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SOUTH ARI WOREDA WASH SDG MASTER PLAN

December 2021



Executive summary

This woreda WASH master plan contains the vision and strategies of South Ari Woreda. This master plan aims for universal access to safe and sustainable water supply and sanitation and hygiene services for the entire population of South Ari 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 South 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 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).

South Ari Woreda is located in South Omo Zone of Southern Nations, Nationalities and People's (SNNP) Regional State, Ethiopia. Administratively, the woreda is divided into twenty-eight (28) rural and three (3) urban kebeles. The total population of the woreda is 177,136 (149,510 rural and 12,096 urban). The annual population growth rate of the woreda is 2.9%.

Water supply technologies in South Ari include hand dug wells, hand dug wells with rope pump, shallow wells, deep wells with distribution, on-spot springs, and spring with distribution (medium and large gravity). In total, there are 178 schemes in the woreda, of which 61 are non-functional (non-functionality rate 34.3%). The SDG plan estimates that currently 1% of the woreda population has access to safely managed service and 21% to basic service, and 78% of the woreda population has no access to water.

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). Currently, in South Ari, there are private and shared improved household pit latrines within situ treatment and private unimproved latrines. The total number of improved latrines is 11,727, and the number of unimproved latrines is 18,578, with 13% of the population practicing open defecation. In addition, 8,360 households have handwashing facilities of which 3,429 have handwashing facility with soap and water. There are 531 villages in South Ari Woreda, of which 322 (60%) are open defecation free (ODF), while 328 (62%) have received CLTSH triggering.

There are currently 57 schools and 38 health care facilities in the woreda. 46 of the schools in the woreda have no handwashing (hygiene) facilities, 45 schools do not have sanitation facilities, and 32 schools do not have water facilities. 8 of the health care facilities have basic water service. Most health facilities were connected with community water supply systems. 19 of the health care facilities have no sanitation facilities, while the other 19 have limited sanitation facilities. None of the latrines are disability inclusive. Therefore, sanitation services of 19 of the health care facilities are considered as limited. All health care facilities have limited handwashing facilities lacking either water and soap, or alcohol rub available at the point of care. 32 health care facilities have no waste management facilities and all of the health care facilities have limited environmental cleaning practices in place.

The woreda have set the vision of achieving 100% coverage with at least basic water supply, sanitation, and hygiene service in rural and urban areas. This is a big step up from the current 22% of people served with at least basic services (52% in urban areas and 20% in rural areas) for water, 36% of people served with basic sanitation services, and 9% of people served with basic hygiene services.

Going from 1% to 12% safely managed service and 100% at least basic waster service by 2030 requires that additional 173,118 people have access to at least basic service and 23,498 people have access to safely managed service. Strategies are rehabilitation of broken-down schemes, construction of new schemes including self-supply and household connections, and sustaining these services through establishment, legalization, and strengthening of WASHCOs/ WUAs and federations, tariff setting and revenue collection, strengthening spare part supply and preventive maintenance services, and addressing resource constraint at woreda level.

Going from 36% sanitation services to 100% at least basic services by 2030 requires that additional 16,016 households construct their own latrines, 18,709 households that currently have unimproved latrines upgrade to improved latrines, 3,152 improved safely manged latrines are constructed, and 41,726 households will construct hand washing facility with soap and water. Since the construction of sanitation and hygiene facilities is the responsibility of households, the main strategy is successful and sustainable implementation of the CLTSH, and sanitation marketing approach will require strengthening of the Woreda Health Office capacity and performance.

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 WASH service of 35%, 19%, and 0% respectively in the schools and WASH, waste management, and environmental cleaning service of 21%, 0%, 8%, 16%, and 0% respectively, in health care facilities.

Strategies to achieve 100% at least basic WASH service in institutions are construction of adequate WASH facilities, and ensuring these facilities are sustained in all of the facilities. Strategies include construction adequate WASH facilities for new institutions, ensuring adequate WASH facilities in existing institutions, and ensuring sustainable WASH services through WASH promotion.

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



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1.41 billion (35.79 million USD). The total cost required for achieving 100% at least basic sanitation and hygiene service by 2030 is ETB 3.2 billion (81 million USD). The total cost required for achieving 100% at least basic WASH service in schools by 2030 is ETB 65.6 million (1.66 million USD). The total cost required for achieving 100% at least basic WASH service in health care facilities by 2030 is ETB 89.03 million (7.42 million USD).



Endorsement of South Ari 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 _____

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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
SNNPR	Southern Nations, Nationalities and Peoples' Region
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

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

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.

At the 6th learning alliance meeting, learning alliance members discussed the importance of developing woreda WASH masterplan for the 3 woredas (South Ari, Baka Dawla Ari and Woba Ari). The learning alliance recognised that developing the plan is a good opportunity to have a long-term plan for the woreda to mobilize funds and work with development partners to achieve SDG 6 targets. The SDG planning teams were established in each of the three woredas comprising six to nine learning members from six woreda sector offices (water, education, health, finance, administration, and women and children).

Workshop 1 (October 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 requirements and to discuss and develop a timeline for the planning process. The discussion was supported with the demonstration of a 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 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 infrastructure 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.

The woredas progressed well collecting data and populating the planning tool. The planning team sent a draft to IRC WASH and comments were provided to discuss on the second workshop.

Workshop 2 (February 2020): The main objective of this workshop was to present a draft SDG plan (data collection, data entry, setting assumptions) for discussion to get feedback on each planning step, discuss the challenges of the planning process and find solutions, evaluate the timeline for the planning process and develop a schedule to finalize the plan, and introduce the sanitation and hygiene 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 sheets filled with the support of SWS local facilitator and further edit the planning tool, to discuss on the master plan narrative report outline and begin filling all the necessary information in bullet points under each outline title to begin the development of the narrative report.

Workshop 4 (January 2021): This two-day validation and launching workshop involved WASH stakeholders beyond WASH sector offices from the woreda, zone, and region including implementing NGOs, Small and Micro



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Enterprises (SMEs), and WUAs. 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

Following the general introduction of the woreda SDG master planning in Baka Dawla Ari 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 Baka Dawla Ari 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 Baka Dawla Ari 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.

2.1 Water service definitions and targets

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							

2.2 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	

2.3 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



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			examination room and outpatient department.
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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

South Ari Woreda is located in the South Omo Zone of SNNPR, Ethiopia. It includes a mix of highland, midland, and lowland terrain. Pastoralism is no longer practiced in the woreda. The capital of the woreda is Gazer.

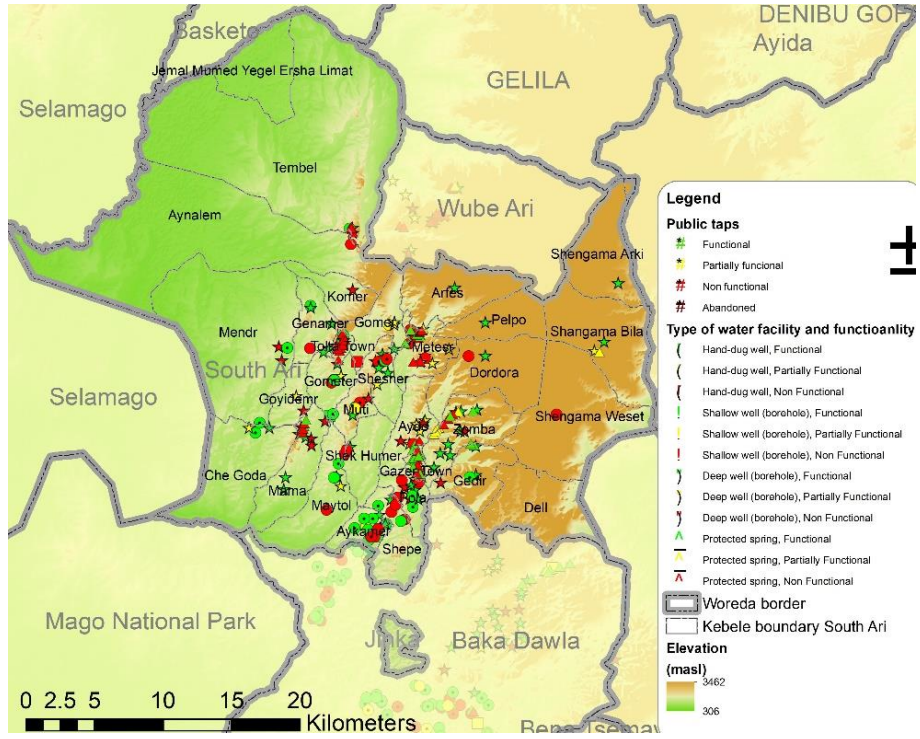


Figure 1: Map of South Ari Woreda

Administratively, the woreda is divided into twenty-eight (28) rural and three (3) urban kebeles. All the woreda sector offices use population data from the Woreda Finance and Economic Development Office (WFEDO). According to this data, the total population of the woreda is 177,136 (163,911 rural and 13,225 urban). The annual population growth rate of the woreda is 2.9%. There are 36,097 households (HH) in the woreda, with an average household size of 5 people.

4 Situational analysis

4.1 Water services

4.1.1 Water infrastructure

Water supply technologies in South Ari include hand dug wells, hand dug wells with rope pump, shallow wells, deep wells with distribution, on-spot springs, and spring with distribution (medium and large gravity). In total, there are 178 schemes in the woreda, of which 61 are non-functional (non-functionality rate 34.3%) (Table 10).

Table 10: Type of schemes and functionality in South Ari woreda

Type of scheme	Number of beneficiaries	Functional	Non-functional	Total
Rope pump	5	17		17
Spring on spot	200	37	30	67
Hand dug well	160	13	21	34
Shallow well	250	25	5	30
Deep Well with distribution	2000	1		1
Multi Kebele Scheme	3500	2		2
Medium gravity spring with distribution	550	21	5	26
Large gravity Spring with distribution (Gazer town)	3000	1		1
Total		117	61	178

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, the SDG plan estimates that currently 1% of the woreda population has access to (potentially¹) safely managed service and 21% to basic service².

Figure 2 shows an overview of the service level for South Ari Woreda (urban, rural, and total). Overall, 78% of the woreda population has no access to water. Two rural kebeles (Aynalem and Dordora) are not served with water services at all (100% unserved).

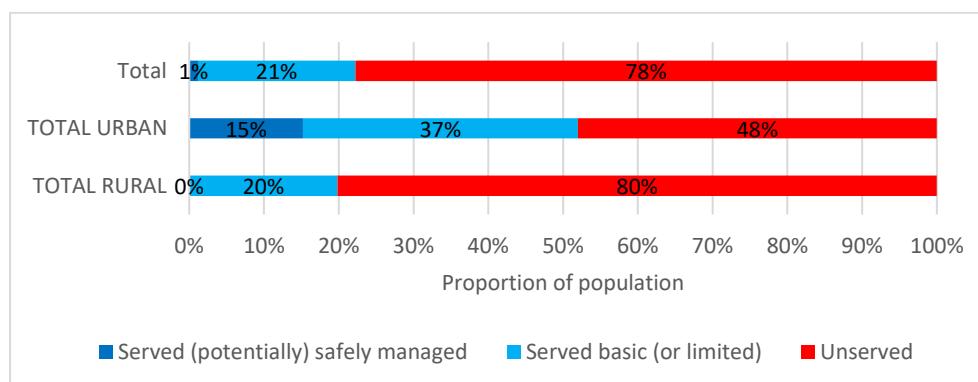


Figure 2: South Ari service level (Water)

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.

