7% of the woreda population has access to (potentially¹) safely managed service and 24% have access to basic service². The remaining 69% are underserved. Within these figures there is a significant difference between the service delivery in urban and rural areas, where the population served by potentially safely managed is 35% in urban areas and 0% in rural areas. 45% of the urban population is served by basic service in urban areas, and 18% in rural areas. A large number of the urban and rural populations are underserved, with 81% of people in rural areas living without any services.

¹ Improved water services on premises. As water quality (“free from contamination”) and service reliability (“available when needed”) are not included, this refers to potentially safely managed water services.

² Whether or not water services are within 30-minute round trip is not considered. Therefore, this refers to improved water services, which are potentially basic, but can also be limited.



Figure 2 shows an overview of the service level for Mille Woreda (urban, rural, and total). Overall, 69% of the woreda population has no access to water. One rural kebele (Gesyonaleas) is not served with water services at all (100% unserved).

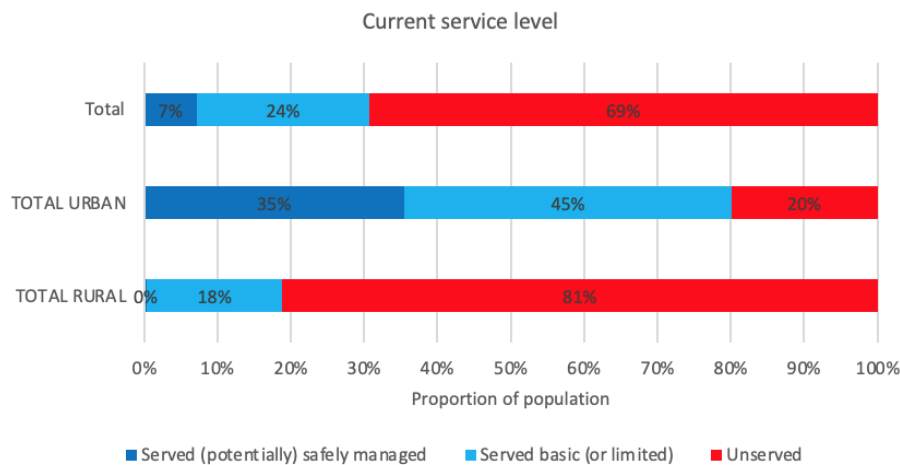


Figure 2: Mille service level, Water

4.1.3 Water service delivery models

The main service delivery model in Mille is community-managed schemes. There are also very limited number of self-supply schemes in rural kebeles of the woreda. The community managed schemes are managed by WASH committees (WASHCOs) and caretakers (which are recruited by WASHCOs). WASHCOs consist of five members, including at least 50% women, a chair, a secretary, a cashier, an auditor, and a member. They are elected from the user community and work voluntarily. WASHCOs are responsible for tariff collection and day-to-day operation and maintenance of schemes.

The government (Woreda Water and Mines and Energy Office; Zone Water and Mines and Energy Development Department; and Regional Water and Mines and Energy Bureau) are service authorities that support service providers (WASHCOs). The service authorities are responsible for new water scheme construction, major maintenance, and rehabilitation. This responsibility is shared between woreda, zone and region, as necessary.

4.1.4 Systems strength at woreda level

A WASH system building block framework that covers relevant aspects of institutions, finance, planning, infrastructure, monitoring, regulation, learning & adaptation, and water resource management can be used for understanding components of the WASH system and --identifying areas for strengthening. In 2018, USAID SWS supported a baseline synthesis of these components, which was used and updated in 2020 during the planning process.

Institutions: the institutional set-up is clear about the roles and responsibilities of the service providers (rural WASHCOs and the urban utility), and the service authority (Mille Woreda Water Resources Office) is supported by the Regional Water Bureau. Half the rural water schemes do not have a WASHCO to take up the role of service provider, and the WASHCOs that do exist are not well constituted, with an often-unclear distribution of roles and responsibilities amongst members. Training of WASHCOs is an issue, with most having received only limited training when they were established more than 2 years ago. Most of the WASHCOs are gender balanced but only 30% reported receiving technical support from the woreda level within three days when they face technical issues beyond their capacity. The woreda has only four technicians providing repairs to water schemes at the time of the 2020 updates. Recently, the woreda was selected for a pilot programme to develop micro and small enterprise (MSE) capacity for maintenance and spare parts supply, and that may increase local private sector capacity to make repairs.



Finance: annual expenditure in WASH comes from Mille Woreda (12%), regional government (24%) and NGOs (64%). Most of the budget is allocated to new water schemes and extensions (88%), followed by salary and running costs (7%) and several smaller components. Much of the Woreda Water Resource Office budget goes into paying salaries and running costs (58%), with an allocation for per diem (7%) and major maintenance (9%), and dedicated budget for purchase of spare parts. Budget for maintenance and repair of motorised schemes is managed within the Regional Water Resources Bureau. WASHCOs generally collect money on an ad-hoc basis and are able to cover only part of their operations and minor maintenance expenditures. As of December 2020, just four of the WASHCOs in Mille Woreda have a bank account and a few keep up-to-date records on revenues and expenditures. Direct support costs in Mille Woreda largely cover staffing for roles in supervision, rehabilitation, and construction. The Woreda Water Resources Office is poorly resourced, and the benefitting communities often pay for the transport costs for woreda staff.

Planning: Mille Woreda has a multi-year WASH strategic plan (the 2nd Growth and Transformation Plan) and a WASH annual plan, both listing costs for capital investments (CapEx) as well as recurrent costs (CapManEx and direct support costs), and sources of funding have been identified. The plans do not include NGOs activities and there is no substantial consultative planning process with stakeholders.

Infrastructure development: mechanisms at woreda and regional levels ensure due diligence and control over procurement, although capacity to effectively implement these processes and oversee the quality of work is variable. Construction standards are generally considered to be low.

Infrastructure management: schemes are operated by both WASHCOs and utilities, and for the motorised schemes the cost and related logistics of procuring diesel fuel is the major limiting factor. The electro-mechanical components of these schemes are vulnerable to breakdown. Communities cover the fuel costs, minor maintenance by woreda technicians; major maintenance then becomes the responsibility of the regional government. Community ownership of assets observed weak: WASHCOs manage schemes and mobilise users, caretakers undertake scheme operations and perform preventive maintenance. In the event of scheme breakdowns, the woreda aims to respond to maintenance requests within three days, but often the repair exceeds woreda capacity and a support request is logged with the regional operation and maintenance team. Some spare parts such as filters for generating sets, pipes and fittings are available locally, and others such as pistons for hand pumps may be procured from Addis Ababa and are bought in bulk and kept in stock. Efforts to improve infrastructure management are linked with the 2018 piloting and 2019 operationalisation of an asset management system, led by the regional operational and maintenance team and with Mille Woreda as the leading pilot woreda.

Monitoring: despite the absence of a national monitoring system, the woreda provides quarterly reports to the Regional Water Bureau on number and type of schemes and functionality. Recent efforts to improve asset inventory data and ensure a regular flow of data on motorised boreholes, linked with the regional asset management system, now provide regular updates on scheme functionality through remote sensors and reporting by woreda technical staff. Woreda technicians have good experience and capacity in using mobile tools for data collection and reporting and tracking maintenance repairs.

Regulation: there is no independent regulator, and the regional government in Afar plays a limited and not well-developed regulatory role. Citizens have few mechanisms to hold service providers to account, other than complaining to the local water office or local political representatives.

Learning and adaptation: the Mille Woreda Learning Alliance was established in 2017 as the primary learning mechanism for WASH sector stakeholders operating in Mille Woreda. The Learning Alliance is coordinated by the Woreda Water Office and supported by USAID SWS. There are no institutionalised learning platforms or mechanisms for coordination amongst stakeholders involved in water supply at the woreda level beyond the Learning Alliance.



