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BAKA DAWLA ARI WOREDA WASH SDG MASTER PLAN

December 2021





Southern Nations, Nationalities
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Executive summary

This woreda WASH master plan contains the vision and strategies of Baka Dawla 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 Baka Dawla 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 Baka Dawla Ari Woreda has been developed by the planning team drawn from district WASH sector offices of water, education, health, finance, administration, and women and children affairs. To support the planning process, IRC WASH developed Microsoft Excel-based planning tools. The aim of the tools is to support the handling quantitative data systematically and support the strategic planning and costing process of going from the current service to the desired, as per the agreed vision. The 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).

Baka Dawla Ari Woreda is located in South Omo Zone of the Southern Nations, Nationalities and People's Regional State (SNNPR), Ethiopia. Administratively, the woreda is divided into eleven (11) rural and one (1) urban kebeles. The total population of the woreda is 82,997 (78,900 rural and 4,097 urban). The annual population growth rate of the woreda is 2.9%.

Water supply technologies in Baka Dawla Ari include hand dug wells, hand dug wells with rope pump (self-supply), shallow wells, deep wells with distribution, and on-spot springs. In total, there are 97 schemes in the woreda, of which 42 are non-functional (a non-functionality rate of 43%). The SDG plan estimates that currently 0% of the woreda population has access to safely managed service, 18% to basic service, and 82% of the woreda population has no access to water.



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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 Baka Dawla Ari, there are private and shared improved household pit latrines and private unimproved latrines. The total number of improved latrines is 6,263, and the number of unimproved latrines is 2,576, with 46% of the population practicing open defecation. In addition, 6,304 households have handwashing facilities of which 947 have handwashing facilities with soap and water. There are 282 villages in Baka Dawla Ari Woreda, of which 8 (3%) are open defecation free (ODF), while 11 (4%) have received CLTSH triggering.

There are currently 20 schools and 14 health care facilities in the woreda. 14 of the schools in the woreda have no hygiene facilities, 16 schools do not have sanitation facilities, and 14 schools do not have water facilities. 11 of the health care facilities have no water service, 12 of the health care facilities have no sanitation facilities and 14 health care facilities have no handwashing facilities. 13 of the health care facilities have limited waste management facilities, but all of the health care facilities have environmental cleaning practices in place.

Baka Dawla Ari Woreda has set the vision of achieving 100% coverage with at least basic WASH service in rural and urban areas. This is a big step from the current 18% of people served with at least basic services (49% in urban areas and 17% in rural areas) for water, 38% of people served with basic sanitation services, and 6% of people served with hygiene services.

The woreda has also set the vision of achieving 100% coverage with basic WASH services for all schools and health care facilities by 2030. This is a big step up from the current water, sanitation, and hygiene service of 30%, 20%, and 0%, respectively, in schools, and water, sanitation, hygiene, waste management, and environmental cleaning service levels of 21%, 0%, 0%, 7%, and 0%, respectively, in health care facilities.

Going from 0% to 8% safely managed service and 100% at least basic water service by 2030 requires that an additional 89,216 people have access to at least basic service and 9,330 people have access to safely managed service. Strategic directions are rehabilitation of broken-down schemes, construction of new schemes including self-supply and household connections, and sustaining these services through the establishment, legalization, and strengthening of WASHCOs/WUAs and federations, tariff setting and revenue collection, and strengthening spare part supply and preventive maintenance services.

Going from 38% sanitation services to 100% at least basic services by 2030 requires that an additional 13,894 households construct their own latrines, 2,576 households that currently have unimproved latrines upgrade to improved latrines, and 60 latrines are upgraded from improved basic to improved safely managed latrines. Additionally, 21,786 households will have a 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 a sanitation marketing approach that will require strengthening of the Woreda Health Office capacity and performance.

Strategies to achieve 100% at least basic WASH service in institutions are the construction of adequate WASH facilities, and ensuring these facilities are sustained in all of the facilities. Strategies include constructing 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 733 million (18.56 million USD). The total cost required for achieving 100% at least basic sanitation and hygiene



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service by 2030 is ETB 2.87 billion (72.58 million USD). The total cost required for achieving 100% at least basic WASH service in schools by 2030 is ETB 32.26 million (816.78 thousand USD). The total cost required for achieving 100% at least basic WASH service in health care facilities by 2030 is ETB 27.18 million (688 thousand USD).



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Endorsement of Baka Dawla 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 the USAID Sustainable WASH Systems Learning Partnership.

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 _____

Arkisha Kaysa



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Abbreviations

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



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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



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supply and community-led total sanitation and hygiene (CLTSH), school-led total sanitation and hygiene (SLTSH), and sanitation marketing approaches for sanitation and hygiene. The plan also helps to understand the costing gaps and henceforth uses them as evidence for resource mobilization.

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

1.1 The development of the woreda WASH SDG master plan

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

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

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

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.



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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 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.



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3 Woreda context

Baka Dawla Ari Woreda is located in the South Omo Zone of SNNPR, Ethiopia. It is one of the newly formed woredas in the zone. It surrounds but does not include Jinka town, the capital of South Omo Zone. The capital of the woreda is Arkisha Kaysa.

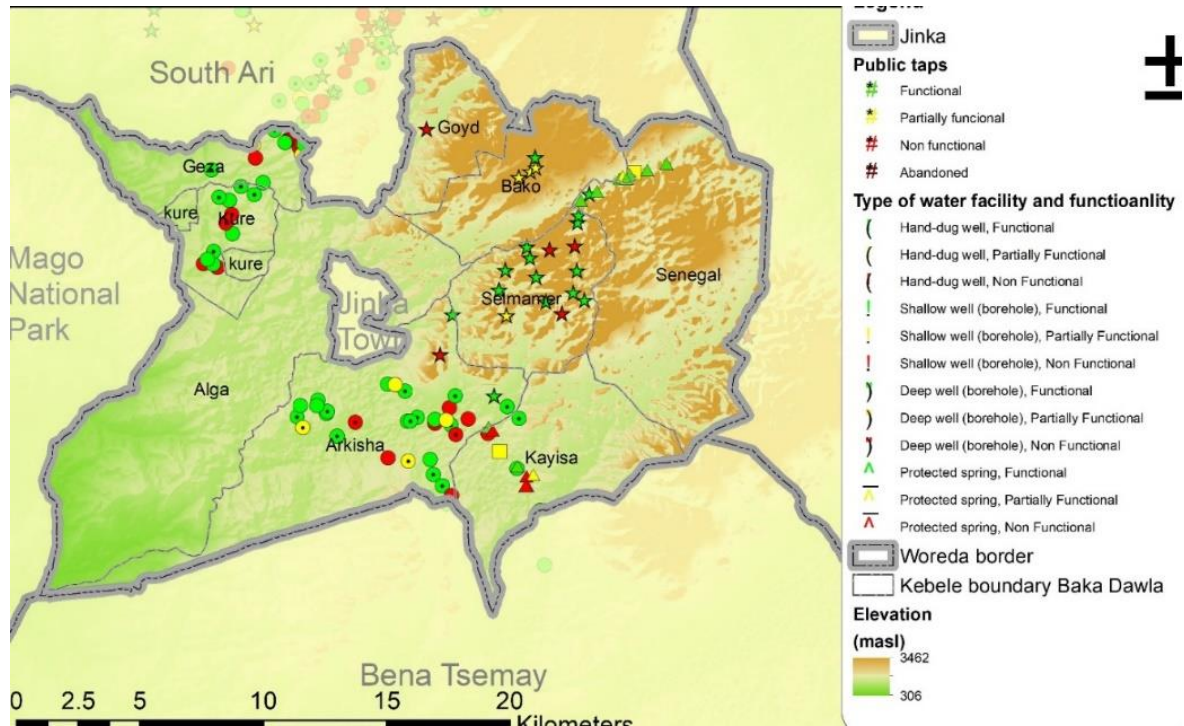


Figure 1: Map of Baka Dawla Ari Woreda

Administratively, the woreda is divided into eleven (11) rural and one (1) urban kebeles. All the woreda sector offices use population data from the woreda finance office. According to this data, the total population of the woreda is 82,997 (78,900 rural and 4,097 urban). The annual population growth rate of the woreda is 2.9%. There are 16,599 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 Baka Dawla Ari include hand dug wells, hand dug wells with rope pump (self-supply), shallow wells, deep wells with distribution, and on-spot springs. In total, there are 97 schemes in the woreda, of which 42 are non-functional (non-functionality rate 43%) (Table 10). The urban kebele, Senegal, gets water supply from a deep well with distribution system that can serve up to 2,000 people.