4.1.3 Water service delivery models

The main service delivery model in South Ari 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). When legalized, WASHCOs are called Water User Associations (WUAs). WASHCOs/WUAs 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/WUAs are responsible for tariff collection and day-to-day operation and maintenance of schemes. There are also federations at kebele level that manage and support the WUAs. The federations are established to streamline communication between WUAs and the woreda.

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

4.1.4 Systems strength at woreda level

WASHCOs are responsible for the operation and maintenance of schemes with direct support from the woreda. There are WASHCOs established in the woreda, and there is legalization process at this moment based on SNNPR regional guidelines. Once established and legalized WASHCOs are called water user associations (WUAs). It is difficult to hold WASHCO/ WUA members accountable as they are doing this on a volunteer basis. WASHCOs/WUAs do not report to the woreda office unless staffs call for information or visit the schemes. They also do not meet regularly to evaluate their performance.

There is a clear institutional setup for rural water services provision in South Ari, with defined roles and responsibilities for the WUAs and Gazer utility (the service providers), the South Ari Woreda Water, Mines and Energy Office (the service authority) and support by the Zone Department and Regional Bureau.

SNNPR, where South Ari is located, has been a national leader in establishing the necessary proclamation and implementing the legalization policy for community-based water service providers. Although WUAs should be in place as water service providers for all water schemes, in reality most of the water schemes do not have WUAs, according to the baseline Assessment. Training of WUAs is insufficient, with most receiving only limited training on scheme management and regional guideline when the associations were first established. All WUAs in the woreda have by-laws describing their roles and responsibilities.

The WUAs do not receive continuous support and follow-up from the woreda water office. The woreda provides support on a demand basis and cannot provide regular support due to budget limitations. The biggest challenge, in addition to budget limitations, is transportation.

South Ari woreda water office focuses on new construction and, where needed, undertaking ad-hoc rehabilitation of infrastructure, rather than maintaining infrastructure and planning for asset rehabilitation and renewal which accounts for low rates of functionality.

Ownership of assets is not clear, and no systematic asset management system is in place in the woreda. The 2017 asset inventory conducted by the woreda with USAID Sustainable WASH Systems Learning Partnership and the USAID Lowland WASH Activity covered all water sources and water points, including their age and current physical state. However, before this intervention, no recent or detailed asset inventory data was available.

4.1.5 Water service challenges and gaps

The woreda has challenges and gaps in to provide sustainable water supply service which include:

- Low coverage



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- Frequent breakdowns
- Low level of safely managed water services
- Challenges with availability of water resources
- Challenges with presence, capacity, and performance of service providers and authorities

4.1.5.1 *Low coverage (at least basic) levels*

Currently, none of the kebeles have enough schemes to provide at least basic water service for all. Together, the water schemes have the potential to serve about 39,365 of 177,136 population of the woreda (22%). Two rural kebeles (Aynalem and Dordora) have no access to water (100% unserved).

Reasons for low basic coverage include:

- **Budget allocation** for new construction and repairs of existing broken down schemes is low. New construction or rehabilitation is not included in annual planning which contributes to the **high non-functionality** rate.
- There is no **water resource potential** in some kebeles. Some have good potential like shallow groundwater for dug wells, spring, and deep wells, while others have no potential.
- Lack of **road access** to reach all areas. In addition, this hinders woreda from providing maintenance services in time
- Lack of **community awareness** to construct their own schemes like self-supply
- Rural population living in **dispersed settlement** which makes supplying water difficult.

4.1.5.2 *Frequent breakdown of schemes.*

At the time of the baseline, 61 water schemes (30 spring on spot, 2 hand dug well, 5 medium gravity spring with distribution, and 5 shallow well) were not functioning. Reasons behind the breakdown of schemes include:

- **Low construction quality:** Mechanisms and capacities exist at woreda and zonal levels to ensure due diligence and control over procurement. However, the quality of work and the quality of the infrastructure development process is variable. Although the woreda is supposed to check construction quality of all schemes, including those implemented by NGOs, constructed scheme break down before even start delivering water. In addition, construction material quality is low, which increases frequent breakdown.
- **Lack of resources for maintenance:** The tariff collected does not cover running costs. Since communities cannot afford these costs, scheme downtime is high. In addition, budget allocation by the woreda for maintenance is not sufficient.
- **Lack of spare parts:** Spare parts are not available in the local market but can be found in Addis Ababa. Apart from the woreda and caretakers, there are not spare parts and maintenance service providers.
- There are no **trained or skilled caretakers** in the water schemes, which makes regular preventive maintenance difficult. There are some caretakers trained by USAID Sustainable WASH Systems Learning Partnership project in 3 pilot kebeles.
- Most of the water schemes have been working for long time without proper care. In addition, there is no **proper documentation** of water schemes.

4.1.5.3 *Low level of safely managed water services*

Only an estimated 1% of the woreda population (0% in rural and 17% in urban) have access to potentially safely managed services (improved water services on premises, regardless of quality and availability issues). The number of household connections to piped schemes is limited. Reasons behind the low number of household connections include:

- Most households in the woreda **lack the capacity to pay** for on premises connections.
- There is **shortage of budget** for line expansion at woreda level



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- **Water sources** of most of the schemes do not have enough water for household connection.
- Because of **scattered settlement**, location of households is not convenient for household connection
- Reduction in the yield of water sources because of **deforestation**. There is also weak soil conservation activity.
- The community uses **traditional flood irrigation** which consumes a lot of water.

Water quality data is hardly available, while there are observed challenges with high level of **iron and turbidity** in some parts of the woreda. The woreda water office is responsible for checking the water quality of all schemes every quarter. However, there is **no regular chlorination** or water quality check in the schemes. This is because of **shortage of skilled staff** and availability of water quality test kit. There is also cross contamination of water lines from sewerage.

4.1.5.4 *Challenges with presence, capacity, and performance of service providers and service authorities*

According to the data collected in the planning tool of the required (desired) staff, there are 9 staff members in the woreda water office dedicated to supporting water service provision. There are not enough technicians for timely connection and maintenance of schemes. The financial gap between needs and current allocation to Direct Support Costs, mainly covering salary costs, is also high. Findings from direct support cost estimation in 2019 show that the current estimated expenditure on direct support is ETB 316,572 (8,015 USD), which is about 17% of the desired amount, ETB 1,884,234 (47,706 USD).

There is shortage of logistics, budget, and expenditure for the Woreda Water Office to undertake its functions. WASHCOs/WUAs do not have the financial or technical capacity to do maintenance. They mostly concentrate on managing the day-to-day operations. Payment for operation and maintenance is expected to come from the community, though this mostly happens on an ad-hoc basis. Some of the challenges include:

- Woreda does not have the required **maintenance technicians**.
- Lack of integrated **monitoring and supervision**; there is no good information sharing system.
- Poor sector's **budget allocation** system. Plan for building schemes is less than the institutional capacity. Thinking of water supply as an NGO's activity. Since there is support from NGOs, the woreda assumes support from NGOs is enough and the budget allocated is limited.
- No regular/continuous **capacity building** activities
- **High turnover** of decision makers, office heads.

4.2 Sanitation 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).

In South Ari, there are private and shared improved household pit latrines with in-situ treatment and private unimproved latrines. The total number of improved latrines is 11,727, and the number of unimproved latrines is 18,578, with 13% of the population practicing open defecation. There are no facilities for the collection and treatment of faecal sludge. None of the improved latrines are expected to have proper in-situ treatment, with proper lining, not contaminating groundwater, and covering up and construction of a new latrine when full. In addition, 8,360 households have handwashing facilities of which 3,429 have handwashing facility with soap and water. There are 531 villages in South Ari Woreda, of which 321 (60%) are ODF, while 328 (62%) have received CLTSH triggering.

4.2.2 Sanitation and hygiene service level

Figure 3 shows sanitation and hygiene service levels in South Ari. 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.

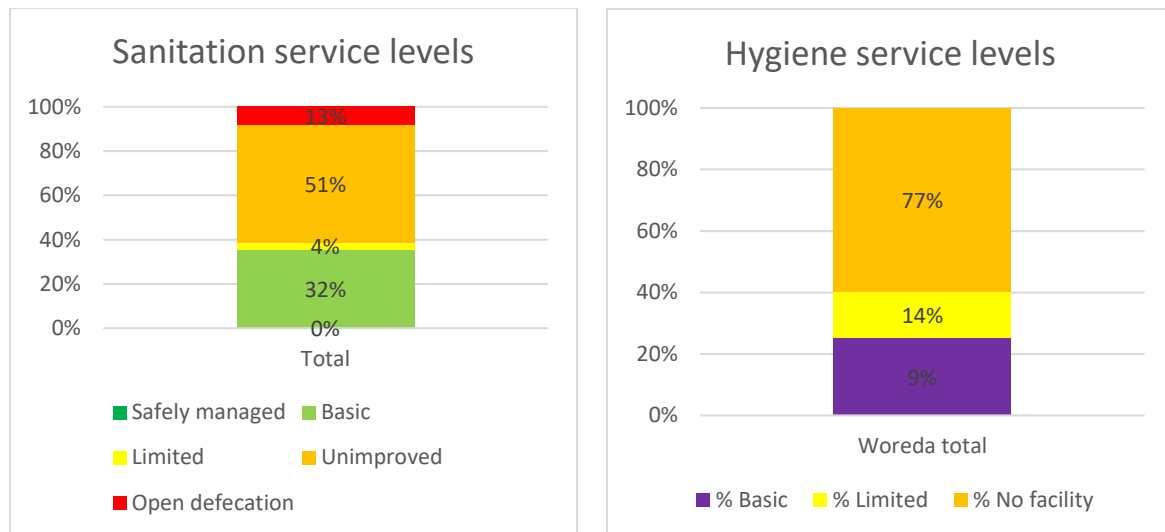


Figure 3: Sanitation and hygiene coverage South Ari

4.2.3 Sanitation and hygiene approaches

The main approaches towards improving sanitation and hygiene in South Ari 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 along with 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.

The 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 the sanitation and hygiene context, there are no service providers. Households are responsible for the 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. The challenges and gaps include:

- Challenges with coverage (at least basic) levels
- Challenges with the presence, capacity, and performance of service providers and authorities

40% of the villages have not attained open defecation free status yet. An estimated 13% of the households do not have household latrine, and about 51% of the population have unimproved household latrines. In addition, 77% of the households do not have hand washing facilities.