Water resource management: Mille Woreda is in the lower Awash River basin, and the river is important for irrigation and pastoralism including drinking water for cattle. The construction of the Tendaho dam in Mille Woreda is reported to have impacted negatively on the land and the population and causing some displacement. Boreholes, often located on or near dry riverbeds, are prone to flood damage from the Awash River. WASHCOs have not commonly developed water safety plans. The Mille Woreda Water Resources Office does not check water quality and has no expertise or test kits for water quality monitoring.

4.1.5 Water service challenges and gaps

Water service delivery in Mille Woreda experiences many challenges in maintaining and extending water supply coverage. The increasing population surpasses the woreda capacity for new constructions. The woreda lacks sufficient staffing and there are expertise gaps, such as in the fields of hydrogeology and hydraulic engineering. The woreda budget is consistently low and available resources are insufficient for addressing the many difficulties in improving service delivery.

Population density is low, and communities are widely dispersed across the kebeles, and often it is not practical or physically possible to construct water supply schemes in areas close to communities. This results in time taken for fetching water, which has an impact on productivity, livelihoods, and other development indicators. Often, water fetchers travel between kebeles to collect water. Also, the scheme type constructed is a limiting factor in service delivery, and schemes requiring manual pumping often increase the time required to fetch water.

Scheme functionality is a persistent challenge. Many schemes in Mille Woreda are exceeding their lifespan, are required to pump at greater levels than the design capacity and lack regular investment in maintenance and operational expenditure to ensure proper functioning. Varying perspectives about scheme ownership and responsibility for maintenance and repair also lead to low functionality and reliability. Frequent breakdowns and limited community, woreda and regional capacity and resources to adequately respond lead to long periods of scheme downtime.

Low yield from many sources, particularly the manual and solar pumps, limit the overall capacity of the water delivery systems. Even with generator-run schemes yield is a challenge. In the case of Mille Town, the four boreholes provide an average yield of 2.25 litres per second, which is insufficient flow rate to provide the target 40 litres per person per day. Salinity is a challenge for shallow wells, seasonal flooding and poor maintenance are all factors linked to poor water quality in Mille Woreda. Furthermore, high fluoride content >1.5mg is also a challenge in Mille Woreda.

Existing water supply construction were developed to provide water supply to a small number of community distribution points. Typically, they have limited yield and are not suitable for extending to include household connections. Additionally, existing reservoirs are low capacity, and many have problems with leakage. Furthermore, most schemes are on-spot and not suitable for development into distribution networks, and self-supply technologies are not suitable in Mille Woreda due to the deep groundwater.

A complicating factor to water service delivery in Mille Woreda is the high level of pastoralist activity which involves frequent movement. The location of permanently established communities are often not well aligned with underlying groundwater, which complicates service delivery and increases the construction, maintenance, and operational costs of the schemes, and poses greater vulnerability and challenges for reliability and functionality. The pastoral community in Mille require water for their livestock and it is difficult to fulfil this additional need with limited resources.

Management of the Mille Town Water Utility presents unique challenges. From a technical perspective, the number of illegal household connections adds stress on the pump and increase the time required to fill the reservoirs, and lack of cleaning and disinfection of reservoirs and distribution pipes exacerbates risk of water-borne disease. In management terms, the utility has received materials support (e.g., HDPE pipes) but are unable to install the hardware owing to limited skills, capacity, equipment, and resources for travel. The corresponding



level of preventative maintenance and repair is very low. The management information systems, including for billing, used at the utility level are outdated, and the utility board is widely perceived as ineffective.

4.2 Sanitation and Hygiene services

4.2.1 Sanitation and hygiene infrastructure

The most common sanitation facilities in Ethiopia are unimproved latrines, improved latrines, either with emptying or sewerage (off-site treatment) or in situ treatment. These facilities can be private (serving a single household), shared (serving 2-10 households), or communal (serving more than 10 households).

Sanitation access across Mille Woreda is dominated by pit latrines. There are no sewerage or pit emptying services, but some of the pit latrines used as private or shared are improved and safe considering the type of soil and possibility of ground water contamination. The most common sanitation facilities are private improved household pit latrines in situ (3,410 facilities) and private unimproved latrines (5,349 facilities). A smaller number of shared improved household pit latrines in situ have been constructed (581 facilities). In addition, 3,328 households have handwashing facilities of which 1,812 have handwashing facility with soap and water. There are 76 villages in Mille Woreda, of which 8 (11%) are reported as ODF, while 13 (17%) have received CLTSH triggering.

4.2.2 Sanitation and hygiene service level

The sanitation ladder can be used to identify and track progress in improving sanitation conditions. Data for Mille Woreda show that almost half the population of rural kebeles are without access to sanitation facilities and practicing open defecation (47%). Unimproved access (31%) is the most common for rural areas, with just 9% and 17% for limited and basic access. There is no safely managed access.

Data on handwashing facilities show the absence of handwashing facilities for 82% of rural and 50% of urban of households. Basic handwashing, whereby a facility is present but absent of water and soap, is applicable in 7% or rural and 10% of urban households. The status of 11% of rural and 40% of urban households is safely managed.

Figure 3 shows sanitation and hygiene service levels in Mille. However, it should be noted that there is a lack of a proper definition of the sanitation and hygiene ladder. There are different definitions of improved and unimproved sanitation facilities and open defecation. This makes it difficult to track which villages have sanitation services and which are ODF.

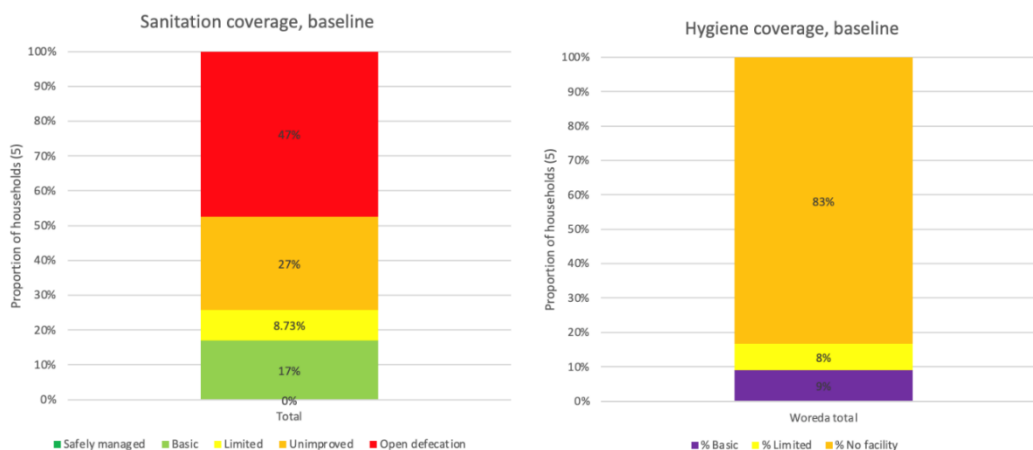


Figure 3: Sanitation and hygiene service levels Mille

4.2.3 Sanitation and hygiene approaches

The main approaches towards improving sanitation and hygiene in Mille Woreda are Community-led Total Sanitation and Hygiene (CLTSH), School-led Total Sanitation and Hygiene (SLTSH), sanitation marketing, and the



production of Information Education Communication (IEC) and Behaviour Change Communication (BCC) materials.

The CLTSH approach is an approach carried out by health extension workers who guide communities and individuals through a process of 'self-realization' to end the practice of open defecation and bring about improved hygiene behaviours. This is achieved through households constructing basic sanitation facilities. The process of CLTSH includes orientation and training on the CLTSH approach, triggering villages, post triggering follow-up, verification, certification, recognition, and post ODF follow-up. The Health Extension Program, which is the centre for sanitation and hygiene approaches like CLTSH, was introduced in Ethiopia in 2006 with the goal of ending open defecation through household-built toilets and better handwashing practices. Better sanitation and hygiene practices are important in terms of controlling communicable water and hygiene-related diseases.