Table 10: Type of schemes and functionality in Baka Dawla Ari woreda

Type of scheme	Number of beneficiaries	Functional	Non-functional	Total
Rope pump (self-supply)	5	1	0	1
Hand dug well	160	17	13	30
Shallow well	250	28	6	34
Spring on spot	200	7	22	29
Deep Well with distribution	2000	2	1	3
Total		55	42	97

4.1.2 Water service level

Based on the currently functional schemes in each kebele, the number of people that these schemes can serve with safely managed and basic water services, and the number of people per kebele, currently none of the woreda population has access to (potentially¹) safely managed service and 18% have access to basic service².

Figure 2 shows an overview of the service level for Baka Dawla Ari Woreda (urban, rural, and total). Overall, 82% of the woreda population has no access to water. Four rural kebeles (Bako, Ashite, Ali, and Goyd) are not served with water services at all (100% unserved).

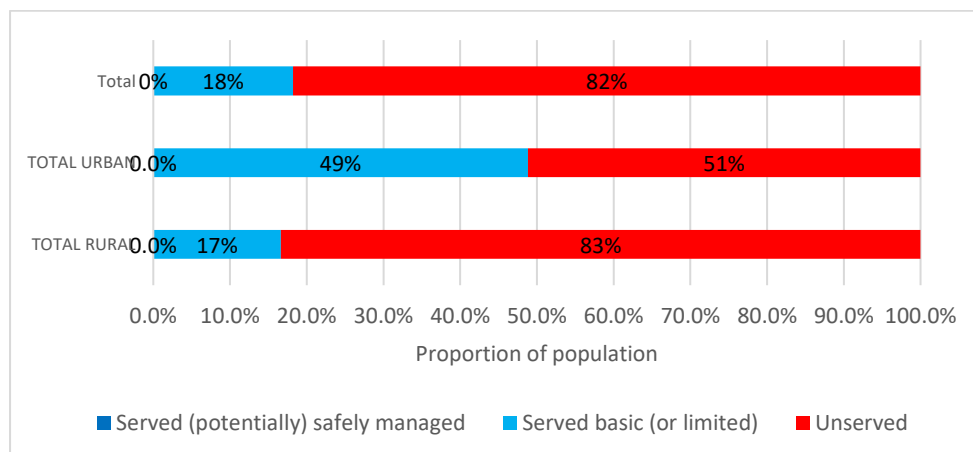


Figure 2: Baka Dawla Ari service level, water

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.



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4.1.3 Water service delivery models

The main service delivery model in Baka Dawla 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. WASHCOs are established at the woreda, and there is legalization process based on SNNP 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 working on a volunteer basis. WASHCOs/WUAs do not report to the woreda office unless staff 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 service provision in Baka Dawla Ari with defined roles and responsibilities for the WUAs (the service providers), the Baka Dawla Ari Woreda Water, Mines and Energy Office (the service authority), and support by the Zone Department and Regional Bureau.

SNNPR, where Baka Dawla 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 the 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.

Baka Dawla 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 the 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.



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4.1.5 Water service challenges and gaps

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

- Low coverage
- 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 15,125 people out of the 82,997 total population of the woreda (18%). Four rural kebeles (Bako, Ashite, Ali, and Goyd) 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.
- The **water resource potential** of existing scheme sources is not sufficient and are not delivering water to the expected number of people.
- Lack of **road access** to reach all areas. This also hinders woreda from providing maintenance services in time.
- Lack of **community awareness** to construct their own schemes like self-supply.
- The rural population living in **dispersed settlements** which makes supplying water difficult. The location of schemes is more than 30 minutes away.
- **Water sources located near burial sites**. This is critical because the community will not use the water if it is near burial sites. If studies like this are not conducted properly, the scheme will be abandoned even when functional.

4.1.5.2 *Frequent breakdown of schemes.*

At the time of the baseline, 42 water schemes (13 hand-dug wells, 6 shallow wells, 22 springs on-spot, and one deep well with distribution) were not functioning. Reasons behind the breakdown of schemes include:

- **Low construction quality**: There is lack of follow up before and after construction. The woreda is responsible to check construction quality of all schemes, including those implemented by NGOs. There is limited study before construction of schemes. Distribution systems are not properly buried which causes frequent breakdown of schemes.
- **Lack of resources for maintenance**: The tariffs collected do 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** at the water schemes which makes regular preventive maintenance difficult. There are some caretakers trained by SWS in 2 pilot kebeles.
- Lack of **sense of ownership** and awareness both from users and service authorities on new and existing schemes.
- **Natural disasters** like landslides and flooding cause frequent scheme breakdown. In addition, spring development, the main water source in the woreda, is susceptible to natural disaster.



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- Most of the water schemes have been working for a long time without proper care.
- There is no **proper documentation** of water schemes.

4.1.5.3 *Low level of safely managed water services*

Only an estimated 0% of the woreda population have access to potentially safely managed services (improved water services on premises, regardless of quality and availability issues). Reasons behind the no safely managed services include:

- Most households in the woreda **lack the capacity to pay** for on premises connections. There is also lack of awareness on the benefits of household connections.
- There is **shortage of budget** for line expansion at woreda level.
- **Water sources** of most of the schemes do not have enough water for household connections.
- Because of **scattered settlement**, the 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.
- **Improper/illegal household connections** decrease the capacity of the source without generating revenue.
- **Upstream communities** frequently break distribution lines and steal materials which causes reliability issues.

Water quality data is hardly available. There is high groundwater contamination because of **natural disasters**. 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 checks for the schemes. This is because of a **shortage of skilled staff** and lack of availability of water quality test kits and laboratory equipment. Recently, there was also a budget cut on the procurement of “wuha agar”, a water treatment chemical for the household level.

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

The woreda was established very recently (2019). The woreda was established at the end of GTP II. The woreda plans to link the WASH SDG masterplan to the new 10-year government plan which is currently available at zonal level. The woreda is under re-organization and budget allocation for rural water at the woreda has been limited so far. 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 346,613 (8,776 USD), which is about 18% of the required amount, ETB 1,906,224 (48,262 USD).

According to the data collected in the planning tool for required (desired) staff, there are 5 staff members in the woreda water office dedicated to supporting water service provision. There are not enough technicians (electromechanical) for timely connection and maintenance of schemes.

There is a 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 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:

- The woreda does not have the required **maintenance technicians**.
- Lack of integrated **monitoring and supervision**; there is no good information sharing system.
- Poor sector **budget allocation** system. The plan for building schemes is less than the institutional capacity.



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- Thinking of water supply as an NGO 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.
- **Lack of proper collaboration** between relevant actors.

4.2 Sanitation and Hygiene services

4.2.1 Sanitation and hygiene infrastructure

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

In Baka Dawla Ari, there are private and shared improved household pit latrines and private unimproved latrines. The total number of improved latrines is 6,263, and the number of unimproved latrines is 2,576, with 46% 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 the old waste and constructing of a new latrine when full. In addition, 6,304 households have handwashing facilities of which 947 have a handwashing facility with soap and water. There are 282 villages in Baka Dawla Ari Woreda, of which 8 (3%) are ODF, while 11 (4%) have received CLTSH triggering.