The woreda health office is the service authority for sanitation and hygiene through approaches described in section 4.2.2. The woreda health office carries out these approaches through health extension workers.

There is a lack of trained workforce for the sanitation marketing approach. Because of budget limitation, difficult to train enough sanitation marketing agents or train existing enterprise. Slab price has increased significantly, and households do not have the capacity to buy what is on the market.

Sanitation and hygiene challenges and gaps include:

- Use of latrine without having hand washing facility is not effective. **Lack of water** is the main problem for hand washing. There is also **no handwashing tradition** as handwashing is linked with cleaning hands after eating.
- ODF needs continuous follow up at community level. However, because **weak post ODF follow up and support**, once declared ODF, most villages fall back to old habits and start open defecation practices.
- There is **limited awareness** about the need for sanitation and hygiene practices within the community, which makes the promotion of construction and continual use of improved facilities a challenge. Households construct good quality houses but **not improved latrines**. Even though most households have latrines, **utilization is very low**.
- The community lacks the **capacity to construct latrines**. This is because of high construction material cost.
- Most sanitation and hygiene activities happen as a **onetime campaign**, but the campaign activities are not sustainable. There is no continuous awareness creation activity.
- There are **no by-laws** to prevent moving from ODF status back to practicing open defecation.

4.3 Institutional WASH

4.3.1 Institutional WASH infrastructure

There are currently 57 schools and 38 health care facilities (7 health centres and 31 health posts) in the woreda. Table 11 presents an overview of WASH services in schools. 46 of the schools in the woreda have no handwashing facilities, 45 do not have sanitation facilities, and 32 do not have water facilities.

Table 11: WASH facilities in schools

Total number of schools	Service	Water	Sanitation	Hygiene
57	Basic	20	11	0
	Limited	5	1	11

	No service	32	45	46
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Table 12 presents an overview of WASH services in health care facilities. 8 of the health care facilities has basic water service. 19 of the health care facilities have no sanitation facilities, while the other 19 have limited sanitation facilities. None of the latrines are disability inclusive. Therefore, sanitation services of half of the health care facilities are considered as limited. 35 health care facilities have limited handwashing facilities lacking either water and soap, or alcohol rub available at the point of care. 32 health care facilities have no waste management facilities and all of the health care facilities have limited environmental cleaning practices in place.

Table 12: WASH facilities in health care facilities

Total number of health care facilities	Service	Water	Sanitation	Hygiene	Waste management	Environmental cleaning
38	Basic	8	0	3	6	0
	Limited	1	19	35	0	38
	No service	29	19	0	32	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 35% of the schools and 21% of the health care facilities have water services, 19% of the schools and 0% of the health care facilities have sanitation services and 0% of the schools and 8% of the health care facilities have hygiene facilities. In addition, 16% of the health care facilities have basic waste management service levels and 0% have environmental cleaning service levels.

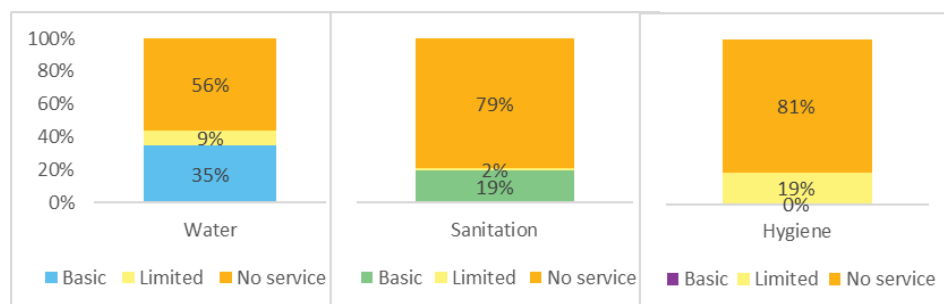


Figure 4: South Ari school WASH service levels

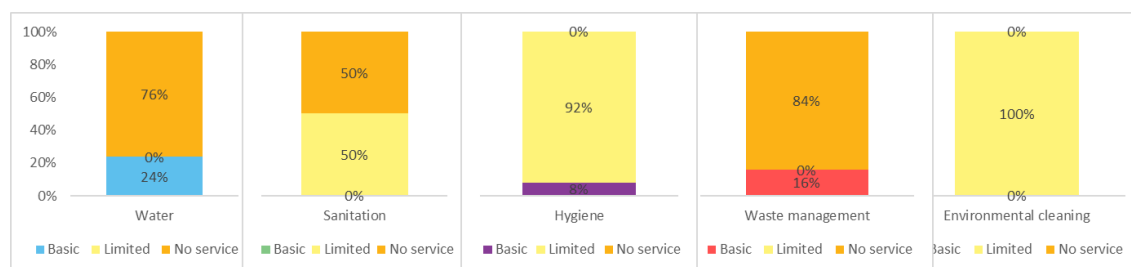


Figure 5: South Ari health care facility WASH service levels

4.3.3 Institutional WASH challenges and gaps

According to the baseline data, 35% of the schools and 21% 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.



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- Because of the shortage of budget, 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.
- Health posts in rural areas are far from existing water systems.

According to the baseline data, 79% of the schools and 50% 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. Most of the schools (81%) have no handwashing facilities, and the majority of health care facilities (92%) have limited 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.
- There is a lack of clarity on criteria for basic sanitation, with national criteria differing from the JMP criteria.
- Health posts are constructed with community participation, and latrines are constructed from low-quality materials making them susceptible to damage.
- 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.
- Institutions do not plan for OpEx budget.

5 Woreda Vision and targets

5.1 Woreda vision and targets for water supply

South Ari Woreda have set the vision of achieving 100% coverage with at least basic water services in both rural and urban areas by 2030. This is a big step up from the current 22% of people served with at least basic services (52% in urban areas and 20% in rural areas). In addition, the woreda has set the vision of having 12% of the total population served with safely managed water services, with 80% of the urban population accessing safely managed water services and 6% of the rural population accessing safely managed water services (Table 13).

Table 13: South Ari Woreda baseline and vision for 2030, water

	2019 baseline	2030 vision
% Served	22%	100.0%
% Served - basic	21%	88%
% Served - safely managed	1%	12%
RURAL		
% Served	20%	100%
% Served - basic	20%	94%
% Served - safely managed	0%	6%
URBAN		
% Served	52%	100%
% Served - basic	37%	20%
% Served - safely managed	15%	80%

5.2 Woreda vision and targets sanitation and hygiene

South Ari Woreda have set the vision of achieving 100% coverage with basic sanitation services by 2030. This is a big step up from the current 51% of people served with basic sanitation services and 23% basic hygiene services. There is no plan for safely managed sanitation service because the woreda has no plan for stimulating the construction of latrines which require off-site treatment nor for implementation of a faecal sludge management facility. There is also no means of tracking if the improved pit latrines have 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. In addition, the woreda has set the vision of having 100% of households to have handwashing facilities with soap and water (Table 14).

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

	2019 baseline	2030 vision
Sanitation		
% HH Served	36%	100%
% HH served - safely managed	0%	30%
% HH served - basic	36%	70%
% HH served - limited	4%	0%
% HH Served - unimproved	53%	0%
% HH open defecation	8%	0%
Hygiene		



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%HH - Basic	9%	100%
%HH - Limited	14%	0%
%HH - No service	77%	0%

5.3 Woreda vision and targets Institutional WASH

South Ari 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 2%, 84%, and 0% respectively (Table 15).

Table 15: South Ari baseline and 2030 vision for school WASH

	2019 (Baseline)	2030 vision
Number of schools	57	65
% Schools with basic water	35%	100%
% Schools with basic sanitation	19%	100%
% Schools with basic hygiene	0%	100%

South Ari 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 21%, 0%, 8%, 16%, and 0% respectively (Table 16).

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

	2019 (Baseline)	2030 vision
Number of Health care facilities	38	47
% Health care facility with basic water	21%	100%
% Health care facility with basic sanitation	0%	100%
% Health care facility with basic hygiene	8%	100%
% Health care facility with basic waste management	16%	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 17 shows the actual population served (2019), the required population to be served by 2030 as per the vision. In 2019, there were an estimated 39,205 people (22%) served by existing functional water schemes, including 2,040 people with safely managed services. Going from this current situation to the vision of provision of sustainable services to all by 2030 and 12% access to safely managed services requires:

- Ensuring that an additional 173,118 people have access to at least basic services by 2030
- Ensuring an additional 23,498 people have access to safely managed water services by 2030
- Ensuring sustainability of water services

Table 17: Projected population and population unserved

	2019 baseline	2030 vision	Additional population
Total population	177,136	242,592	65,456
People served	39,365 (22%)	242,592 (100%)	203,227
People served - basic	37,165 (21%)	214,975 (88%)	177,810
People served - safely managed	2,040 (1%)	27,610 (12%)	25,570

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 242,592 people will be served with at least basic water services by 2030.

6.1.1.1 Rehabilitation of broken-down water facilities in the woreda

At the time of the baseline, 30 spring on spot, five medium gravity spring with distribution, 21 hand dug wells, and five shallow wells were not functional. The plan is to have these facilities rehabilitated in the first three years (2020-2022) of implementation of the South Ari Woreda SDG Masterplan. Annual rehabilitation plan for broken-down schemes can be found in Annex 2.

To ensure this is achieved, the proposed actions include:

- Properly identify level of functionality and lifetime of schemes
- Identify spare part needed for rehabilitation of non-functional schemes
- Prioritize the rehabilitation of non-functional schemes that are serving higher number of users
- Allocate appropriate budget for rehabilitation and assign maintenance technicians.

6.1.1.2 Construction of new schemes

A mix of self-supply options and community-managed point sources, such as springs on-spot and hand-dug wells, and community-managed piped schemes (springs and deep wells with different sizes of distribution networks) is planned to be implemented (Table 18). Annual plan for construction of new schemes can be found in Annex 3. In addition, sources that have the potential of serving more people than they currently are serving will have expansion work done on their distribution systems.

Table 18: Number of water schemes to be constructed

Service delivery model	Type of scheme	Planned additional new schemes
Self-supply	Rope pump	144
Community managed point sources	Spring on spot	51
	Hand dug well	11
	Shallow well	16
Community-managed well or borehole with distribution scheme	Shallow with Solar pump	2
	Deep Well with distribution	6
	Multi Kebele Scheme	1
Community-managed spring with distribution scheme	Medium gravity spring with distribution	57
	Motorized Spring with distribution	3
	Large gravity Spring with distribution (Gazer town)	2

To ensure the implementation of new schemes, there is a need for:

- Giving focus to spring development as the woreda is a highland and has the potential. In addition, cost of spring development is cheap.
- Identifying water scheme types specific to different kebeles. Allocating budget as per identified water sources and their potential.
- Strengthening WASHCOs/ WUAs capacity so that they can build their own schemes.
- Conducting regular community need assessment and documentation.
- While constructing multi-village schemes community at source and along the line should be served. Otherwise, the service cannot be sustainable because of conflict.
- Shifting from woreda office fully responsible for the construction or rehabilitation of schemes through bidding process, to procuring materials and negotiate with artisans to construct schemes under woreda supervision.
- Scheduling construction of new schemes based on weather condition to avoid road access problems.