The SLTSH approach is a process for facilitating school communities, i.e., students, teachers, and parents, to understand their current sanitation and hygiene practices and the related consequences in the community to improve their sanitation and hygiene status and behaviour. The process of SLTSH includes establishing school WASH clubs and sanitation and hygiene training for children, teachers, and health workers. It also includes activities in school media.

The sanitation marketing approach is promoting the availability of sanitation materials and allowing private suppliers to produce these materials for the created demand through CLTSH. The products and their promotion are based on the needs of the households in the community. The sanitation marketing approach includes the establishment of sanitation marketing centres, sanitation marketing awareness, demand creation for the community, sanitation marketing training for enterprises, sanitation marketing campaigns, and sanitation marketing implementation follow-up.

IEC and BCC production is a strategy to spread awareness through printed or broadcasted media such as posters, flyers, leaflets, brochures, booklets, radio broadcasts, or TV spots.

4.2.4 Sanitation and hygiene service challenges and gaps

In sanitation and hygiene context, there are no service providers. Households are responsible for construction and maintenance of their own latrines. There is no subsidy approach for the construction of sanitation and hygiene facilities. It is assumed that sanitation promotion and marketing will be sufficient to create demand for sanitation and hygiene and households will construct their own toilets. The government is willing to support the enabling environment and demand creation. In addition, the government is responsible for the construction of facilities in public areas, schools, health care facilities, and communal latrines.

In Mille Woreda, CLTSH is led by government with support from CARE and practiced by government from woreda to village and community participation across rural kebeles since 2009. In addition, sanitation marketing has been implemented since 2011 by USAID Transform WASH project. Household sanitation facilities are constructed entirely by communities and there is presently no subsidy from either government or development partners.

Sanitation service delivery in Mille Woreda is hindered by challenges in maintaining and extending coverage. In general, there is a lack of awareness on safely managed sanitation and hygiene service delivery models at the community level. There is limited understanding and buy-in to the concepts of different sanitation service levels. Limited available budget to support latrine construction and facilitate sanitation and hygiene programmes limits the capacity of the woreda to progress in sanitation service delivery. The cost of labour and required construction materials result in relative high cost for the construction of improved sanitation facilities. These various challenges have resulted in limited achievement of at least basic sanitation coverage. The pastoralist population and frequent movement and relocation has implications for the construction of permanent sanitation facilities.



Safely managed sanitation has not yet been achieved in rural or urban kebeles. Barriers preventing elevation to safely managed include the lack of facilities, lack of sewerage trucking, shortage of budget for related activities and weak monitoring of sanitation practices including sludge management.

Sanitation and hygiene service provision is the responsibility of the Woreda Health Office, which acts through a network of health extension workers. Whilst activities are undertaken to improve sanitation coverage, the health office and the network of health extension workers have limited reach across the woreda, and their activities are often temporary. When CLTSH or other sanitation and hygiene interventions have been undertaken, budget constraints have prevented follow-up and subsequent monitoring and support to ensure proper attainment and sustainability of the intervention.

Sanitation marketing interventions have recently been introduced in Mille Woreda and presently remain weak and underfunded and there is not yet a sanitation marketing centre. Weak relationships in the sanitation service delivery chain, which includes region, woreda, kebele and health extension workers, results in fragmented and non-standard interventions. The lack of approved policy, regulation, and planning at region and woreda level is a challenge. Limited transparency, reporting, tracking, monitoring, and evaluation has resulted in limited knowledge about previous interventions or the extent to their ongoing success.

Limited progress in improving hygiene practices in Mille Woreda stem from limited consideration to promoting hygiene practices within WASH programme delivery. Hygiene messaging is not covered during the implementation of CLTSH in Mille Woreda and there is a general lack of improved hygiene practices at woreda level. The lack of water service delivery is a further challenge to improving handwashing practices.

4.3 Institutional WASH

4.3.1 Institutional WASH infrastructure

Across Mille Woreda there are a total of 16 schools and with varying degrees of water, sanitation, and hygiene coverage. Two of the schools are high schools and the remainder are elementary schools. Of the high schools, one is found in Mille Town and the other In Adaytu Town. The Mille Town High School receives water supply through a functioning public tap. The school has a toilet facility, an improved ventilated pit latrine, with eight compartments separated for girls and boys, but not lockable. The school also has functioning handwashing facilities, but soap is never available. The Adaytu Town High School does not have a water supply. There is a traditional pit latrine facility with four compartments, which are separated for girls and boys, and lockable. There are no handwashing facilities.

Across Mille Woreda, most schools have no service for water, sanitation, or hygiene. Some progress has been made in constructing water facilities, and there is one school with limited water service, and four schools with basic water service. Less progress has been made in sanitation, and there are only two schools with sanitation facilities, both of which are in towns. Five schools have limited hygiene services. There are no schools that have achieved a basic level of water, sanitation, and hygiene service delivery in Mille Woreda. Table 10 presents an overview of WASH services in schools.

Table 11: WASH facilities in schools

Total number of schools	Service	Water	Sanitation	Hygiene
16	Basic	4	1	0
	Limited	1	1	5
	No service	11	14	11

In Mille Woreda there are two types of health care facilities: health centers, which serve higher-level medical service like delivery of pregnant woman and bed medical service, which requires doctors, and health posts,



which are lower health services follow up during pregnancy, emergency, vaccination which can be done by health extension workers and nurses. In total there are six health centers and 11 health posts.

Only 3 of the 6 health centers have sanitation facilities, and they are all functional improved pit latrines. Two of the three have a dedicated latrine for staff but there are no sex-separated toilets with menstrual hygiene facilities, and none are disability inclusive. Of these three health centers with sanitation facilities, two have handwashing facilities, and both have soap and water, and are available to point of care. From all six health centers, three have incinerators for hazardous waste, four have placenta pits, and all six have non-hazardous waste pits. Water supply is available at just two of the six centers and in both cases the supply is piped. There are nearby public water facilities which the remaining health centers use.

All but one of the 11 health posts have sanitation facilities, all of which are functional improved pit latrines. In no cases are there dedicated facilities for staff, not are there sex-separated toilets or disability-inclusive toilets. All health posts are absent of handwashing facilities, and there are none with placenta pits. Only one facility has a functional incinerator for hazardous waste, and that facility is also the only one with separate bins for sharps, infectious materials and non-infectious materials. None of the health posts have water supply facilities, but 6 of the 11 health care facilities have nearby water access. None of the health posts have cleaning practices in place. Table 11 presents an overview of WASH services in health care facilities.

Table 12: WASH facilities in health care facilities

Total number of health care facilities	Service	Water	Sanitation	Hygiene	Waste management	Environmental cleaning
17	Basic	2	0	2	4	2
	Limited	0	13	0	13	15
	No service	15	4	15	0	0

4.3.2 Institutional WASH service levels

Figure 4 and Figure 5 show WASH service levels in schools and health care facilities. The baseline data shows 30% of the schools and 21% of the health care facilities have water services, 20% of the schools and 0% of the health care facilities have sanitation services and 0% of the schools and health care facilities have hygiene facilities. In addition, 7% of the health care facilities have basic waste management service levels and 0% have environmental cleaning service levels.