4.2.2 Sanitation and hygiene service level

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

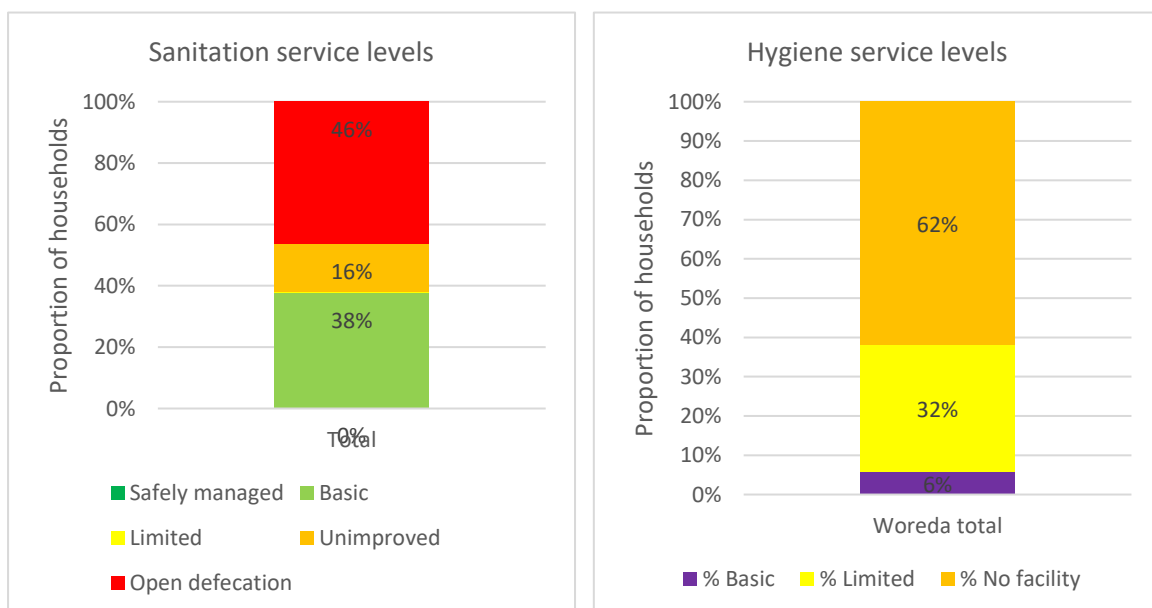


Figure 3: Sanitation and hygiene service levels Baka Dawla Ari



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4.2.3 Sanitation and hygiene approaches

The main approaches towards improving sanitation and hygiene in Baka Dawla 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

Forty six percent (46%) of the households have not attained open defecation free status and do not have household latrines. Also, about 16% of the households have unimproved household latrines. In addition, 62% 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 4.2.3. The woreda health office carries out these approaches through health extension workers.



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There is a lack of trained workforce for the sanitation marketing approach. Because of budget limitations, it is difficult to train enough sanitation marketing agents or train existing enterprise. Slab prices have increased significantly, and households do not have the capacity to buy what is available 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 20 schools and 14 health care facilities (2 health centres and 12 health posts) in the woreda. Table 11 presents an overview of WASH services in schools. Fourteen (14) schools in the woreda have no hygiene facilities, 16 schools do not have sanitation facilities, and 14 schools do not have water facilities.

Table 11: WASH facilities in schools

Total number of schools	Service	Water	Sanitation	Hygiene
20	Basic	6	4	0
	Limited	0	0	6
	No service	14	16	14

Table 12 presents an overview of WASH services in health care facilities. Eleven (11) health care facilities have no water service, 12 have no sanitation facilities, and 14 have no handwashing facilities. Thirteen (13) health care facilities have limited waste management facilities, and all of the health care facilities have 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
14	Basic	3	0	0	1	14
	Limited	0	2	0	13	0
	No service	11	12	14	0	0



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4.3.2 Institutional WASH service levels

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

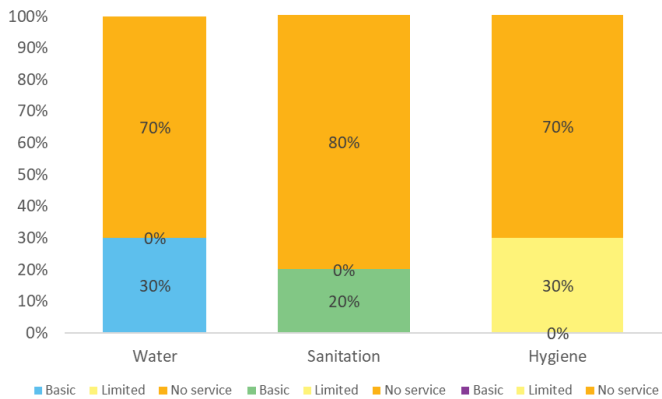


Figure 4: Baka Dawla Ari school WASH service levels

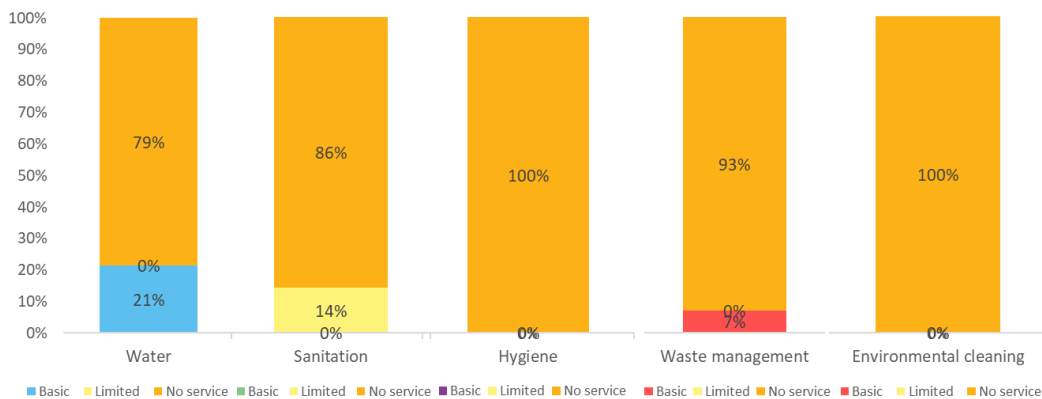


Figure 5: Baka Dawla Ari health care facility WASH service levels

4.3.3 Institutional WASH challenges and gaps

According to the baseline data, 70% of the schools and 79% of the health care facilities do not have access to water services. Underlying reasons include:

- The institutions do not have the budget or capacity to construct their own water supply systems.
- Because of the shortage of budget, 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, 80% of the schools and 86% of the health facilities do not have improved sanitation facilities, none of the health care facilities have menstrual hygiene facilities, and none of the health care facility latrines are disability inclusive. Seventy percent (70%) of the schools have no handwashing facilities, and 100% of health care facilities have no handwashing facilities. Underlying reasons which make it difficult for all schools and health care facilities to have basic sanitation and hygiene facilities include:



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- 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

Baka Dawla Ari Woreda has 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 18% of people served with at least basic services (49% in urban areas and 17% in rural areas). In addition, the woreda has set the vision of having 8% of the total population served with safely managed water services, with 70% of the urban population accessing safely managed water services and 5% of the rural population accessing safely managed water services (Table 13).