6.1.2 Strategies for increasing the number of people with access to safely managed water services

To achieve the vision of having safely managed water services for 6% of the rural population and 80% of the urban population of the woreda, the strategies are:

- Ensuring water supply on premises through self-supply and household connections
- Ensuring reliable, continuous piped water supply
- Ensuring water services free from contamination

6.1.2.1 Ensuring water supply on premises through self-supply and household connections

To achieve the vision of having 6% safely managed water services in the rural areas and 80% in the urban areas, a total of 5,131 households have to get access to water supply on premises, through self-supply options or through household connections connected to piped schemes.

There are currently 34 self-supply hand dug wells are available in South Ari. Self-supply option is feasible in the woreda and can contribute to meeting the 2030 vision. However, the number of people to gain access to water supply on premises through self-supply is expected to be limited. 144 Self-supply rope pumps are expected to be constructed until 2030. The proposed actions to ensure this are:



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- Promoting self-supply Implementation and mobilizing households to construct their own hand dug wells.
- Establishing enterprises to supply parts with reasonable price and support in market connection.
- Ensuring water quality through awareness creation.

2,550 households in urban areas and 2,420 households in rural areas are expected to have connected to piped schemes with household connections. The proposed actions to increase the number of household connections are:

- Community awareness creation (social, health, and economic benefits) of household connection
- Develop additional sources to increase water supply sources and construction of schemes suitable for safely managed service
- Expansion of pipelines. A total of 52 expansion work has been planned on existing schemes

6.1.2.2 *Ensuring reliable, continuous piped water supply*

To ensure reliable, continuous water supply, the following proposed actions are to be undertaken:

- Construction of additional water schemes and expansion of pipelines.
- Regular monitoring and preventive maintenance of pipelines.
- Proper design of pipelines in line with source capacity.
- Maintaining schemes on time when they breakdown.

6.1.2.3 *Ensuring water services free from contamination*

To ensure contamination free water supply, the following actions are proposed to be undertaken:

- Regular water quality testing and regular chlorination of schemes. The woreda is responsible for water quality monitoring and treatment of schemes.
- Awareness creation at the household level to ensure good water quality during fetching, transportation, use and storage.
- Preventing cross contamination of water sources by obligating households near water sources to build safely managed latrines.
- Cleaning surrounding of water schemes and regular cleaning of wells.

6.1.3 **Strategies for ensuring sustainable water service provision**

Strategies to improve the sustainability of water services include:

- Establishment, legalization, and strengthening of WASHCOs, WUAs and Federations.
- Improve tariff setting and revenue collection.
- Improve part supply and preventive maintenance services.
- Address resource constraints at the woreda level.

The following actions are proposed for establishment, legalization and strengthening of WUAs, WASHCOs and federations:

- Currently there are schemes that do not have WUAs. WUAs need to be established on all existing and new schemes.
- WUA management guidelines need to be filed and documented.
- Preparing WUA training manual.
- Conducting need assessment on necessary trainings.
- Allocating proper budget for training WUAs, care takers and federations.
- Certification of model WUAs.

Monitoring and record keeping by WUAs are key for ensuring sustainable water service provision. It helps to detect problems so they can be timely addressed. Proposed actions include:

- Training, follow-up, and monitoring of WUAs by the Woreda Water Office.
- The woreda, federation and WUAs should develop action plans, prepare checklist for evaluation, and develop feedback mechanism.
- Identifying functional and non-functional water schemes to facilitate maintenance.
- Use of asset management systems to keep proper record of schemes and incorporating new schemes to the system regularly.

To improve tariff setting and collection, the following actions are proposed:

- When tariff is collected, a proper receipt needs to be provided. The collected fees should be saved at a microfinance institution, and regular auditing needs to be conducted.
- The woreda needs to make sure tariff is collected properly.

Strengthening spare part supply and maintenance services improve scheme functionality and reduce downtime and contributes to more reliable and sustainable water services. Proposed actions to ensure that spare part supply and maintenance services include:

- Establishing and strengthening spare part and maintenance enterprises.
- Ensuring enterprises supply spare parts with reasonable price.
- Organize skill training for enterprises.

To address resource constraints at the woreda level, the following actions are proposed:

- Identify capacity gaps at different levels and plan skill improvement trainings. There is different capacity at different level. The plan must be based on the available capacity. E.g., rural community can supply construction material, can also contribute cash and support with labor.
- Proper follow up and support from the Zone.
- Creating linkage with TVET colleagues is the strategy for relieving the manpower shortage.
- Properly documenting scheme data in hard copy and soft copy for proper handover during turnover.
- Water resource management should be given attention. Deforestation of natural vegetation and replacement with new species is depleting the water resources.
- Woreda Water office need to plan and report tariff collection, operation and maintenance activity conducted at scheme level by care takers.

6.2 Sanitation services

Table 19 presents the current and projected 2030 population and number of households based on the number of people and households per kebele. It also shows the number of households with safely managed and basic sanitation services, households practicing open defecation, and households with handwashing facilities.

Table 19: Population with sanitation services, baseline and 2030

	2020 baseline	2030 vision	Additional
Population	177,136	242,592	65,456
Number of households	36,097	45,155	12,184
Sanitation			
HHs unserved (open defecation)	4,547	0	
HHs served - basic	11,727	34,605	22,878
HHs served - safely managed	0	14,831	14,831
% HH unserved (open defecation)	13%	0%	
% HH served - basic	36%	70%	



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% HH served - safely managed	0%	30%	
Hygiene			
HHs served basic	3,429	45,155	41,726
HHs served limited	4,931	0	
HHs no facility	27,737	0	
% HH basic	9%	100%	
% HH limited	14%	0%	
% HH no facility	77%	0%	

To achieve the vision of 100% of households with at least basic sanitation and hygiene services, there is a need to ensure that by 2030:

- Additional 16,016 improved basic latrines are constructed.
- 18,709 latrines are upgraded from unimproved to improved basic latrines.
- Additional 3,152 improved safely managed latrines are constructed.
- 11,727 latrines are upgraded from improved basic to improved safely managed latrines.
- 41,726 households will have hand washing facility with soap and water.

The detailed plan can be found in Annex 4. To ensure this is done sustainably, households will need to be stimulated to construct and upgrade their sanitation facilities and construct new ones as they fill up. The proposed strategy for achieving this is through improved CLTSH and sanitation marketing practices. Successful and sustainable implementation of the CLTSH and sanitation marketing approach will require strengthening of the Woreda Health Office capacity and performance.

Sanitation marketing includes the construction of sanitation marketing centres, awareness and demand creation for the community, sanitation marketing training for established enterprises, and sanitation marketing campaigns.

The CLTSH approach includes the following activities:

- Training on CLTSH approach
- Model latrine construction
- CLTSH triggering in all kebeles
- Post triggering support including technical support
- ODF verification and certification
- Post ODF follow up

Once villages/kebeles have been declared ODF, there should be monitoring and follow-up so that people do not fall back into old behaviours. In 2019, 322 of 531 villages were open defecation free. The remaining villages need to be triggered to decrease open defecation and increase the number of households with sanitation and hygiene facilities. Detailed CLTSH plan can be found in Annex 5. Post ODF follow-up is to take place in all villages which have received triggering. The woreda also will work on advocacy for increasing the number of health extension workers per kebele based on the population number. Additional actions include:

- Developing detailed CLTSH plan at woreda and kebele level.
- Producing awareness creation leaflet and booklet using local languages.
- Strengthening house to house visit to create better awareness and hygiene behaviour.
- Revitalize committee that verifies ODF status. The committee is currently inactive.
- Acknowledging model households.

- Strengthen sanitation product supply with reasonable price to contribute to construction of improved latrine.

6.3 Institutional WASH

The number of schools is expected to increase from 57 in 2019 to 65 in 2030, and the number of health care facilities is expected to increase from 38 in 2019 to 47 in 2030. Detailed annual plan for institutional WASH can be found in Annex 6 To go from the current situation towards the 2030 vision of all schools and health care facilities with sustainable WASH services, there is a need for:

- Construction of adequate WASH facilities in eight new schools and nine new health care facilities
- Ensure adequate WASH facilities in the 57 existing schools and in the 38 existing health care facilities
- Ensuring sustainable WASH services through WASH promotion

6.3.1 Construction of WASH facilities and ensuring WASH service provision in existing and new schools

Each of the eight newly constructed schools will incorporate WASH facilities in their design and implementation, and the existing schools will add missing WASH facilities which includes:

- Connection to the piped scheme or construction of water supply system on premises. 26 schools will be connected to existing schemes, 7 will construct protected dug well and 7 will construct protected spring. In addition, 2 public standpipes and 1 protected dug well will be rehabilitated.
- 53 schools will construct sex-separated, disability inclusive, functional, and usable improved pit latrines.
- 54 schools will construct handwashing facilities with soap and water. In addition, 11 schools will start providing soap regularly.

6.3.2 Construction of WASH facilities and ensuring WASH service provision in existing and new health care facilities

Each of the nine new health care facilities will incorporate WASH facilities in their design and implementation, and existing health care facilities will add missing WASH facilities which includes:

- Connection to the piped scheme or construction of water supply system on premises. 28 health care facilities will be connected to existing schemes with 10 health care facilities having piped water in their building, and 18 health care facilities having piped water in their yard. 3 health care facilities will use public standpipe, 1 will construct a borehole, 1 will develop protected spring and 5 will use rainwater collection.
- 47 health care facilities will construct sex-separated, disability inclusive, functional, and usable improved pit latrines.
- 34 health care facilities will construct hand washing facility with soap and water at point of care and the remaining 10 will construct hand washing facility at latrine and point of care.
- 47 health care facilities will construct both incinerator and non-hazardous waste pit.

Environmental cleaning is defined through cleaning protocol in place, and staff trained on cleaning in woreda information. In South Ari, there is a cleaning protocol in place in 24 of the health care facilities. However, 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.

The main strategies and activities for ensuring that the basic WASH service in institutions by 2030 are to increase community participation, incorporate all WASH facilities when designing schools and health care



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facilities, behavioural change training for health care facilities' staff, school WASH promotion, establishing and strengthening school WASH clubs, and increased attention to monitoring and support to institutional WASH from the Woreda Health Office and Woreda Education Office. The woreda should work closely work with partners and regional government to allocate funds for connection.