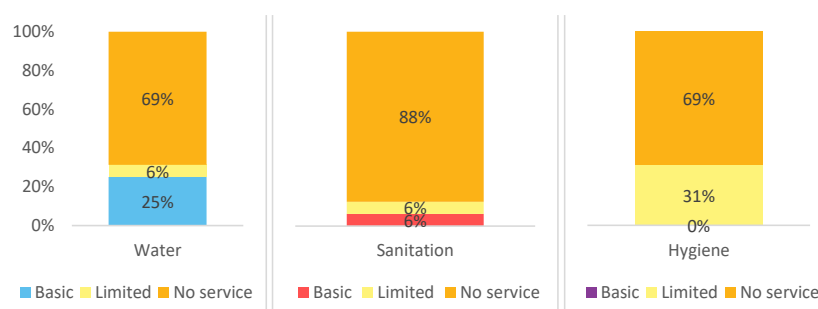


Figure 4: Mille school WASH service levels

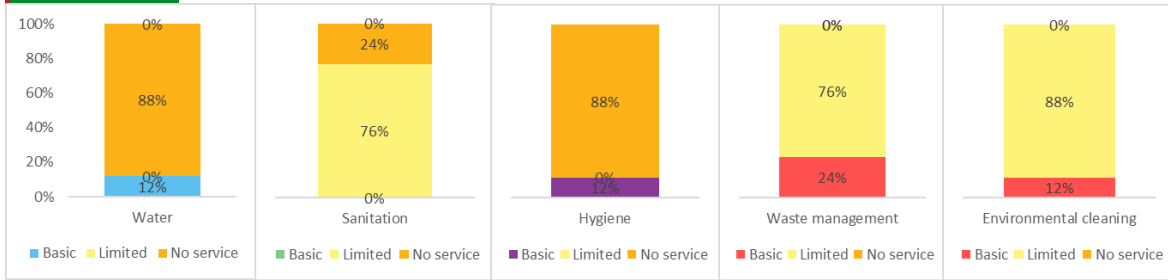


Figure 5: Mille health care facility WASH service levels

4.3.3 Institutional WASH challenges and gaps

According to the baseline data, 69% of the schools and 88% of the health care facilities do not have access to water services. Underlying reasons include:

- The institutions do not have the budget or capacity to construct their own water supply systems.
- Because of the shortage of budget and lack of attention, the woreda health office and woreda education office have not been able to connect schools and health care facilities to existing piped systems even when there are pipelines nearby.
- There is lack of piped water source nearby institutions which makes it challenging to make connection to the facilities.
- Lack of coordination between the health, education, and water sector in the woreda.

According to the baseline data, 88% of the schools and 100% of the health facilities do not have improved sanitation facilities and none of the health care facilities have menstrual hygiene facilities, and none of the health care facility latrines are disability inclusive. 69% of the schools have no handwashing facilities, and 88% of health care facilities have no handwashing facilities. Underlying reasons which make it difficult for all schools and health care facilities to have basic sanitation and hygiene facilities include:

- The woreda and community do not have the capacity to cover the construction cost of WASH facilities in all schools.
- But because of the lack of attention to requirements by health professionals, there is no handwashing facility in most health care facilities, even those that have water supply connections. In addition, disability inclusion is not considered during designing.
- There are minimum of 2 cleaners assigned in each health post. However, besides getting salaries they are not cleaning the HCF. There is also lack of appropriate use of detergents, gloves, and other cleaning supplies.
- During registration at the beginning of the year, students contribute 10-20 ETB for cleaning. They hire a cleaner to clean twice a week. However, this happens only in urban schools and does not happen in the rural parts of the woreda.
- There is staff gap in health and education offices of the woreda. Only one sanitation and hygiene expert are found in the health post and health centre. The staff works only few hours due to different challenges they have in the rural area. In addition, those experts assigned as focal person for sanitation and hygiene mainly focus on another activities and work on sanitation and hygiene as additional task.
- Budget is not properly allocated for health posts.



5 Woreda Vision and targets

5.1 Woreda vision and targets for water supply

Mille Woreda have set the vision of achieving 100% coverage with at least basic water services in both rural and urban areas by 2030. The vision is to achieve 60% access to basic water services and 40% to safely managed services by 2030. Access target to safely managed services in rural areas is 25% and 95% in urban areas (Table 12).

Table 13: Mille Woreda baseline and vision for 2030, Water

	2019 baseline	2030 vision
% Served	31%	100%
% Served - basic	24%	60%
% Served - safely managed	7%	40%
Rural		
% Served	17%	100%
% Served - basic	17%	75%
% Served - safely managed	0%	25%
Urban		
% Served	80%	100%
% Served - basic	45%	5%
% Served - safely managed	35%	95%

5.2 Woreda vision and targets for sanitation and hygiene

Mille Woreda have set the vision of achieving 100% coverage with basic sanitation and hygiene services by 2030. This is a big step up from the current 17% of people served with basic sanitation services and 9% basic hygiene services. There is a plan for 10% safely managed sanitation service because the woreda plans for stimulating the construction of latrines with in-situ treatment, i.e., lined, without contamination of the groundwater and covering up of the pit and construction of a new one when full, which are considered safely managed (Table 13).

Table 14: Mille Woreda baseline and vision for 2030, Sanitation and Hygiene

	2019 baseline	2030 vision
Sanitation		
% HH Served	17%	100%
% HH served - safely managed	0%	10%
% HH served - basic	17%	90%
% HH served - limited	9%	0%
% HH Served - unimproved	27%	0%
% HH open defecation	47%	0%
Hygiene		
%HH - Basic	9%	100%
%HH - Limited	8%	0%
%HH - No service	83%	0%



5.3 Woreda vision and targets for Institutional WASH

Mille Woreda have set the vision of achieving 100% coverage with basic water, sanitation, and hygiene services for all schools by 2030. This is a big step up from the current water, sanitation, and hygiene service of 25%, 0%, and 0% respectively (Table 14).

Table 15: Mille baseline and 2030 vision for school WASH

	2019 (Baseline)	2030 vision
Number of schools	16	25
% Schools with basic water	25%	100%
% Schools with basic sanitation	0%	100%
% Schools with basic Hygiene	0%	100%

Mille Woreda have set the vision of achieving 100% coverage with basic water, sanitation, hygiene, waste management and, environmental cleaning services for all health care facilities by 2030. This is a big step up from the current water, sanitation, hygiene, waste management, and environmental cleaning service of 12%, 0%, 12%, 24%, and 12% respectively (Table 15).

Table 16: Mille baseline and 2030 vision for Health care facility WASH

	2019 (Baseline)	2030 vision
Number of Health care facilities	17	27
% Health care facility with basic water	12%	100%
% Health care facility with basic sanitation	0%	100%
% Health care facility with basic hygiene	12%	100%
% Health care facility with basic waste management	24%	100%
% Health care facility with environmental cleaning	12%	100%



6 Strategies

This section presents the strategies for going from the current situation, as presented in section 4, to the vision, as presented in section 5. Section 6.1 presents the strategies for water services, 6.2 for sanitation and hygiene, and 6.3 for institutional WASH.

6.1 Water services

Table 14 shows the actual population served (2019), the required population to be served by 2030 as per the vision. In 2019, there were an estimated 34,996 people (31%) served by existing functional water schemes.

Table 17: Projected population and population unserved

	2019 baseline	2030 vision	Additional number of people
Total population	113,914	157,684	43,770
People served	34,996 (31%)	157,684 (100%)	122,688
People served - basic	26,781 (24%)	96,861 (60%)	70,080
People served - safely managed	8,215 (7%)	60,822 (40%)	52,607

6.1.1 Strategies for increasing number of people with access to improved water services

Strategies for ensuring that 100% of the population will have access to at least basic water services in 2030 include rehabilitation of broken-down schemes, and construction of new schemes. Together the proposed strategies are expected to ensure 157,684 people will be served with at least basic water services by 2030. In part, the improvements to water supply services in Mille Woreda will be achieved through the construction of new water supply schemes and a total of 66 schemes have been planned in 12 kebeles including the 2 urban settlements (Table 17). In addition, sources that have potential serving more people than they currently are serving will have expansion work on their distribution systems.