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

	2019 baseline	2030 vision
% Served	18%	100%
% Served - basic	18%	92%
% Served - safely managed	0%	8%
RURAL		
% Served	17%	100%
% Served - basic	17%	95%
% Served - safely managed	0%	5%
URBAN		
% Served	49%	100%
% Served - basic	49%	30%
% Served - safely managed	0%	70%

5.2 Woreda vision and targets sanitation and hygiene

Baka Dawla Ari Woreda has set the vision of achieving 100% coverage with at least basic sanitation and hygiene services by 2030. This is a big step up from the current 46% of people served with basic sanitation services and 6% basic hygiene services. There is a plan for 10% safely managed sanitation service because the woreda plans for stimulating the construction of latrines with in-situ treatment, i.e., lined, without contamination of the groundwater, and covering up of the pit and construction of a new one when full, which are considered safely managed (Table 14).

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

	2019 baseline	2030 vision
Sanitation		
% HH Served	38%	100%
% HH served - safely managed	0%	10%
% HH served - basic	38%	90%
% HH served - limited	0%	0%
% HH Served - unimproved	16%	0%
% HH open defecation	46%	0%



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Hygiene		
%HH - basic	6%	100%
%HH - limited	32%	0%
%HH - no service	62%	0%

5.3 Woreda vision and targets Institutional WASH

Baka Dawla Ari Woreda has 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 30%, 20%, and 0% respectively (Table 15).

Table 15: Baka Dawla Ari baseline and 2030 vision for school WASH

	2019 (Baseline)	2030 vision
Number of schools	20	25
% Schools with basic water	30%	100%
% Schools with basic sanitation	20%	100%
% Schools with basic hygiene	0%	100%

Baka Dawla 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%, 0%, 7%, and 0% respectively (Table 16).

Table 16: Baka Dawla Ari baseline and 2030 vision for health care facility WASH

	2019 (Baseline)	2030 vision
Number of health care facilities	14	18
% Health care facility with basic water	21%	100%
% Health care facility with basic sanitation	0%	100%
% Health care facility with basic hygiene	0%	100%
% Health care facility with basic waste management	7%	100%
% Health care facility with environmental cleaning	0%	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) and the required population to be served by 2030 as per the vision. In 2019, there were an estimated 15,125 people (18%) served by existing functional water schemes. Going from the current situation to the vision of providing sustainable services to all by 2030 and 8% access to safely managed services requires:

- Ensuring that an additional 89,216 people have access to at least basic services by 2030.
- Ensuring an additional 9,330 people have access to safely managed water services by 2030.
- Ensuring sustainability of water services.

The strategies for going from the current water service situation towards the set vision include:

- Increasing the number of people with at least basic water services.
- Increasing the number of people with safely managed water services.
- Ensuring sustainable water service provision.

Table 17: Projected population and population unserved

	2019 baseline	2030 vision	Additional number of people
Total population	82,997	113,666	30,669
People served	15,125 (18%)	113,666 (100%)	98,541
People served - basic	15,125 (18%)	104,336 (92%)	89,216
People served - safely managed	0 (0%)	9,330 (8%)	9,330

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 113,666 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, 22 spring on spot, 13 hand dug wells, 6 shallow wells, and 1 deep well with distribution were not functional. The plan is to have these facilities rehabilitated in the first three years (2020-2022) of the implementation of the Baka Dawla Ari Woreda SDG Master Plan. The annual rehabilitation plan for broken-down schemes can be found in Annex 2.

To ensure this is achieved, the proposed actions include:

- Properly identify levels of functionality and expected lifetime of schemes. Properly categorize non-functionality of schemes to simple and complex to fix and estimate the costs of repair.
- Identify spare parts needed for the rehabilitation of non-functional schemes.
- Prioritize the rehabilitation of non-functional schemes that are serving a higher number of users.
- Allocate appropriate budget for rehabilitation and assign maintenance technicians. Conduct maintenance training as needed.
- Supporting WUAs to do maintenance by themselves by providing additional training.



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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) is planned to be implemented (Table 18). Annual plans 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	416
Community managed point sources	Spring on spot	9
	Hand dug well	4
	Shallow well	14
Community-managed well or borehole with distribution scheme	Shallow with solar pump	1
	Deep well with distribution	5
	Multi kebele scheme	1
Community-managed spring with distribution scheme	Medium gravity spring with distribution	28
	Motorized spring with distribution	2
	Large gravity spring with distribution	4

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

- Identifying appropriate water scheme types specific to different kebeles based on the available source. 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 needs assessment and documentation.
- While constructing multi-village schemes, the community at the source and along the line should be served. Otherwise, the service cannot be sustainable because of conflict.
- Shifting from the woreda office being fully responsible for the construction or rehabilitation of schemes, to procuring materials and negotiate with artisans to construct schemes under woreda supervision.
- Scheduling construction of new schemes based on the weather conditions to avoid road access problems.

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

The strategies to achieve the vision of having safely managed water services for 5% of the rural population and 70% of the urban population of the woreda 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 5% safely managed water services in the rural areas and 70% in the urban areas, a total of 9,330 households have to get access to water supply on premises through self-supply options or through household connections connected to piped schemes.



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Self-supply options are 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. Four hundred six (416) self-supply rope pumps are expected to be constructed by 2030. The proposed actions to ensure this are:

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

Seven hundred seventy-seven (777) households in urban areas and 681 households in rural areas are expected to be 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 connections.
- Develop additional sources to increase water supply sources and the construction of schemes suitable for safely managed service.
- Expansion of pipelines. A total of 47 expansions have 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.
- Assign appropriate technicians to operate distribution systems.

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 the surroundings of water schemes and regular cleaning of wells.
- Disinfection of water sources after maintenance.

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 spare part supply and preventive maintenance services.
- Address resource constraints at the woreda level.

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



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

Monitoring and record keeping by WUAs are key for ensuring sustainable water service provision as they help 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 a checklist for evaluation, and develop a feedback mechanism.
- Identifying functional and non-functional water schemes to facilitate maintenance.
- Use of asset management systems to keep proper records 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 at a reasonable price.
- Organize skill training for enterprises.
- Construction supervision using proper checklist.

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 levels. The plan must be based on the available capacity. For example, rural community can supply construction material, can contribute cash, and support with labor.
- Proper follow up and support from the zone.
- Creating linkage with TVET is the strategy for relieving the manpower shortage.
- Properly documenting scheme data in hard and soft copy for proper handover during turnover.
- Water resource management should be given more attention. Deforestation of natural vegetation and replacement with new species is depleting the water resources.
- Woreda water office needs to plan and report on tariff collection and operation and maintenance activity conducted at scheme level by caretakers.

6.2 Sanitation and hygiene 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 and hygiene services, baseline and 2030

	2019 baseline	2030 vision	Additional
Population	82,997	113,666	30,669



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Number of households	16,599	22,733	6,134
Sanitation			
HHs unserved (open defecation)	7,700	0	
HHs served - basic	6,243	20,459	14,216
HHs served - safely managed	0	2,273	2,273
% HH unserved (open defecation)	46%	0%	
% HH served - basic	38%	90%	
% HH served - safely managed	0%	10%	
Hygiene			
HHs served basic	947	22,733	21,786
HHs served limited	5,357	0	
HHs no facility	10,295	0	
% HH basic	6%	100%	
% HH limited	32%	0%	
% HH no facility	62%	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 13,894 improved latrines are constructed.
- 2,576 latrines are upgraded from unimproved to improved basic latrines.
- 60 latrines are upgraded from improved basic to improved safely managed latrines.
- Additional 21,786 households have a 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 approaches 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, only eight of 282 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. The detailed CLTSH plan can be found in Annex 5. Post ODF follow-up is to take place in all



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villages which have received triggering. The woreda will also 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 the woreda and kebele levels.
- Producing an awareness creation leaflet and booklet using local languages.
- Strengthening house to house visits to create better awareness and hygiene behaviour.
- Revitalize the committee that verifies ODF status. The committee is currently inactive.
- Acknowledging model households.
- For rural kebeles, the kebele will construct one model latrine.
- Strengthen the sanitation product supply with reasonable prices to contribute to construction of improved latrines.
- Awareness creation on safe water use and treatment at household level.
- Prepare by-laws on post ODF follow up and what needs to be done when villages fall back to open defecation behaviour and practices.