7 Costing and financing

This section presents the estimated expenditures required for 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% (SNNPR Finance and Economic Development Bureau) and an exchange rate of ETB 39.50 (Commercial Bank of Ethiopia) as of January 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 contributions, as well 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

7.1.1 Estimated required expenditure for reaching the 2030 vision

7.1.1.1 Capital Expenditure (CapEx)

The capital expenditure for the implementation of the master plan consists of the costs related to the establishment of new assets, including new water schemes and household connections. Table 20 presents an overview of the number of assets to be developed and the unit costs.

Table 20: CapEx unit costs and number of planned schemes, water

Water supply system	Unit Cost CapEx New (ETB)	Unit Cost CapEx New (USD)	Number of planned schemes
Household connections	7,000	177	4,970
Self-supply hand-dug well with rope pump	10,000	253	144
Hand dug well	300,000	7,595	11
Spring on spot	150,000	3,797	47
Shallow well	850,000	21,519	16
Shallow well with Solar pump	1,500,000	37,975	2
Deep Well with distribution	7,000,000	177,215	6
Multi Kebele Scheme	5,500,000	139,241	1



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Expansion work	1,000,000	25,316	52
Medium gravity spring with distribution	1,500,000	37,975	57
Motorized Spring with distribution	7,500,000	189,873	3
Large gravity Spring with distribution	5,000,000	126,582	26
Large gravity Spring with distribution (Gazer town)	6,500,000	164,557	2

The total required CapEx for new schemes is ETB 600 million (15.19 million USD), and for household connections is ETB 62 million (1.57 million USD) with an average per year of ETB 50 million (1.27 million USD) and ETB 5.17 million (131 thousand USD) respectively.

7.1.1.2 Capital Maintenance Expenditure (CapManEx)

Capital maintenance expenditure includes the costs of repairs and rehabilitation of currently broken-down facilities, and the future costs of major repairs, rehabilitating, and replacement. It is also assumed that by doing continuous major maintenance, the schemes will serve beyond their design period and no schemes will be abandoned.

The costs of repairs of the broken-down facilities are estimated as a percentage of the original CapEx. Table 21 gives an overview of the expected costs of required repair for the 61 currently broken-down schemes.

Table 21: Costs of repairs of broken-down schemes, water

Type of scheme	Number of schemes	Unit Cost Rehabilitation / scheme (ETB)	Unit Cost Rehabilitation / scheme (USD)
Spring on spot	30	15,000	380
Medium gravity spring with distribution	5	99,000	2,506
Hand dug well	21	60,000	1,519
Shallow well	5	127,500	3,228

The future annual estimated required CapManEx is estimated based on the CapEx divided by the expected lifespan (Table 22).

Table 22: CapManEx unit costs, water

Water supply system	Expected minimum lifespan	Unit costs CapManEx (ETB / year)	Unit costs CapManEx (USD / year)
Self-supply hand-dug well with rope pump	3	3,333	84
Hand dug well	5	60,000	1,519
Spring on Spot	10	10,000	253
Shallow well	7	121,429	3,074
Shallow well with solar pump	7	214,286	5,425
Deep well with distribution	20	350,000	8,861
Multi Kebele Scheme	25	220,000	5,570
Expansion work	10	100,000	2,532
Medium gravity spring with distribution	15	100,000	2,532
Motorized spring with distribution	20	375,000	9,494



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Large gravity spring with distribution	30	166,667	4,219
Large gravity spring with distribution (Gazer town)	30	216,667	5,485

The required CapManEx has been estimated as ETB 3.25 million (82.3 thousand USD) for the rehabilitation of currently broken-down schemes and ETB 458.87 million (11.62 million USD) for regular CapManEx with an average per year of ETB 270 thousand (6.8 thousand USD) and ETB 38.24 million (968.2 thousand) USD respectively.

7.1.1.3 Operation and minor Maintenance (OpEx)

The required OpEx is estimated by calculating the required annual expenditure on operation, preventive, and minor maintenance activities for each type of scheme, salaries of staff (where applicable), transport, power, and other cost items related to operation and minor maintenance. Table 23 gives an overview of the annual OpEx per scheme type.

Table 23: OpEx unit costs and total OpEx, water

	Preventive and minor maintenance (ETB / year)	Salary (ETB / year)	Spare parts (ETB / year)	Transport (ETB / year)	Power (ETB / year)	Total OpEx (ETB / year)
Self-supply hand-dug well with rope pump	600	-	7000	600	-	8200
Hand dug well	3000	-	13150	1800	-	17950
Spring on spot	3820	-	2540	1200	-	7560
Shallow well	3000	-	13150	1800	-	17950
Shallow well with solar pump	2750	-	29,060	2400	-	34,210
Deep well with distribution	9550	42000	97100	3000	19200	170850
Multi Kebele Scheme	6500	6000	100350	2400	-	115250
Medium gravity spring with distribution	6400	-	41520	1200	-	49120
Motorized spring with distribution	9400	36000	58820	1800	15000	121020
Large gravity spring with distribution	8100	12000	103900	1800	-	125800
Large gravity spring with distribution (Gazer town)	27200	146244	183400	2000	-	358844

The total required OpEx is ETB 195.26 million (4.94 million USD) with an average per year of ETB 16.27 million (411.9 thousand USD).

7.1.1.4 Direct support costs (DSC)

The required direct support costs are estimated by calculating the required personnel and non-personnel costs (per diems, transport costs, office costs and admin, costs of meetings and workshops (meals, room, per diems, transport)), water quality testing, and other costs related to the following tasks:

- Planning and reporting
- Training of WASHCOs/ WUAs
- Monitoring and follow up of WASHCOs/ WUAs
- Water quality monitoring

- Maintenance

Table 24 gives an overview of the current and required personnel. Actual ExpDS refers to ExpDS that is currently available in the woreda while required ExpDS refers to what the woreda needs to fulfil its duties. Currently, only 9 of the 16 required positions have been filled.

Table 24: Actional and required personnel, water

Positions	Actual (current) number of staff	Required number of staff
Office head	1	1
Vice Office Head	1	1
Plumber and Engineer	2	0
O&M team Leader, 4-Electromechanic, 1-Water Quality Expert	0	6
Social promoters	1	4
Development planner, Human resource, Secretary, messenger	4	4
Total	9	16

Table 25 present an overview of the estimated actual and required direct support costs in 2019. It shows that non-staff (non-salary) costs are 23% of the direct support costs. It also shows that actual expenditure on direct support cost amounts to 20% of the required expenditure.

Table 25: Annual direct support costs (Water)

Positions	Actual 2019 staff costs	Required 2019 staff costs
Staff costs		
Office head	40,000	45,250
Vice Office Head	37,500	52,500
Plumber and Engineer	104,064	
O&M team Leader, 4-Electromechanic, 1-Water Quality Expert		321,192
Social promoters	55,308	221,232
Development planner, Human resource, Secretary, messenger	54,400	68,000
Total staff costs	291,272	699,174
Non-staff costs		
Per diems	20,150	834,860
Transport costs (fuel, depreciation, maintenance)	4,200	57,200
Office costs and admin	950	8,000
Costs of meetings and workshops (meals, room, per diems, transport)		225,000
Water quality testing		60,000
Total non-staff costs	25,300	1,185,060
Total direct support costs	316,572	1,884,234

Total required district support costs over the period 2020-2030 is ETB 94.31 million (2.39 million USD) with an average per year of ETB 7.86 million (199 thousand USD).

7.1.2 Projected changes in service levels and costs

Table 26 gives an overview of the total required lifecycle costs, while Figure 6 presents an overview of the required lifecycle costs per year and the expected changes in service levels. Table 26 shows in the period 2020-2030, CapEx constitutes the largest proportion (47%) of the required costs. Over the years, with an increase in the number of schemes, annual required CapManEx is expected to be higher than annual required CapEx, as shown in Figure 6.

Table 26: Total required lifecycle costs, water

	Total (ETB million)	Total (Million USD)	Average per year (ETB million / year)	Average per year (million USD / year)	Average per person served per year (ETB / person / year)	Average per person served per year (USD / person / year)
CapEx	662.17	16.76	55.18	1.40	371.35	9.40
CapManEx	462.12	11.70	38.51	0.97	236.76	5.99
OpEx	195.26	4.94	16.27	0.41	98.17	2.49
ExpDS	94.31	2.39	7.86	0.20	51.42	1.30
Total costs	1,413.86	35.79	117.82	2.98	757.71	19.18

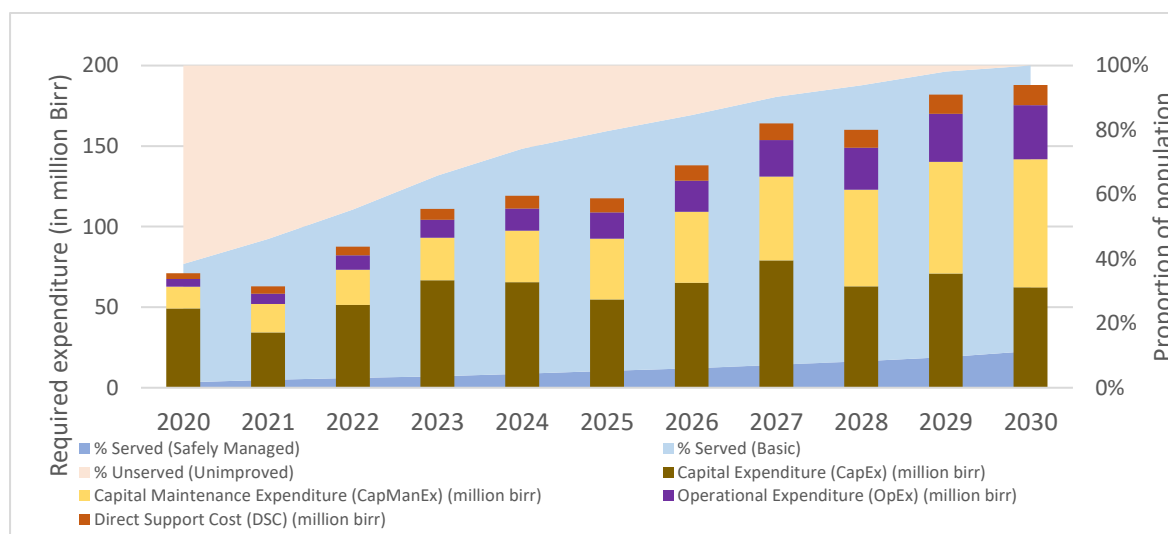


Figure 6: Lifecycle costs per year and expected water service level changes over time

7.1.3 Funding for projected costs

The government is expected to fund 100% of the required CapEx for all scheme types, with the exception of household connections, self-supply and expansion works. For household connection CapEx is expected to be paid for fully through user contributions. For self-supply (rope pump) 60% of the required CapEx is expected from users while the remaining 40% is expected from government through subsidies. For expansion work the user is expected to contribute 10% of the required CapEx while 90% is expected from the government.