Table 18: Number of water schemes to be constructed

Service delivery model	Type of scheme	Planned new schemes
Community managed point sources	Hand dug well fitted with hand pump	13
	Shallow well fitted with hand pump	8
Community-managed well or borehole with distribution scheme	Generator powered scheme with distribution serving 2500	1
	Solar Powered Scheme with distribution serving 1250	11
	Solar powered scheme with distribution serving 2500	29
	Hybrid- Power Deep Well Scheme for Mille town	1
	Upgrading the on spot to solar powered distribution system	2
	Hybrid Power Deep Well Scheme with distribution for Adaytu town	1

In rural areas, priority has been given to the construction of solar-powered distribution systems, and the woreda plans to construct 11 systems each serving 1,250 people and a further 29 systems each serving 2,500 people. In two cases, on-spot systems will be upgraded to solar-powered distribution systems. In addition to scheme construction, across the rural kebeles, a total of 6,283 household connections are planned. In addition to the construction and extension of distribution systems, the woreda plans to construct 13 hand dug wells fitted with hand pumps, and 8 shallow wells fitted with hand pumps.



Across the rural kebeles there are presently 11 non-functional schemes: 1 hand dug well with a hand pump, 5 shallow wells with hand pumps, 2 solar powered on-spot water supplies, 2 generator-powered distribution systems and 1 solar powered distribution system. Between 2020-21 these 11 non-functional schemes will be repaired.

In the urban kebeles of Mille and Adaytu, hybrid-powered deep well schemes with distribution and a flow rate of 50 litres per second will be constructed. In addition to the scheme development, a total of 4,529 household connections are planned. In Mille 01 kebele, 2,734 household connections will be established between 2020-30, and during the same period, in Adaytu kebele, 1,815 household connections will be established.

The advancement of distribution systems and the household connections in both urban and rural kebeles is central to the Mille Woreda plan to achieve 40% of the population accessing safely managed services. The woreda will also ensure the water supply to households and communities is continuous and free from contamination. To ensure the ongoing functionality of water supply schemes, preventative and minor maintenance will be undertaken for all schemes on an annual basis. Detailed planning and costing for operation and preventative maintenance includes spare parts, power, transport, and salaries. Planning on operational and minor maintenance activities include cleaning, fence construction, and chlorination and disinfection. Planning for procurement and management of spare parts accounts for oil, air and fuel filters, fan belts, injector nozzles, battery morsetas, pipes, adaptors, and other parts, all of which are considered on an annual basis.

To ensure proper functioning of the systems, a total of 36 site visits for operational, preventative, and minor maintenance are planned annually across Mille Woreda. To ensure operational and minor maintenance is undertaken as planned, costs for staffing and salaries specific to undertaking minor maintenance are also considered, including for scheme managers, customer managers, revenue collectors, plumbers, technicians, operators, guards, WASHCO administrators and support staff are also considered.

To further ensure water services are continuously available, a range of activities are planned for strengthening the enabling environment. This includes the establishment and legalisation of WASHCOs, continuous capacity building and follow-up of WASHCOs, tariff setting and revenue collection of community-managed schemes, strengthening spare part supply and maintenance services, strengthening utility-managed piped water supply, and strengthening water service monitoring.

In further support of WASHCOs, improving tariff collection is a key activity in the SDG master plan, in addition to incentivising good performance, improving transparency and accountability between WASHCOs and communities, documentation on revenues and expenditure. Spare parts supply will be strengthened through support to spare parts suppliers and new business creation. Mille and Adaytu Town Water Utilities will be strengthened through capacity building for staff and supporting the approval of regulation regarding rural utility establishment. As part of the system strengthening component, communication, advocacy, and network strategy for the plan including key messages, audiences, communication channels and key strategic actions.

6.2 Sanitation and hygiene services

Activities to improve household access to sanitation and hygiene services include constructing and upgrading existing latrines to improved latrines, community-led total sanitation and hygiene and sanitation marketing.

Between 2020-30 an average of about 1,700 latrines will be constructed annually, with a total of 18,888 new latrines to be constructed. Approximately half of all new constructions will be improved latrines with off-site treatment and half will be improved household latrines in-situ. In addition, a significant programme of upgrading the 5,349 unimproved latrines in Mille Woreda is planned between 2020-30. By 2030, no households in rural kebeles will access shared latrines: all household access will access either improved latrines with off-site treatment or improved latrines in-situ.



Beyond latrine construction and upgrading a range of sanitation and hygiene promoting and support activities are planned. In both rural kebeles CLTSH is planned, with community triggering activities scheduled between 2020-27, and by 2030 all 76 villages in rural and urban kebeles will be certified ODF. This will include post triggering follow-up, health education, verification and certification and the example of model households. A sanitation marketing centre and a programme of community awareness and demand creation is planned, with regular sanitation marketing campaigns and training for enterprises. Additionally, experience sharing, through conducted visits to high performing communities, will be organised. To ensure inclusion, subsidisation programmes will be created for full participation in poorer communities.

6.3 Institutional WASH

The number of schools is expected to increase from 16 in 2019 to 25 in 2030, and the number of health care facilities is expected to increase from 17 in 2019 to 27 in 2030.

Achieving a basic level for water service in health care facilities will involve the extension of existing piped water supply systems to 11 of the schools presently with no service. Repair will be undertaken at the one school where water supply is presently limited, to bring the service level to basic.

Basic sanitation will be achieved through the construction of improved pit latrines at all of the 14 schools currently without sanitation services. At the one school where sanitation service is presently limited, locks will be installed at the facility to increase privacy and security of the facility to ensure basic sanitation service is provided. To achieve basic hygiene in all schools, handwashing facilities will be constructed in the 11 schools where there is presently no service. Additional activities, such as school WASH clubs, will also be established.

In addition, between 2020 and 2030 the Woreda Education Office plans to construct ten new schools, and all schools will be built with basic water, sanitation, and hygiene services. Beyond construction and extension of water supply, the plan includes school WASH promotion and promotion of good menstrual hygiene management practices.

Achieving basic level for water service in health care facilities will involve the extension of existing piped water supply systems to 34 facilities: 15 into facility buildings and 24 into facility yards. Basic sanitation will be achieved through the construction of improved pit latrines in four health care facilities. In the 14 health care facilities where the sanitation service is presently limited, action will be undertaken to separate latrines, reconstruct for use by persons with disability, and install menstrual hygiene facilities, therefore ensuring that basic sanitation is achieved.

To achieve basic hygiene in all health care facilities, handwashing facilities at the point of care will be constructed in the 11 facilities where there is presently no service. Basic waste management will be achieved through the construction of incinerators at 13 health care facilities which are presently limited service. In addition, for the construction of ten new health care facilities planned for construction before 2030, all with basic water, sanitation, hygiene, and waste management, by 2030.

Environmental cleaning is defined through cleaning protocol in place, and staff trained on cleaning in woreda information. In Mille, there is no cleaning protocol and none of the health care facilities have staff trained on cleaning. Therefore, the woreda plans to have cleaning protocol in place for all health care facilities with the necessary staff trained on cleaning. This is part of the ExpDS.



7 Costing and financing

This section presents the estimated water services (section 7.1), sanitation and hygiene (section 7.2), and institutional WASH (section 7.3) expenditure required to reach the 2030 vision as presented in section 5, based on the strategies presented in section 6. Each section presents the Estimated required costs for reaching the 2030 vision, including:

- Capital Expenditure (CapEx)
- Capital Maintenance Expenditure (CapManEx)
- Operation and minor Maintenance expenditure (OpEx)
- Direct Support Costs (ExpDS)

The costs are calculated considering an assumed annual inflation rate of 8.1% (Afar Finance and Economic Development Bureau) and an exchange rate of ETB 39.50 (Commercial Bank of Ethiopia) as of February 2021. Each section presents an overview of these costs per year and the resulting expected changes in service levels.