6.3 Institutional WASH

The number of schools is expected to increase from 20 in 2019 to 25 in 2030, and the number of health care facilities is expected to increase from 14 in 2019 to 18 in 2030. A detailed annual plan for institutional WASH can be found in Annex 6. To go from the current situation to 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 five new schools and four new health care facilities.
- Ensure adequate WASH facilities in the 20 existing schools and 14 existing health care facilities.
- Ensuring sustainable WASH service through WASH promotion.

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

Each of the five 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. Fourteen (14) schools will be connected to existing schemes (1 school piped to building and 13 schools piped to school yard), 4 will construct protected dug wells and 1 will construct a protected spring.
- 21 schools will construct sex-separated, disability inclusive, functional, and usable improved pit latrines.
- 19 schools will construct handwashing facilities with soap and water.

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

Each of the four 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. Twelve (12) health care facilities will be connected to existing schemes with 6 health care facilities having piped water in their building and 6 health care facilities having piped water in their yard. Two (2) health care facilities will construct protected dug wells and 1 will construct a protected spring.
- 17 health care facilities will construct sex-separated, disability inclusive, functional, and usable improved pit latrines.



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- 18 health care facilities will construct hand washing facility with soap and water at both latrine and point of care.
- 5 health care facilities will construct both incinerator and non-hazardous waste pit and 12 will construct an incinerator.

Environmental cleaning is defined by having cleaning protocol in place and staff trained on cleaning. In Baka Dawla Ari, there is no cleaning protocol and none of the health care facilities have staff trained on cleaning. Therefore, the woreda plans to have a 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 there is basic WASH service in institutions by 2030 are to increase community participation, incorporate all WASH facilities when designing schools and health care 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 connections.



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) 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 expenditures required for reaching the vision of 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 expenditures 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

Type of scheme	Unit Cost CapEx New (ETB)	Unit Cost CapEx New (USD)	Number of schemes planned
Household connection	7,500	190	1458
Hand-dug well with rope pump	10,000	253	416
Hand dug well	350,000	8,861	4
Spring on spot	200,000	5,064	9
Shallow well	850,000	21,521	14
Shallow well with solar pump	1,350,000	34,180	1
Deep well with distribution	5,350,000	135,453	5
Multi kebele scheme	4,500,000	113,932	1
Expansion work	250,000	6,330	47



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Medium gravity spring with distribution	1,200,000	30,382	28
Motorized spring with distribution	5,500,000	139,251	2
Large gravity spring with distribution	6,500,000	164,569	4

The total required CapEx for new schemes is ETB 207.21 million (5.25 million USD), and for household connections is ETB 18.68 million (470 thousand USD), with an average per year of ETB 17.27 million (437 thousand USD) and ETB 1.56 million (39 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, rehabilitation, 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 42 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)
Hand dug well	13	70,000	1,772
Shallow well	6	127,500	3,228
Deep well with distribution	1	267,500	6,773
Spring on spot	22	20,000	506

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)
Hand-dug well with rope pump	5	70,000	84
Hand dug well	3	3,333	1,772
Spring on spot	10	20,000	506
Shallow well	7	121,429	3,074
Shallow well with solar pump	7	192,857	4,883
Deep well with distribution	20	267,500	6,773
Multi kebele scheme	25	180,000	4,557
Expansion work	10	25,000	633
Medium gravity spring with distribution	15	80,000	2,025
Motorized spring with distribution	20	275,000	6,963
Large gravity spring with distribution	30	216,667	5,486



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The required CapManEx has been estimated as ETB 2.63 million (66.56 thousand USD) for the rehabilitation of currently broken-down schemes and ETB 253.1 million (6.41 million USD) for regular CapManEx with an average per year of ETB 219 thousand (5.55 thousand USD) and ETB 21.9 million (534 thousand USD), respectively.

7.1.1.3 Operation and Minor Maintenance Expenditure (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)
Hand-dug well with rope pump	300	-	7,000	800	-	8,100
Hand dug Well	3,300	-	13,655	5,400	-	22,355
Spring on spot	2,160	-	2,540	3,600	-	8,300
Shallow well	2,800	-	13,655	5,400	-	21,855
Shallow well with solar pump	8,000	69,600	17,254	8,000	-	102,854
Deep well with distribution	10,000	156,000	95,850	25,000	15,840	302,690
Multi kebele scheme	-	54,000	174,500	12,000	-	240,500
Medium gravity spring with distribution	4,500	-	43,020	3,600	-	51,120
Motorized spring with distribution	10,600	121,200	59,920	18,000	12,000	221,720
Large gravity spring with distribution	6,600	-	174,500	7,200	-	188,300

The total required OpEx is ETB 140 million (3.54 million USD) with an average per year of ETB 11.67 million (295 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 5 of the 16 required positions have been filled.



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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
Plumber and Engineer	2	
O&M team leader, 4 - Electro mechanic, 1-Water Quality Expert		6
Social promoters	1	4
Development planner, human resource, secretary, messenger	1	4
Total	5	16

Table 25 presents an overview of the estimated actual and required direct support costs in 2019. It shows that non-staff (non-salary) costs are 7% of the direct support costs in actual costs and 63% of the direct support costs in required/desired costs. It also shows that the actual current expenditure on direct support is 18% of the required expenditure.

Table 25: Annual direct support costs (water)

Positions	Actual 2019 staff costs	Required 2019 staff costs
Staff costs		
Office head	41,065	45,250
Vice Office Head		67,500
Plumber and Engineer	194,880	
O&M team leader, 4 - Electromechanics, 1 - Water Quality Expert		312,192
Social promoters	74,316	221,232
Development planner, human resource, secretary, messenger	13,332	68,000
Total staff costs	323,593	714,174
Non-staff costs		
Per diems	19,000	864,500
Transport costs (fuel, depreciation, maintenance)	3,100	30,000
Office costs and admin	920	12,050
Costs of meetings and workshops	-	225,500
Water quality testing	-	60,000
Total non-staff costs	23,020	1,192,050
Total direct support costs	346,613	1,906,224

The total required district support costs over the period 2020-2030 is ETB 111.41 million (2.82 million USD) with an average per year of ETB 9.28 million (235 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, CapManEx constitutes the largest proportion (35%) of the required costs. Over the years, with an increase



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in the number of schemes, annual required CapManEx and OpEx is expected to be even 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	225.89	5.72	18.82	0.48	291.09	7.37
CapManEx	255.72	6.47	21.31	0.54	311.66	7.89
OpEx	140.01	3.54	11.67	0.30	153.29	3.88
ExpDS	111.41	2.82	9.28	0.24	135.39	3.43
Total costs	733.04	18.56	61.09	1.55	891.42	22.57