Repairs of rural communal schemes which are currently broken down are expected to be paid for by the government with the exception of self-supply and deep well with distribution. For self-supply, cost of rehabilitation is expected 100% from users. For deep well with distribution, 95% of cost of rehabilitation is expected from the government while the remaining 5% is expected from users.

The government is responsible for 100% of CapManEx except for self-supply which is the responsibility of the user and large gravity spring with distribution at Gazer town where 90% of CapManEx is expected from the users and the remaining 10% is expected from the government.

Water users are responsible for 100% of the OpEx of all types of schemes with the exception of motorized spring with distribution, deep well with distribution and multi kebele schemes which are also responsibilities of the government. For motorized spring with distribution, and deep well with distribution, 40% of OpEx is expected from the government while the remaining 60% is expected from users. For Multi kebele schemes, 20% of OpEx is expected from the government while the remaining 80% is expected from users.

Figure 7 presents an overview of the required expenditure and sources of funding. The figure shows that a considerable proportion of the required expenditure is to be covered by the government through taxes.

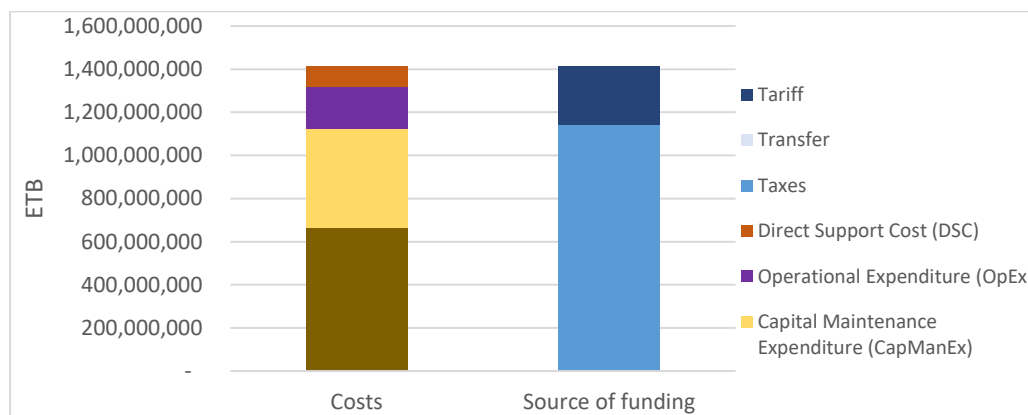


Figure 7: Overview of costs and sources of funding (Water)

7.2 Costing and Financing Sanitation and Hygiene Services

7.2.1 Estimated required expenditure for reaching the 2030 vision

This section presents the estimated expenditure required over the period 2020-2030 for reaching the sanitation and hygiene service vision, as presented in section 4, and based on the strategies presented in section 5. These costs are related to CLTSH approaches, sanitation marketing, IEC/BCC materials, construction of new sanitation and hygiene facilities, and upgrading of existing sanitation and hygiene facilities.

7.2.1.1 Capital Expenditure (CapEx)

The capital expenditure for the implementation of the master plan consists of the costs related to the construction of new sanitation and hygiene facilities (CapEx hardware) and CLTSH triggering and sanitation marketing approach (CapEx software). Table 27 presents the number of planned schemes, the planned number of villages to be triggered, and total costs.

Table 27: Sanitation CapEx unit costs

	Per	Unit Cost CapEx (ETB / unit)	Unit Cost CapEx (USD / unit)	Total number of planned units
CapEx hardware				
Improved household pit latrines	Latrine	8,000	203	19,299
Upgrade Unimproved latrine -> improved latrine with in-situ treatment	Latrine	5,000	127	18,578
Handwashing facility	HH	320	8	46,007



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CapEx software - CLTSH				
Triggering (includes pre-triggering)	Village	4,000	101	203
Training for verification committees	Village	15,720	398	1
ODF verification and certification	Village	11,600	294	203
CapEx software – Sanitation marketing				
Sanitation Marketing Centers	Woreda	12,000	304	1
Sanitation Marketing awareness and demand creation for community	Woreda	15,900	403	1
Sanitation Marketing training for enterprises	Woreda	18,030	456	1
Sanitation Marketing campaigns	Woreda	9,000	228	1

Total required CapEx costs over the period 2020-2030 is estimated as shown in Table 28.

Table 28: CapEx overview sanitation and hygiene

	Total (million ETB)	Total (million USD)	Average / year (million ETB)	Average / year (thousand USD)
CapEx, hardware	273	6.92	22.78	576.86
CapEx, software	69	1.74	5.72	144.75
Total CapEx	949	25	79	2.1 million

7.2.1.2 Capital Maintenance Expenditure (CapManEx)

Capital maintenance expenditure includes the costs of repairs and rehabilitation of sanitation and hygiene facilities. This includes the cost of the upgrades for unimproved facilities to improved facilities that provide basic service, as well as the continuous CapManEx, which is estimated based on CapEx and the expected lifespan of the facility. The 18,578 households with unimproved latrines are expected to spend ETB 5,000 (127 USD) on upgrading to an improved pit latrine in the period 2020-2030. Based on an expected lifespan of 7 years, the required annual CapManEx of improved pit latrines is ETB 1,143 (29 USD) per year. The total required CapManEx over the period of 2020-2030 is estimated as shown in Table 29.

Table 29: CapManEx overview, sanitation, and hygiene

	Total (million ETB)	Total (million USD)	Average / year (million ETB)	Average / year (million USD)
CapManEx, upgrade	154.63	3.91	12.89	0.33
CapManEx, household latrines and hand washing facilities	835.42	21.15	69.62	1.76
Total CapManEx	990.05	25.06	82.50	2.09

7.2.1.3 Operation and Minor Maintenance (OpEx)

The required OpEx is the estimated costs of operation and minor maintenance of the facility. This includes expenditure on toilet paper, water, minor repairs, soap, and others. Annual OpEx of improved household pit latrines is estimated as ETB 2,250 per year (57 USD per year). Annual OpEx for handwashing facilities is estimated as ETB 600 (15 USD). The total required OpEx is ETB 1.81 billion (45.83 million USD) with an average per year of ETB 150 million (3.82 million USD).

7.2.1.4 Direct support costs (ExpDS)

The required direct support costs are the costs of post triggering support, post ODF follow-up, and IEC and BCC material production costs. Table 30 gives an overview of the unit costs of direct support activities. The total DSC is ETB 58 million (1.47 million USD) with an average per year of ETB 4.84 million (123 thousand USD).

Table 30: Direct support cost activities and costs

		Unit Cost ExpDS (ETB)	Unit Cost ExpDS (USD)
Post triggering CLTSH software			
Post triggering support including technical support	Per village	1500	38
Post ODF follow-up	Per village	5000	127
IEC and BCC production			
IEC production	Per Woreda	6,500	165
BCC production	Per Woreda	5,960	151
Media coverage	Per Woreda	3,450	87

7.2.2 Projected changes in service levels and costs

Table 31 gives an overview of the total required lifecycle costs. It shows in the period 2020-2030, CapManEx constitutes the largest proportion of the required costs. Figure 8 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels.

Table 31: Total required lifecycle costs

	Total (ETB million)	Total (USD million)	Average / year (ETB million / year)	Average / year (USD million / year)	Average / person served / year (ETB / person / year)	Average / person served / year (USD / person / year)
CapEx, hardware	273	6.92	22.78	0.57	162	4
CapEx, software	69	1.74	5.72	0.14	44	1
CapManEx	990	25.07	82.50	2.08	511	13
OpEx	1,810	45.83	150.84	3.82	904	23
ExpDS	58	1.47	4.84	0.12	34	1

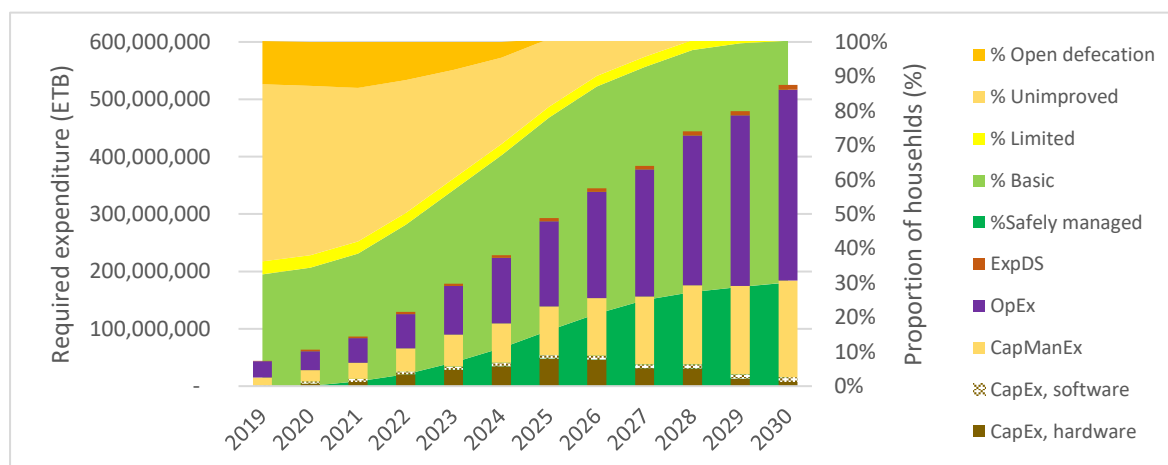


Figure 8: Lifecycle costs per year and changes in sanitation service level

7.2.3 Funding for projected costs

In South Ari, households are expected to pay for CapEx hardware, CapManEx, and OpEx, while the government pays for CapEx software and ExpDS. Figure 9 presents an overview of the required expenditure and sources of funding.

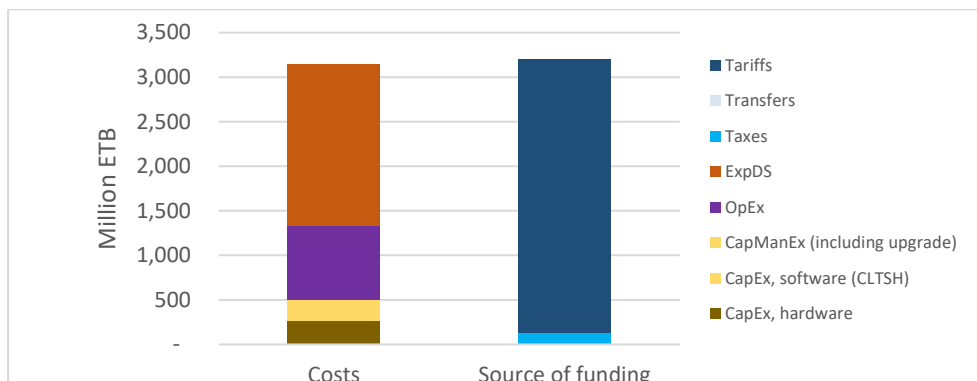


Figure 9: Overview of costs and sources of funding, Sanitation and Hygiene

7.3 Costing and financing institutional WASH

7.3.1 Estimated required expenditure for reaching the 2030 vision

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.