Each section also presents an overview of the sources of funding for the projected costs. The sources of funding for the projected expenditure required for reaching the water vision for the woreda are:

- Taxes: Expenditure by government, paid for through tax revenues
- Tariffs: User contributions, in the form of volumetric or time-based (e.g., monthly) tariffs and other user contributions, such as contributions to CapEx of water schemes or household connections. When differentiating between tariffs, transfers, and taxes, tariffs refer to expenditure by users. This includes what is traditionally known as tariffs, i.e., payment for provided service, but also includes user contributions to investment costs (e.g., household connections or in-kind contributions to construction).
- Transfers: Funding from development partners and NGOs.

7.1 Costing and financing water services

The cost of the water service component of the Mille Woreda SDG master plan is 1.78 billion ETB (45.1 million USD) between 2020-30. Financing the costs is divided between government (1.43 billion ETB, which is 80% of the total cost), development partners (DPs) and NGOs (198.4 million ETB, which is 11% of the total cost), and communities (152 million ETB, which is 8% of the total cost). Capital expenditure costs are supported by all three funding groups, capital maintenance expenditure is funded by government and community, operational expenditure is funded exclusively by the community, and direct support costs are funded exclusively by the government. Table 18 gives an overview of the total required lifecycle costs and source of finance. Figure 6 presents an overview of the required lifecycle costs per year and the expected changes in service levels.

Table 19: Total required lifecycle costs and source of finance for Water

	Cost		Sources of finance (%)		
	Million ETB	Million USD	Government	DPs and NGOs	Community
Capital Expenditure (CapEx)	864	22	73%	23%	4%
Capital Maintenance Expenditure (CapManEx)	752	19	96%	0%	4%
Operational Expenditure (OpEx)	83	2	0%	0%	100%
Direct Support Cost (DSC)	84	2	100%	0%	0%
TOTAL COSTS	1,782	45	80%	12%	8%

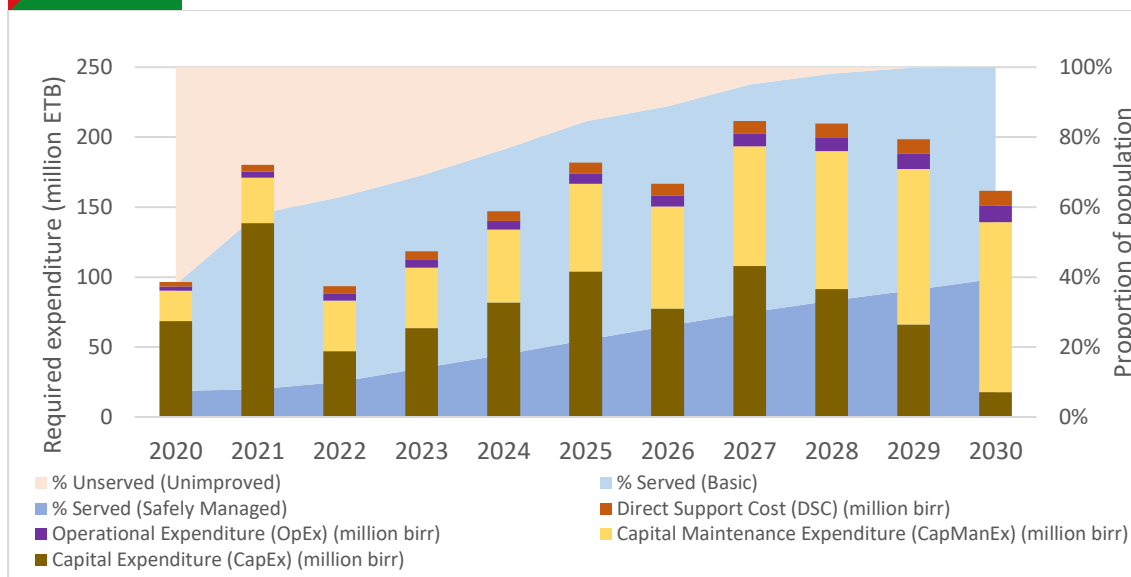


Figure 6: Lifecycle costs per year and expected water service level changes over time

7.2 Costing and Financing Sanitation and Hygiene Services

The full cost of the sanitation and hygiene service component of the Mille Woreda SDG master plan is 3.3 billion ETB (83.4 million USD). Financing the sanitation and hygiene costs is largely the responsibility of the community, who are assigned 99.3% of the total costs, including capital expenditure, capital maintenance expenditure (which includes the cost of upgrading latrines) and operational expenditure. Government will support sanitation and hygiene service delivery through funding capital expenditure for software (CLTSH and sanitation marketing) and direct support costs. Table 19 gives an overview of the total required lifecycle costs and source of finance. Figure 7 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels.

Table 20: Total required lifecycle costs and source of finance for Sanitation and Hygiene

	Cost		Sources of finance	
	Million ETB	Million USD	Government	Community
Capital Expenditure (CapEx) hardware	1,081	27	0%	100%
Capital Expenditure (CapEx) software	15	0.374	100%	0%
Capital Maintenance Expenditure (CapManEx)	1,436	37	0%	100%
Operational Expenditure (OpEx)	751	19	0%	100%
Direct Support Cost (DSC)	9	0.223	100%	0%
TOTAL COSTS	3,293	83	0.7%	99.3%

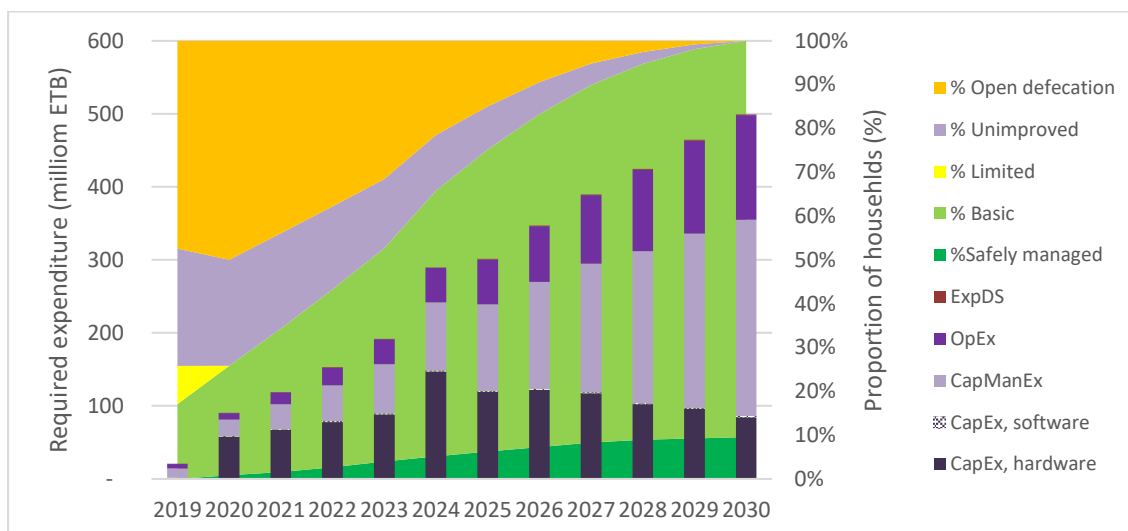


Figure 7: Lifecycle costs per year and changes in sanitation service level

7.3 Costing and financing institutional WASH

This section presents the estimated expenditure required over the period 2020-2030 for reaching the WASH service vision as presented in section 4 and based on the strategies presented in section 5.

The capital expenditure for the implementation of the master plan consists of the costs related to the construction of new WASH facilities in schools and health care facilities. The required capital maintenance expenditure is based on expected CapManEx related to future required major repairs, rehabilitation, and asset replacement.

The cost of the WASH in schools in Mille Woreda SDG master plan is 6.5 million ETB (164 thousand USD) between 2020-30. Table 20 gives an overview of the total required lifecycle costs. The delivery of WASH in schools is the responsibility of the government. This includes responsibility for the operation and maintenance of WASH facilities. Costs are covered through woreda budget and communities also contribute in some extent. Figure 8 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels.