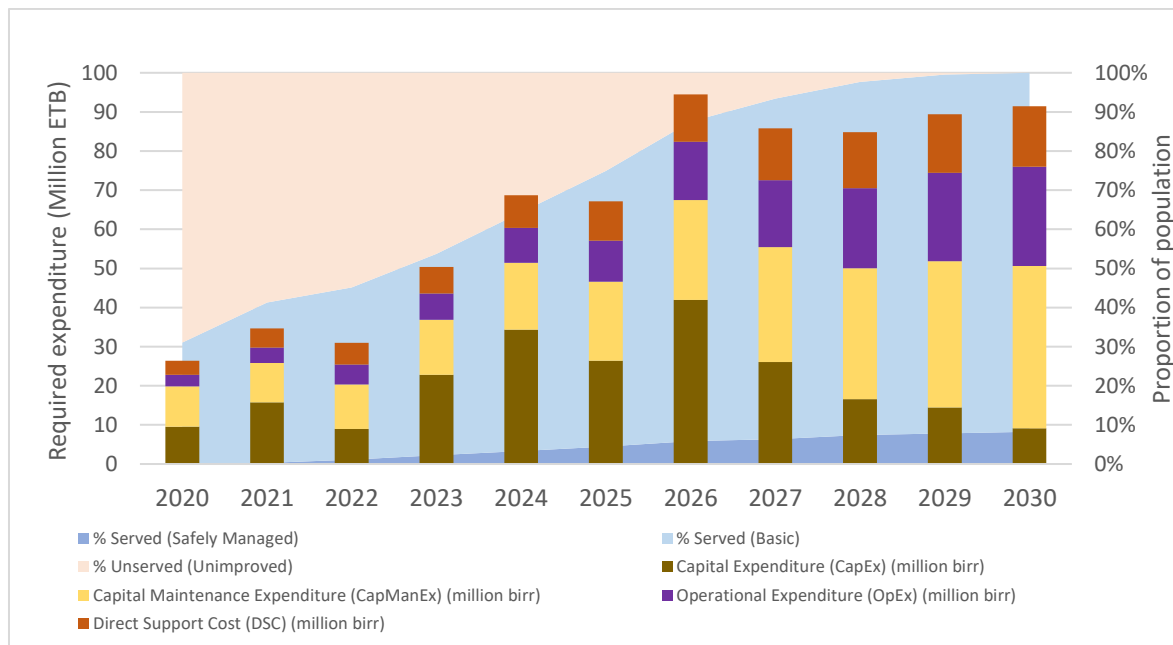


Figure 6: Lifecycle costs per year and expected water service level changes over time

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 self-supply rope pumps. For self-supply (rope pump), 60% of the required CapEx is expected from users while the remaining 40% is expected from the government.

Repairs of rural communal schemes which are currently broken down and CapManEx are expected to be paid for by the government with the exception of self-supply, hand dug wells, shallow wells, and deep wells with distribution. For self-supply, 100% of the cost of rehabilitation and CapManEx is expected from users. For hand dug wells and shallow wells, 60% of cost of rehabilitation and CapManEx is expected from the government while the remaining 40% is expected from users. For deep wells with distribution, 90% of CapManEx is expected from the government while the remaining 10% is expected from users.

Water users are responsible for 100% of the OpEx of all types of schemes with the exception of motorized springs with distribution, deep wells with distribution, and multi kebele schemes. For motorized springs with distribution and deep wells with distribution, 40% of OpEx is expected from the government while the remaining 60% is



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expected from users. For multi kebele schemes, 30% of OpEx is expected from the government while the remaining 70% 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 expenditures is to be covered by the government through taxes.

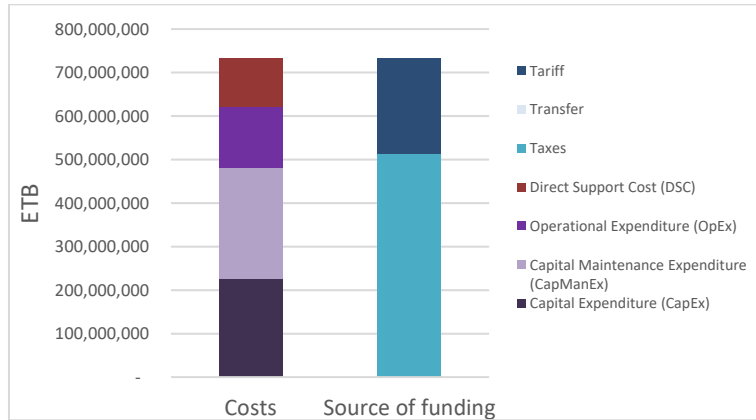


Figure 7: Overview of costs and sources of funding, water

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 Cost CapEx (USD)	Total number of planned units
CapEx hardware				
Improved household pit latrines	Latrine	10,250	260	13,894
Upgrade unimproved latrine -> improved latrine basic	Latrine	6,000	152	2,576
Handwashing facility	HH	1,500	38	21,786
CapEx software - CLTSH				
Triggering (includes pre-triggering)	Village	17,500	443	274
Training for verification committees	Village	15,720	398	1
Model latrine construction	Village	13,100	332	1
ODF verification and certification	Village	11,600	294	274



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CapEx software – sanitation marketing				
Sanitation marketing centers	Woreda	45,000	1,139	1
Sanitation marketing awareness and demand creation for community	Woreda	15,900	403	1
Sanitation marketing training for enterprises	Woreda	25,000	633	1
Sanitation marketing campaigns	Woreda	16,000	405	1

The 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 per year (million ETB)	Average per year (thousand USD)
CapEx, hardware	276.40	7.00	23.03	583.18
CapEx, software	85.85	2.17	7.15	181.13
Total CapEx	362.25	9.17	15.09	382.15

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 5,474 households with unimproved latrines are expected to spend ETB 6,000 (152 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 1,464 (37 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 per year (million ETB)	Average per year (million USD)
CapManEx, upgrade	25.94	0.66	2.16	0.05
CapManEx, household latrines and hand washing facilities	595.37	15.07	49.61	1.26
Total CapManEx	621.31	15.73	51.78	1.31

7.2.1.3 Operation and Minor Maintenance Expenditure (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 for improved household pit latrines is estimated as ETB 4,500 per year (114 USD per year). Annual OpEx for handwashing facilities is estimated as ETB 1500 (38 USD). The total required OpEx is ETB 1.82 billion (46.08 million USD) with an average per year of ETB 151.67 million (3.84 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 ExpDS is ETB 63.28 million (1.6 million USD) with an average per year of ETB 5.27 million (133.53 thousand USD).



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Table 30: Direct support cost activities and costs, sanitation and hygiene

		Unit Cost ExpDS (ETB)	Unit Cost ExpDS (USD)
Post triggering CLTSH			
Post triggering support including technical support	Per village	8,000	203
Post ODF follow-up	Per village	7,000	177
IEC and BCC production			
IEC production	Per woreda	6500	165
BCC production	Per woreda	5960	151
Media coverage	Per woreda	5500	139

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, sanitation, and hygiene

	Total (ETB million)	Total (USD million)	Average per year (ETB million / year)	Average per year (USD million / year)	Average per person served per year (ETB / person / year)	Average per person served per year (USD / person / year)
CapEx, hardware	276.40	7.00	23.03	0.58	339.07	8.58
CapEx, software	85.85	2.17	7.15	0.18	105.81	2.68
CapManEx	621.31	15.73	51.78	1.31	639.03	16.18
OpEx	1,820.04	46.08	151.67	3.84	1,861.06	47.12
ExpDS	63.29	1.60	5.27	0.13	67.47	1.71
Total	2,866.88	72.58	238.91	6.05	N/A	N/A

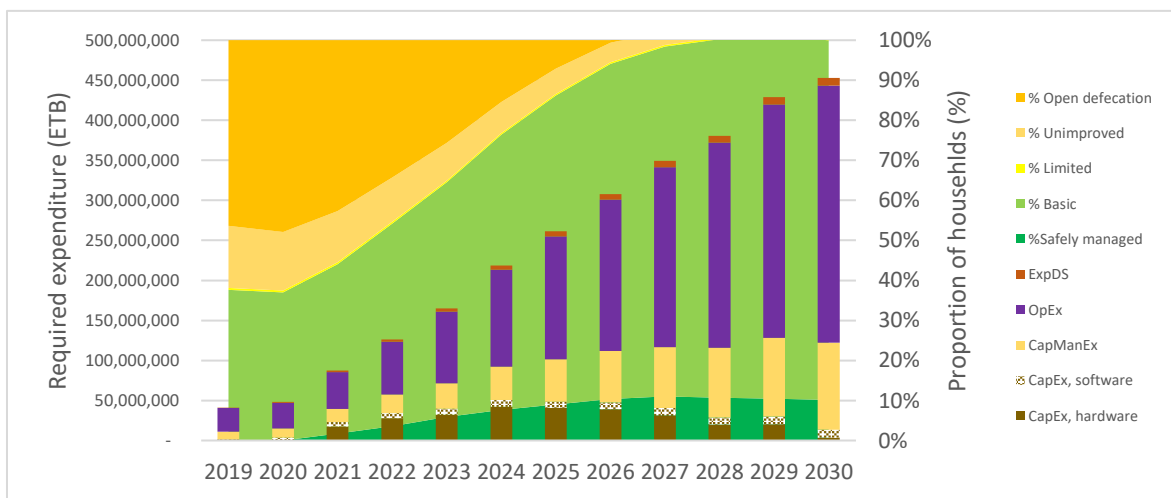


Figure 8: Lifecycle costs per year and changes in sanitation service level

7.2.3 Funding for projected costs

In Baka Dawla 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.