7.3.1.1 Health care facility WASH

7.3.1.1.1 Capital Expenditure (CapEx)

Table 32 presents the unit costs for the construction of new WASH facilities in health care facilities.

Table 32: CapEx unit costs for WASH in health care facilities

Type of facility	Unit costs (ETB)	Unit costs (USD)	Number of units required
Water supply			
Piped water into health facility building	170,000	4,304	10
Piped water to health facility yard	110,000	2,785	18
Public tap/standpipe	50,000	1,266	3
Tube well/borehole	6,000,000	151,910	1
Protected dug well	150,000	3,798	1
Rainwater collection	75,000	1,899	5
Sanitation			
Improved pit latrine	185,270	4,690	47
Handwashing facility			



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Hand washing facility at latrine	16,000	405	10
Hand washing facility at point of care	8,350	211	44
Waste management			
Incinerator	78,800	1,995	47
Nonhazardous waste solid waste pit	450	11	47

The required CapEx is estimated based on the planned implementation of new WASH facilities and their unit costs. Table 33 gives an overview of the estimated required CapEx for health care facility WASH.

Table 33: CapEx overview, WASH in health care facilities

	Total million ETB	Total thousand USD	Average / year (million ETB)	Average / year (thousand USD)
CapEx - Water	14.74	373.07	2.45	62.18
CapEx - Sanitation	13.65	345.52	2.27	57.59
CapEx - Hygiene	0.81	20.53	0.14	3.42
CapEx – Solid Waste	6.40	161.97	1.07	26.99
Total CapEx	35.19	891.15	5.87	148.52

7.3.1.1.2 Capital Maintenance Expenditure (CapManEx)

The expected required expenditure on major repairs and rehabilitation of WASH facilities in health care facilities are estimated based on lifespan and CapEx as shown in Table 34.

Table 34: CapManEx unit costs health care facility WASH

Type of facility	Expected lifespan	Unit costs (ETB)	Unit costs (USD)
Water supply			
Piped water into health facility building	15	11,333	287
Piped water to health facility yard	15	7,333	186
Public tap/standpipe	20	3,333	84
Tube well/borehole	7	300,000	7,595
Protected dug well	10	21,429	543
Rainwater collection	15	15,000	380
Sanitation			
Improved pit latrine	7	26,467	670
Handwashing facility			
Hand washing facility at latrine	7	2,286	58
Hand washing facility at point of care	10	835	21
Waste management			
Incinerator	10	7,880	200
Nonhazardous waste solid waste pit	1	450	11

The annual required CapManEx are estimated based on the presence of WASH facilities in each year and their CapManEx unit costs, taking inflation into account. Table 34 gives an overview of the estimated required CapManEx for health care facility WASH.



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Table 35: CapManEx overview health care facility WASH

	Total million ETB	Total thousand USD	Average (million ETB / year)	Average (thousand USD / year)
CapManEx water	9.59	242.8	1.59	40.47
CapManEx sanitation	13.1	331.32	2.18	55.22
CapManEx hygiene	2.03	51.49	0.34	8.58
CapManEx solid waste	0.57	14.44	95.03	2.41
Total CapManEx	25.28	640.05	4.04	102.18

7.3.1.1.3 Operation and Minor Maintenance Expenditure (OpEx)

Table 36 presents the unit costs for OpEx of WASH facilities in health care facilities.

Table 36: OpEx unit costs for WASH in health care facilities

Type of facility	Unit costs (ETB)	Unit costs (USD)
Water supply		
Piped water into health facility building	5,000	127
Piped water to health facility yard	3,200	81
Public tap/standpipe	1,150	29
Tube well/borehole	150,000	3,798
Protected dug well	6,700	170
Rainwater collection	1,000	25
Sanitation		
Improved pit latrine	10,898	276
Handwashing facility		
Hand washing facility at latrine	2,500	63
Hand washing facility at point of care	4,000	101
Waste management		
Incinerator	7,880	200

The required OpEx is estimated based on the presence of WASH facilities and their unit costs, taking inflation into account. Table 37 gives an overview of the estimated required OpEx for health care facility WASH.

Table 37: OpEx overview, WASH in health care facilities

	Total (million ETB)	Total (thousand USD)	Average (thousand ETB / year)	Average (thousand USD / year)
OpEx - water	3.6	91.2	600.36	15.2
OpEx - Sanitation	4.98	126.19	830.75	21
OpEx - Hygiene	3.64	92.14	606.55	15.36
OpEx – Solid Waste	0.53	13.36	87.91	2.23
Total OpEx	12.53	322.89	1971	51.32



7.3.1.1.4 Direct support costs (ExpDS)

The required direct support costs related to WASH in health facility are estimated by calculating the required personnel and non-personnel costs (per diems, transport costs, office costs and admin, costs of meetings and workshops (meals, room, per diems, transport), and other costs) related to the following direct support:

- Planning and reporting
- Monitoring WASH in health care facilities
- Technical support to health care facilities
- WASH promotion
- Review meeting
- Woreda WASH steering committee meeting
- Environmental cleaning and control

Table 38 gives an overview of the current and required personnel.

Table 38: Actual and required personnel for ExpDS (WASH in health care facilities)

Positions	Actual (current) number of staff	Required number of staff
Health Office Head	1	1
WASH in Health facility focal person	1	1
WASH in Health facility operator	1	1
Cleaning Staff for Health care facilities		14
Total	3	17

Table 39 presents an overview of the estimated actual as well as the required 2020 direct support costs. It shows that non-staff (non-salary) costs are 79% of the direct support costs in actual costs and 12% of the direct support costs in desired costs. It also shows that the actual current expenditure on direct support is 12% of the desired expenditure.

Table 39: Annual direct support costs (yearly staff costs)

Positions	Actual 2020 costs (ETB / year)	Desired 2020 costs (ETB / year)
Staff costs		
Health Office Head	36,200	45,250
WASH in Health facility focal person	31,227	35,688
WASH in Health facility operator	72,432	72,632
Cleaning Staff for Health care facilities		4,704,000
Total staff costs	139,859	4,857,570
Non-staff costs		
Per diems	7,950	132,392
Transport costs (fuel, depreciation, maintenance)	8,300	77,364
Office costs and admin	13,160	29,500
Costs of meetings and workshops (meals, room, per diems, transport)	-	367,500
Other costs	500,000	46,000
Total non-staff costs	529,410	652,756
Total direct support costs	669,269	5,510,326



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Total direct support costs per health care facility	17,612	145,009
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Considering the expected increase in the number of health care facilities and inflation, the total required direct support costs for the period 2020-2030 is ETB 12.71 million (321.77 thousand USD) with an average per year of ETB 2.01 million (50.81 thousand USD).

7.3.1.2 School WASH

7.3.1.2.1 Capital Expenditure (CapEx)

Table 40 presents the unit costs for the construction of new WASH facilities in schools.

Table 40: CapEx unit costs for WASH in schools

Type of facility	Unit costs (ETB)	Unit cost (USD)	Number of units required
Water supply			
Piped water to school yard	100,000	2,532	26
Protected dug well	150,000	3,798	7
Protected spring	120,000	3,038	7
Sanitation and Hygiene			
Improved pit latrine	185,270	4,691	53
Handwashing facility	8,350	211	54

The required CapEx is estimated based on the planned implementation of new WASH facilities and their unit costs (taking inflation into account). Table 41 gives an overview of the estimated required CapEx for school WASH.

Table 41: CapEx overview school WASH

	Total (million ETB)	Total (thousand USD)	Average (million ETB / year)	Average (thousand USD / year)
CapEx - Water	6.79	171.88	0.62	15.63
CapEx - Sanitation	16.73	423.49	1.52	38.50
CapEx - Hygiene	0.71	17.88	0.06	1.63
Total CapEx	24.22	613.25	2.20	55.75

7.3.1.2.2 Capital maintenance expenditure (CapManEx)

The expected expenditure on major repairs and rehabilitation of WASH facilities in schools are estimated based on lifespan and CapEx, as shown in Table 42.

Table 42: CapManEx unit costs, school WASH

Type of facility	Expected lifespan	Unit costs (ETB)	Unit cost (USD)
Water supply			
Piped water to school yard	15	6,667	169
Protected dug well	7	21,429	543
Protected spring	10	12,000	304
Sanitation and Hygiene			
Improved pit latrine	7	26,467	670



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Handwashing facility	10	835	21
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The annual required CapManEx are estimated based on the number of WASH facilities in each year and their CapManEx unit costs, taking inflation into account. Table 43 gives an overview of the estimated required CapManEx for health facility WASH.

Table 43: CapManEx overview, school WASH

	Total (million ETB)	Total (thousand USD)	Average (million ETB / year)	Average (thousand USD / year)
CapManEx water	9.76	247.02	0.89	22.46
CapManEx sanitation	17.95	454.53	1.63	41.32
CapManEx hygiene	0.63	15.98	0.06	1.45
Total CapManEx	28.34	717.53	2.58	65.23

7.3.1.2.3 Operational Expenditure (OpEx)

Table 44 presents the unit costs for operation and minor maintenance of WASH facilities in schools.

Table 44: OpEx unit costs, WASH in schools

Type of facility	Unit costs (ETB)	Unit cost (USD)
Water supply		
Piped water to school yard	1,100	28
Protected dug well	3,700	94
Protected spring	1,000	25
Sanitation		
Improved pit latrine	10,898	276
Handwashing facility	660	17

The required OpEx is estimated based on the number of WASH facilities and their unit costs, taking inflation into account. Table 45 gives an overview of the estimated required OpEx for school WASH.

Table 45: OpEx overview WASH in schools

	Total (million ETB)	Total (thousand USD)	Average (thousand ETB / year)	Average (thousand USD / year)
OpEx - water	1.43	36.26	130.21	3.30
OpEx - Sanitation	6.84	173.13	621.65	15.74
OpEx - Hygiene	0.46	11.68	41.95	1.06
Total OpEx	8.73	221.08	793.82	20.10

7.3.1.2.4 Direct support cost (ExpDS)

The required direct support costs are estimated by calculating the required personnel and non-personnel costs (per diems, transport costs, office costs and admin, costs of meetings and workshops (meals, room, per diems, transport), and other costs) related to the following direct support:

- Planning and reporting
- WASH promotion
- Monitoring WASH in schools
- WASH steering committee meeting



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Table 46 gives an overview of the actual and desired personnel. Currently, only three of the six required positions have been filled.

Table 46: Required personnel

Positions	Actual (current) number of staff	Desired number of staff
Office Head	1	1
WASH Planning	1	2
Wash Focal person	1	3
Total	3	6

Table 47 presents an overview of the estimated actual and desired 2020 direct support costs. It shows that non-staff (non-salary) costs are 71% of the direct support costs in actual costs and 60% of the required direct support costs.