Table 21: Total required lifecycle costs for School WASH

	Cost	
	Million ETB	USD
Capital Expenditure (CapEx)	1.45	36,795
Capital Maintenance Expenditure (CapManEx)	1.2	30,652
Operational Expenditure (OpEx)	2.9	74,239
Direct Support Cost (DSC)	0.872	22,086
TOTAL COSTS	6.47	163,772

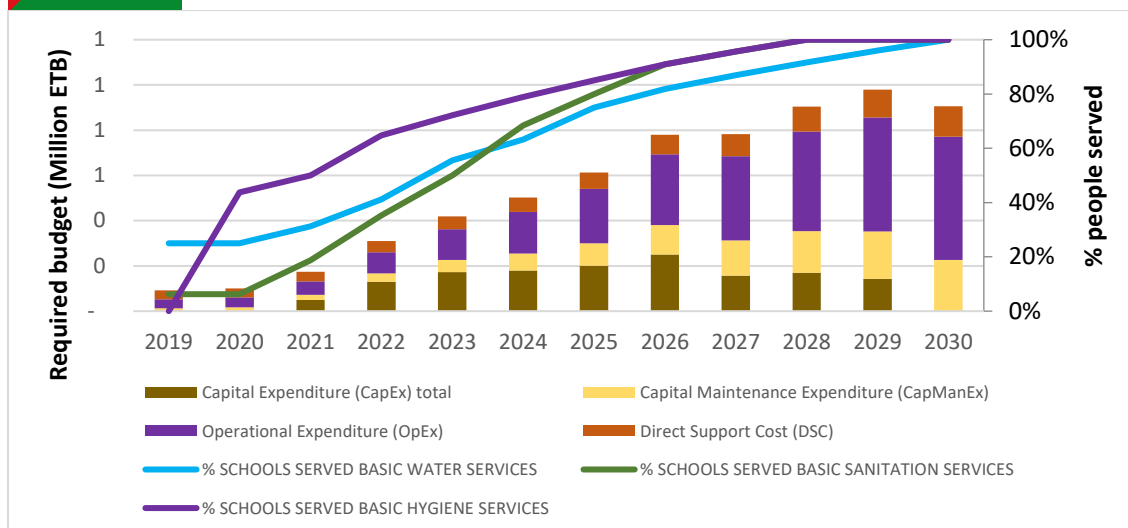


Figure 8: Lifecycle costs per year and service level changes for School WASH

The cost of the WASH in health care facilities in Mille Woreda SDG master plan is 23 million ETB (578 thousand USD) between 2020-30. Table 21 gives an overview of the total required lifecycle costs. The delivery of WASH in health care facilities is the responsibility of the regional health bureau, woreda health bureau and partners working in health and WASH like CARE and AMREF. This includes responsibility for the operation and maintenance of WASH facilities. Costs are covered through the Woreda Health Office. Figure 9 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels.

Table 22: Total required lifecycle costs for health care facility WASH

	Cost	
	Million ETB	USD
Capital Expenditure (CapEx)	9	230,350
Capital Maintenance Expenditure (CapManEx)	6.2	156,092
Operational Expenditure (OpEx)	2.78	70,533
Direct Support Cost (DSC)	10	255,935
TOTAL COSTS	28	712,909

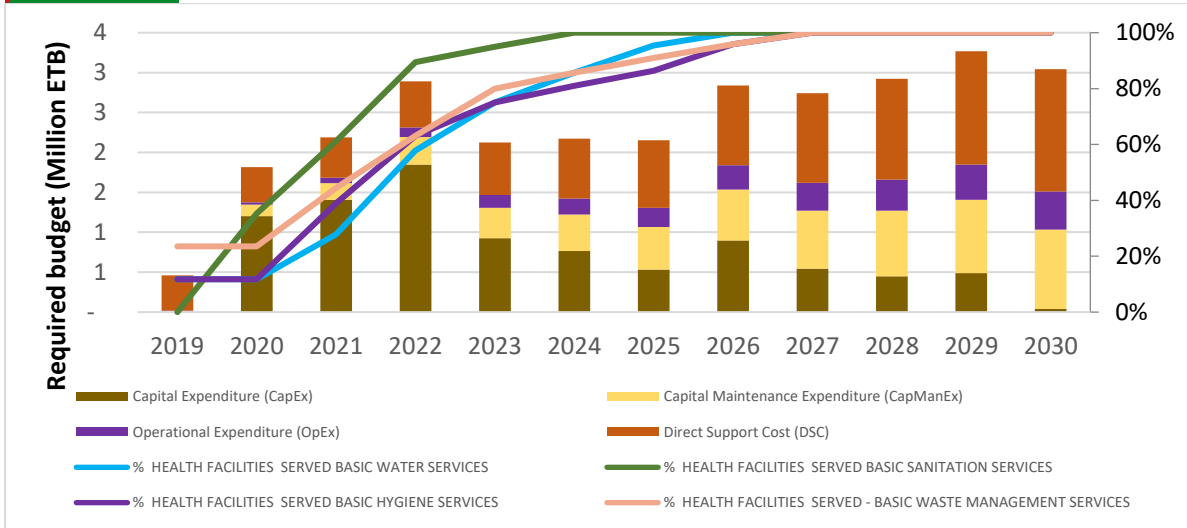


Figure 9: Lifecycle costs per year and service level changes for health care facility WASH



8 Monitoring and Evaluation

Monitoring and evaluation of the master plan implementation will be conducted internally by implementing WASH sector offices and externally by an independent entity. This helps to track progress, identify gaps, and design solutions based on the identified gaps and bottlenecks. The master plan can also be adjusted when there is change in unit cost estimates, population estimate if census is conducted, the inflation rate when new data is available, and other input parameters whenever necessary.

The proposed monitoring programs are:

Ongoing progress assessments: WASH sector offices will track and report on implementation status by different actors on a quarterly basis to the WWMEO. The sector office reports will be supported with evidence from field supervision.

The WWMEO will consolidate the reports from sector offices on a quarterly basis and report to a steering committee to be established to oversee the implementation of the plan. The steering committee will conduct quarterly project visits and consultative meetings with different WASH actors to have firsthand information before sitting for a progress evaluation meeting. The learning from the reports, quarterly project visits, and consultation meetings will be used as input for the subsequent planning. After reviewing reports, the consultative meeting, and field visits, the steering committee will sit and evaluate the progress and challenges on a quarterly basis and provide feedback to sector offices. The steering committee will also share the approved quarterly reports with zone sector offices for additional support. This will be aligned with existing quarterly sector reporting from woreda to zone.

Annual progress review: WASH sector offices will track budget allocation, physical implementation status, and gap analysis annually. Based on the identified gaps, activities and strategies will be reviewed annually based on learnings. The review includes replanning activities not accomplished in the previous year. The revised plan will be presented to the steering committee for approval.

Midterm evaluation: A midterm impact evaluation will be conducted by an external entity to be deployed by the WWMEO. The evaluation will be conducted at the beginning of year 2026. The intended target of the evaluation is to know if the implementation is on track, challenges encountered thus far, and the sustainability of the results.

End line evaluation. The end line evaluation will be conducted by the team drawn from the woreda WASH sector offices led by the WWMEO. The end line evaluation will be conducted in the third quarter of 2030. The target of the end line evaluation is to measure the impact brought through the implementation of the master plan.



Annex 1: Overview of the Planning tool

The woreda WASH SDG master planning **tool for water** has the following sheets:

User Guide: The user guide describes each section of the tool including definitions and data requirements.

Woreda Information: General information about the woreda such as the total population per kebele, population served by different systems, type of existing and planned water supply technology in the woreda, the number of beneficiaries each scheme can serve, the potential for household connections, and the functionality status of each scheme are defined. This was defined for urban and rural areas separately. Information related to the population was taken from the Woreda Finance Office. This part also includes population growth rate, inflation rate, exchange rate, and average household size.