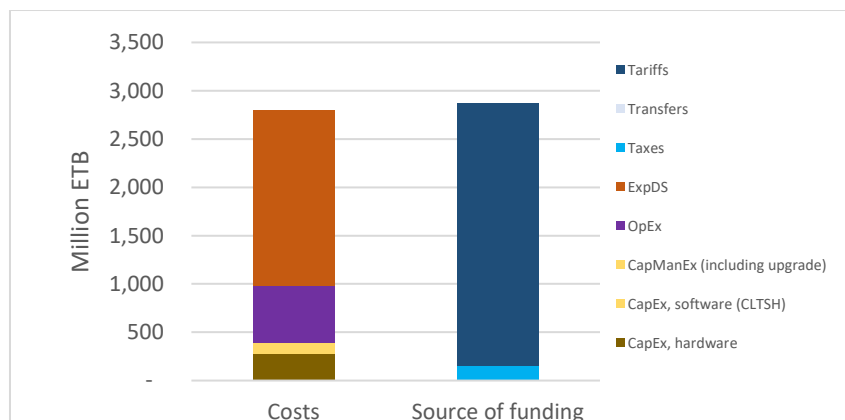


Figure 9: Overview of costs and sources of funding, Sanitation and Hygiene

7.3 Costing and financing institutional WASH

7.3.1 Estimated required expenditures for reaching the 2030 vision

This section presents the estimated expenditures 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 (CapEx) 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	110,000	2,785	6
Piped water to health facility yard	91,200	2,309	6
Protected dug well	150,000	3,798	2
Protected spring	120,000	3,038	1
Sanitation			
Improved pit latrine	255,000	6,456	16
Handwashing facility			
Hand washing facility at point of care	10,000	253	18



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Handwashing facility at point of care	8,300	210	18
Waste management			
Incinerator	77,500	1,962	17
Nonhazardous waste solid waste pit	1,000	25	5

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 per year (million ETB)	Average per year (thousand USD)
CapEx - water	2.71	68.72	0.45	11.45
CapEx - sanitation	6.65	168.37	1.11	28.06
CapEx - hygiene	0.54	13.73	0.09	2.29
CapEx – solid waste	2.22	56.28	0.37	9.38
Total CapEx	12.13	307.09	2.02	51.18

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	7,333	186
Piped water to health facility yard	15	6,080	154
Protected dug well	7	21,429	543
Protected spring	10	12,000	304
Sanitation			
Improved pit latrine	7	36,429	922
Handwashing facility			
Hand washing facility at latrine	7	1,429	36
Hand washing facility at point of care	10	830	21
Waste management			
Incinerator	10	7,750	196
Nonhazardous waste solid waste pit	1	1,000	25

The annual required CapManEx is estimated based on the presence of WASH facilities in each year and their CapManEx unit costs, taking inflation into account. Table 35 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 (thousand ETB / year)	Average (thousand USD / year)
CapManEx - water	2.05	51.86	341.36	8.64
CapManEx - sanitation	5.73	144.97	954.29	24.16
CapManEx - hygiene	0.14	3.58	23.59	0.60
CapManEx - solid waste	1.33	33.60	221.21	5.60
Total CapManEx	9.24	234.01	1,464.42	37.08

7.3.1.1.3 Operation and Minor Maintenance Expenditure (OpEx)

Table 36 presents the unit costs for OpEx for 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	6,600	167
Piped water to health facility yard	3,100	78
Protected dug well	3,450	87
Protected spring	2,800	71
Sanitation		
Improved pit latrine	4,780	121
Handwashing facility		
Hand washing facility at latrine	1,200	30
Hand washing facility at point of care	6,000	152
Waste management		
Incinerator	500	13

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 (thousand ETB)	Total (thousand USD)	Average (thousand ETB / year)	Average (thousand USD / year)
OpEx - water	876.29	22.19	146.05	3.70
OpEx - sanitation	685.07	17.34	114.18	2.89
OpEx - hygiene	946.32	23.96	157.72	3.99
OpEx – solid waste	64.10	1.62	10.68	0.27
Total OpEx	2,571.78	65.11	396.70	10.04



7.3.1.1.4 Direct support costs (ExpDS)

The required direct support costs related to WASH in health facilities 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
- Steering committee meeting
- Woreda WASH steering committee meeting
- Environmental protection and cleaning

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 promotor	1	2
Cleaning staff at health care	4	4
Total	7	8

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 17% of the direct support costs in actual costs and 52% of the direct support costs in required costs. It also shows that the actual current expenditure on direct support is 14% of the required expenditure.

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

Positions	Actual 2020 costs (ETB / year)	Required 2020 costs (ETB / year)
Staff costs		
Health Office Head	36,200	45,250
WASH in health facility focal person	26,766	26,766
WASH in health facility operator	48,288	96,843
Cleaning staff at health care	32,000	422,400
Total staff costs	143,254	591,259
Non-staff costs		
Per diems	7,950	154,869
Transport costs (fuel, depreciation, maintenance)	8,300	77,364
Office costs and admin	13,160	29,500
Costs of meetings and workshops		367,500
Total non-staff costs	29,410	629,233
Total direct support costs	172,664	1,220,492
Total direct support costs per health care facility	12,333	87,178



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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 3.23 million (81.89 thousand USD) with an average per year of ETB 510.89 thousand (12.94 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 building	110,000	2,785	1
Piped water to school yard	97,000	2,456	13
Protected dug well	150,000	3,798	4
Protected spring	120,000	3,038	1
Sanitation and Hygiene			
Improved pit latrine	251,000	6,355	21
Handwashing facility	8,350	211	19

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 (thousand ETB / year)	Average (thousand USD / year)
CapEx - water	3.32	84.10	301.99	7.65
CapEx - sanitation	8.46	214.08	768.68	19.46
CapEx - hygiene	0.23	5.83	20.94	0.53
Total CapEx	12.01	304.01	1,091.60	27.64

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 building	15	7,333	186
Piped water to school yard	15	6,467	164
Protected dug well	7	21,429	543
Protected spring	10	12,000	304
Sanitation and Hygiene			
Improved pit latrine	7	35,857	908



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Handwashing facility	10	835	21
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The annual required CapManEx is 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 (thousand ETB / year)	Average (thousand USD / year)
CapManEx - water	3.54	89.63	321.83	8.15
CapManEx - sanitation	10.15	256.86	922.29	23.35
CapManEx - hygiene	0.28	7.02	25.22	0.64
Total CapManEx	13.96	353.51	1,269.34	32.14

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 building	3,500	89
Piped water to school yard	4,000	101
Protected dug well	3,400	86
Protected spring	2,000	51
Sanitation		
Improved pit latrine	4,325	110
Handwashing facility	1,500	38

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	0.93	23.47	84.29	2.13
OpEx - sanitation	1.13	28.66	102.91	2.61
OpEx - hygiene	0.46	11.67	41.91	1.06
Total OpEx	2.52	63.81	229.11	5.80

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:



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

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

Table 46: Actual and Required personnel for Direct support

Positions	Actual (current) number of staff	Required 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 2019 ExpDS. It shows that non-staff (non-salary) costs are 78% of the direct support costs in actual costs and 65% of the required direct support costs. It also shows that the actual current expenditure on direct support is 47% of the required expenditure.