Table 47: Annual direct support costs School WASH

	Actual 2020 costs (ETB / year)	Desired 2020 costs (ETB / year)
Staff costs		
Office Head	19,200	19,200
WASH Planning	16,034	64,136
Wash Focal person	34,226	141,184
Total staff costs	69,460	224,520
Non-staff costs		
Per diems	15,500	115,596
Transport costs (fuel, depreciation, maintenance)	78,400	121,800
Office costs and admin	28,000	43,500
Costs of meetings and workshops (meals, room, per diems, transport)	49,000	50,200
Other costs		
Total non-staff costs	170,900	331,096
Total direct support costs	240,360	555,616
Total direct support costs per school	4,217	9,748

Considering the expected increase in number of schools and inflation, the total required direct support costs for the period 2020-2030 is ETB 4.3 million (109 thousand USD) with an average per year of ETB 391 thousand (9.9 thousand USD).

7.3.2 Projected changes in service levels and costs

7.3.2.1 Health care facility WASH

Table 48 gives an overview of the total required lifecycle costs, while Figure 10 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels. It shows in the period 2020-2030, CapManEx constitutes the largest proportion (83.6%) of the required costs.



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Table 48: Total required lifecycle costs, health care facility WASH

	Total (million ETB)	Total (million USD)	Average (million ETB / year)	Average (thousand USD / year)
CapEx	35.59	0.90	5.93	150.18
CapManEx	25.28	0.64	4.04	102.18
OpEx	12.75	0.32	1.97	49.92
ExpDS	12.71	0.32	2.01	50.81
Total	89.03	7.42	13.70	346.79

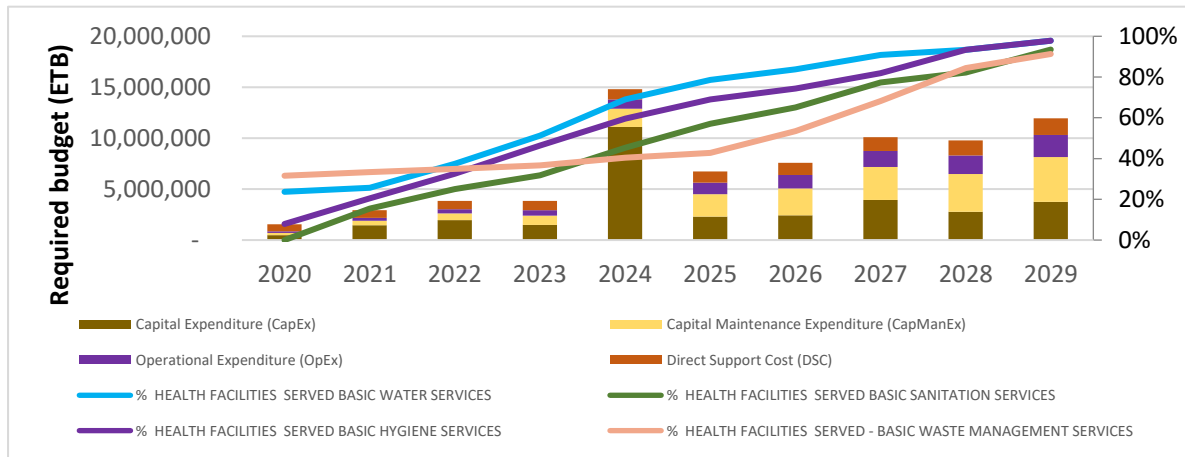


Figure 10: Lifecycle costs per year and changes in service level, health care facility WASH

7.3.2.2 School WASH

Table 49 gives an overview of the total required lifecycle costs, while Figure 11 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels.

Table 49: Total required lifecycle costs, school WASH

	Total (million ETB)	Total (million USD)	Average (million ETB / year)	Average (thousand USD / year)
CapEx	24.22	0.61	2.20	55.75
CapManEx	28.34	0.72	2.58	65.23
OpEx	8.73	0.22	0.79	20.10
ExpDS	4.30	0.11	0.39	9.90
Total	65.60	1.66	5.96	150.98

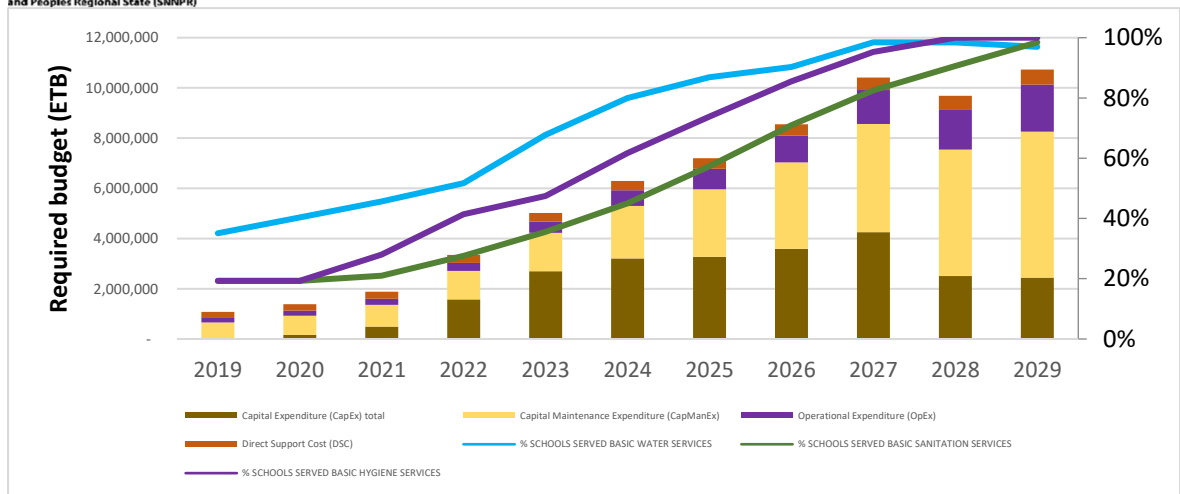


Figure 11: Lifecycle costs per year and changes in service level, School WASH

The source of funding for the projected expenditure required for reaching institutional WASH vision for the woreda is the government. In addition, schools are expected to plan for WASH from internal income. Schools have farm plots from where they can collect incomes.

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 tools

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.



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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.



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

Woreda Information: General information about health care facilities (health centres and health posts) in the woreda 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.



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Annex 2: Annual plans for rehabilitation of broken-down water schemes

Scheme type	Number of non-functional schemes	2020	2021	2022
Spring on Spot	30	22	7	1
Medium gravity spring with distribution	5	4	0	1
Hand dug well	21	8	9	4
Shallow well	5	1	3	1



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Annex 3: Annual plans for construction of new water schemes

	Total planned new schemes	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Spring on Spot	47	14	4	5	7	1	3	0	3	2	3	5
Medium gravity spring with distribution	57	2	8	5	3	5	5	5	6	6	5	7
Motorized Spring with distribution	3	1	0	0	1	0	0	1	0	0	0	0
Hand dug well	11	2	0	0	2	0	0	0	2	1	0	4
Shallow well	16	0	3	1	0	1	0	1	1	3	2	4
Shallow with Solar pump	2	0	0	0	1	0	1	0	0	0	0	0
Deep Well with distribution	6	1	1	0	1	0	1	1	1	0	0	0
Rope pump	144	0	4	42	7	4	20	20	4	8	30	5
Expansion Work Distribution system	52	2	5	4	5	7	5	2	5.5	5	8	3.5
Large gravity Spring With distribution	26	3	0	4	4	4	2	2	3	2	2	0
Large gravity Spring with distribution (Gazer town)	1.9	0	0	0.9	0	1	0	0	0	0	0	0
Multi Kebele Scheme	1.3	1.3	0	0	0	0	0	0	0	0	0	0



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Annex 4: Annual plans for construction and upgrade of sanitation and hygiene facilities

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Improved household latrines, safely managed, private	0	200	200	200	400	779	655	400	220	78	20	3152
Improved household latrines, basic, private	500	500	1680	2050	2200	2724	2500	1500	1500	550	312	16016
Upgrade Unimproved latrine, private -> improved latrine, private (only to basic service)	541	1250	1800	2350	2200	1994	1800	1800	1800	1640	1403	18578
Upgrade Unimproved latrine, shared -> improved latrine, private (only to basic service)	0	1	20	50	50	10	0	0	0	0	0	131
Upgrade Improved latrine, basic -> improved latrine, safely managed	50	270	650	1200	1450	1550	1650	1690	1200	1017	1000	11727
Hand washing facilities		2571	4000	7000	7000	6000	5000	5000	5000	3000	1436	49436



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Annex 5: Annual plans for CLTSH triggering

Kebele	Number of villages requiring CLTSH triggering	2020	2021	2022	2023	2024	2025	2026	2027	2028
Ayda	13	0	3	3	3	2	2			
Gedir	7	1	2	1	1	1	1			
Aykamer	1	1								
Zomba	10	2	3	2	2	1				
Dell	6	2	3	1						
Shangama woset	9	2	3	2	2					
Shangama Bili	21	3	3	3	3	3	3	3		
Shangama Arki	26	3	3	3	3	3	3	3	3	2
Dordora	14	2	3	2	2	2	2	1		
Pelpa	16	2	3	2	3	2	3	1		
Arfes	11	2	3	2	2	2				
Gomer	2	2								
Muti	5	2	3							
Shekamer	6	2	3	1						
Mayetol	6	2	3	1						
Mama	1	1								
Chelegod	19	2	3	2	3	2	3	2	2	
Genamer	1	1								
Mendir	2	2								
Komer	10	2	2	2	2	2				
Aynalem	5	1	1	1	1	1				
Tembel	12	2	2	2	2	2	2			



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Annex 6: Annual plans for institutional WASH

School WASH											
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water											
Piped water to school yard	0	0	2	2	9	3	5	2	2	1	0
Protected dug well	0	1	0	0	0	3	0	1	2	0	0
Protected spring	0	0	0	2	1	2	0	0	2	0	0
Sanitation											
Improved pit latrine	0	0	1	4	5	6	8	9	8	6	6
Hygiene											
Handwashing facility	0	0	5	8	4	9	8	8	7	4	1

Health care facility WASH										
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water										
Piped water into health facility building	0	4	0	1	2	0	2	0	1	0
Piped water to health facility yard	1	1	2	5	1	1	2	2	2	1
Public tap/standpipe	0	0	2	0	0	0	0	0	0	1
Tube well/borehole	0	0	0	1	0	0	0	0	0	0
Protected dug well	0	0	0	0	0	1	0	0	0	0
Rainwater collection	0	0	2	1	1	1	0	0	0	0
Sanitation										
Improved pit latrine	6	4	3	6	5	4	6	3	6	4
Hygiene										
Handwashing facility at point of care	4	4	5	5	4	2	3	4	2	1
Handwashing facility at both latrine and point of care	1	1	1	1	0	1	1	2	1	1
Waste management										
Both incinerator and nonhazardous waste solid waste pit	1	1	1	2	1	5	7	8	4	11