Planning Assumptions: This is a critical part of the overall planning as it affects the projections to the future and cost estimations related to expected unit costs. These assumptions are unit costs for CapEx, rehabilitation of currently broken-down schemes, CapManEx, OpEx, and ExpDS. These costs occur before and after the schemes have been constructed. Planning and budgeting for operation, maintenance, support, and other recurring activities is essential for the schemes to provide sustainable service. This part also includes minimum design lifespan per scheme type. To facilitate calculations, there are separate sheets for OpEx estimation and DSC estimation. The OpEx estimation section is used to calculate required expenditures for operation and maintenance, including electricity or diesel to run pumps, pump operator or caretaker salaries, chlorine to disinfect, as well as servicing and other preventative maintenance or minor corrective repairs. The ExpDS estimation section calculates current and required ExpDS, including costs of setting up and carrying out monitoring of services, routine technical assistance, and training (and re-training) of service providers such as WASHCOs and utilities.

Option Selection: This is the main sheet where the planning happens. The option selection part has 3 main parts: setting and achieving the vision, planning of rehabilitation for non-functional schemes, and planning of new construction for rural and urban kebeles separately. This section is kebele-level choice of technological options for water supply delivery over time. This was done per kebele, noting that there are kebeles with 0% coverage and other kebeles with 100% coverage.

Since the same population can be served by a range of different water systems, each with a different set of costs, the choice of systems is critical. SDG 6.1 targets aim to reach safely managed services for all by 2030. The JMP ladder has safely managed (on premises, with sufficient quality and quantity and readily available), basic (within an acceptable distance, with sufficient quality and quantity), limited, unimproved, and surface. Options to achieve safely managed are piped on premises or self-supply. Therefore, choosing the right type of service delivery mechanism is critical for the specific vision of the woreda.

Coverage changes: This sheet presents the annual level of service for the woreda, rural areas, urban areas, and per kebele, based on the planning. This part has graphs showing service level changes over the planning period for the total woreda, the rural areas, the urban areas, and the kebeles.

Cost Estimation: This sheet presents an overview of the expected changes in service levels and required costs in line with planning for rehabilitation of existing non-functional schemes and construction of new water schemes. This part shows the cost implications of the kebele-level choices of technical options including the costs of rehabilitating and sustaining all systems over time.

Financing: This part is for defining options available to finance the SDG plan. It estimates the amount of money to be spent from main sources of finance (taxes, transfers, and tariffs). It also provides insight into the finance gaps. Sources of finance could be government budget, community contributions, development partners and others. The percentage of contribution varies based on existing conditions and upcoming projects.



The woreda WASH SDG master planning **tool for sanitation and hygiene** has the following sheets:

Woreda Information: General information about the woreda such as total population per kebele, availability and functionality of faecal sludge management facilities, types of sanitation facilities, and their potential for safely managed service are described. It also includes the number of villages in each kebele, the total number of households, the number of CLTSH triggered villages, the number of open defecation free (ODF) villages, and the number of villages requiring CLTSH triggering. Information related to the population and households is taken from the Woreda Health Office. This part also includes population growth rate, inflation rate, exchange rate, and average household size. In addition to sanitation facilities, this part also indicates the total number of households with handwashing facilities with or without soap and water.

Planning Assumptions: This part includes sanitation and hygiene approaches and their costs. The most common sanitation and hygiene approaches are CLTSH, SLTSH, sanitation marketing, and the distribution of IEC and BCC materials. These costs are defined per village, per kebele, or per woreda. If there are additional approaches for improving sanitation and hygiene services in the woreda, they can be indicated as well.

This part also includes the cost of infrastructure including unit costs for new sanitation and hygiene facilities, costs of rehabilitation/upgrade, emptying, and operation and minor maintenance. The lifespan of facilities and emptying frequency is also included.

Planning: This is the main sheet where the planning happens. This part has three main sections: setting and achieving vision, CLTSH planning, and planning for upgrades and new facilities. The vision indicates the woreda's sanitation and hygiene vision for 2030. CLTSH planning is planning for triggering and post-triggering activities per village, annually. Infrastructure planning includes plans for upgrading unimproved latrines and improved latrines with basic service to improved latrines with safely managed service and construction of new sanitation facilities. For hygiene facilities, the assumption is all households will have a handwashing facility by 2030. This part also includes plans for improving sludge management if relevant.

Cost overview and coverage change: This sheet presents service level changes over the planning period. This part also shows the cost implications of the plan including the costs of new facilities, upgrading, CLTSH, SLTSH, sanitation marketing, IEC/BCC materials, and hygiene facilities.

Financing: This part is for defining options available to finance the SDG plan. It estimates the amount of money to be spent from main sources of finance (taxes, transfers, and tariffs). It also provides insight into finance gaps. Sources of finance could be government budget, community contributions, and others. The percentage of contribution varies based on existing conditions and upcoming projects.

The woreda WASH SDG master planning **tool for school WASH** has the following sheets:

Woreda Information: General information about schools in the woreda is described. It includes the availability, type, reliability, and functionality of WASH facilities in each school. For sanitation, information of separate facilities for boys, girls, and teachers, the number of compartments, privacy, accessibility to disabled students, and waste disposal mechanisms are included. For hygiene, accessibility to younger or disabled students, availability of detergent, and menstrual hygiene facilities is included. In addition, information on school WASH sustainability like proper maintenance of WASH facilities and availability of funds, rules, regulation, and training on WASH are also included.

Planning Assumptions: There are two sections in planning assumption. The first section looks at the expected number of schools. This is to plan for WASH facilities for new schools. The second section is for CapEx, CapManEx, and OpEx for each type of WASH facility. This includes the unit cost for the construction of new facilities, rehabilitation costs for non-functional facilities as a percentage of the CapEx, CapManEx based on experience, the expected life span of the facility, and unit costs of OpEx.



To facilitate calculations, there is a separate sheet for DSC estimation. The DSC estimation section calculates current required and desired DSC including planning and reporting, WASH promotion, monitoring at schools, and technical support to schools.

Option selection: This is the main sheet where the planning happens. This part has four main sections: setting and achieving, planning for existing and new sanitation facilities, planning for existing and new water facilities, and planning for existing hygiene facilities.

Cost overview and coverage change: This sheet presents service level changes over the planning period. This part also shows the cost implications of the plan.

Financing: It is assumed that all costs will be covered by the government.

The worda WASH SDG master planning **tool for WASH in health care facilities** has the following sheets:

Worda Information: General information about health care facilities (health centres and health posts) in the worda is included. It includes information on water service level (availability, type, reliability, and functionality). Sanitation service level (availability, type, separate facilities for boys, and girls, and functionality), hygiene service level (availability, type, availability of detergent, menstrual hygiene facilities), waste management (incinerator for hazardous medical waste, placenta pit, separate bins for sharps, infectious materials, and non-infectious materials, and ash pit), and environmental cleaning (cleaning protocol and staff training on cleaning).

Planning Assumptions: The first section looks at the expected number of health facilities. This is to plan for WASH facilities for new health facilities. The second section is for CapEx, CapManEx, and OpEx of each type of WASH facility and for waste management and environmental cleaning. This includes the unit cost for construction of new facilities, rehabilitation costs for non-functional facilities as a percentage of the CapEx, CapManEx based on experience, the expected lifespan of the facility, and unit costs of OpEx.

To facilitate calculations, there is a separate sheet for DSC estimation. The DSC estimation section calculates the current required and desired DSC including planning and reporting, capacity building training, WASH monitoring, WASH promotion, review meetings, and technical support to health facilities.

Option selection: This is the main sheet where the planning happens. This part has five main sections: setting and achieving, planning for existing and new sanitation facilities, planning for existing and new water facilities, and planning for existing hygiene facilities, and planning for existing and new waste management facilities.

Cost overview and coverage change: This sheet presents service level changes over the planning period. This part also shows the cost implications of the plan.

Financing: It is assumed that the government will cover all costs.