Table 47: Annual direct support costs, school WASH

	Actual 2019 costs (ETB / year)	Required 2019 costs (ETB / year)
Staff costs		
Office Head	8,150	25,357
WASH Planning	14,546	42,783
Wash focal person	21,646	84,179
Total staff costs	44,342	152,318
Non-staff costs		
Per diems	5,950	72,989
Transport costs	78,400	121,800
Office costs and admin	28,000	43,500
Costs of meetings and workshops	49,000	50,200
Total non-staff costs	161,350	288,489
Total direct support costs	205,692	440,807
Total direct support costs per school	10,285	22,040

Considering the expected increase in number of schools and inflation, the total required ExpDS for the period 2020-2030 is ETB 3.77 million (95.44 thousand USD) with an average per year of ETB 342.71 thousand (8.68 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, CapEx constitutes the largest proportion (47%) of the required costs.

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

	Total (million ETB)	Total (thousand USD)	Average (million ETB / year)	Average (thousand USD / year)
CapEx	12.13	307.09	2.02	51.18
CapManEx	9.24	234.01	1.46	37.08
OpEx	2.57	65.11	0.40	10.04
ExpDS	3.23	81.89	0.51	12.93
Total	27.18	688.11	4.24	107.30

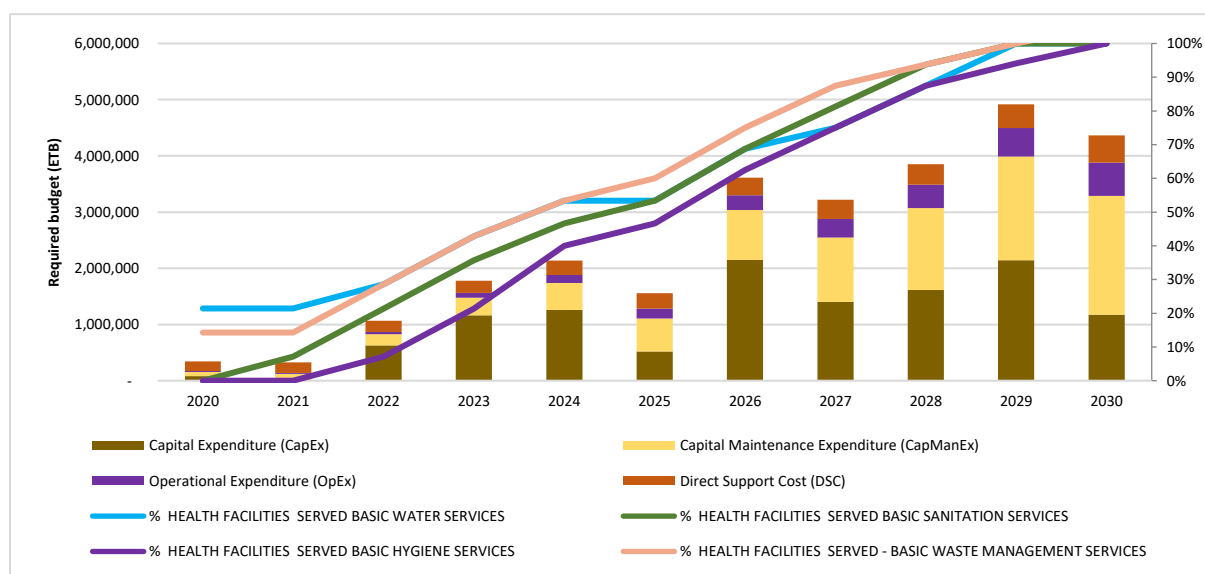


Figure 10: Lifecycle costs per year and changes in service level, health care facility WASH

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. It shows in the period 2020-2030, CapEx and CapManEx constitute the largest proportion 45% and 39% respectively of the required costs.

Table 49: Total required lifecycle costs, school WASH

	Total (million ETB)	Total (thousand USD)	Average (million ETB / year)	Average (thousand USD / year)
CapEx	12.01	304.01	1.09	27.64
CapManEx	13.96	353.51	1.27	32.14
OpEx	2.52	63.81	0.23	5.80
ExpDS	3.77	95.44	0.34	8.68
Total	32.26	816.78	2.93	74.25

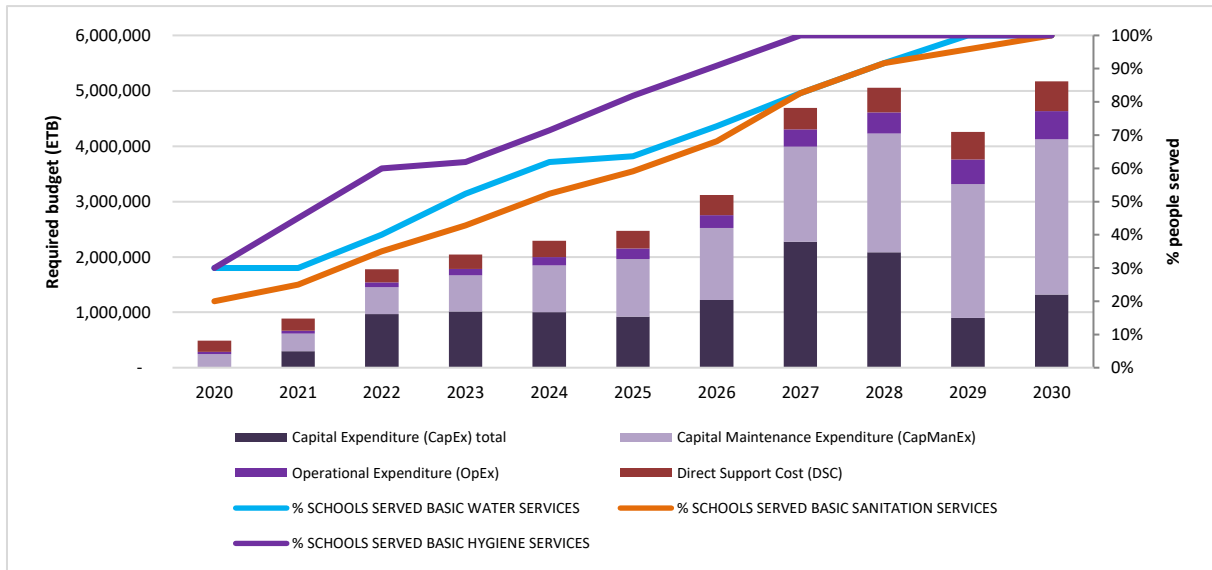


Figure 11: Lifecycle costs per year and changes in service level, School WASH

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.



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8 Monitoring and Evaluation

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

The proposed monitoring programs are:

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

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

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

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

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

Annex 1: Overview of the Planning tool

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

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

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

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

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

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

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

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

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



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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	2023
Spring on spot	22	6	9	4	3
Hand dug well	13	12	1	0	0
Shallow well	6	6	0	0	0
Deep well with distribution	1	1	0	0	0



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Annex 3: Annual plans for construction of new water schemes

Scheme type	Total planned new schemes	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Spring on spot	90	0	0	3	0	0	0	0	1	0	2	2	1
Medium gravity spring with distribution	280	0	0	0	0	4	2	5	8	3	3	2	1
Motorized Spring with distribution	20	0	0	0	0	0	1	1	0	0	0	0	0
Large gravity Spring with distribution	40	1	1	0	1	0	0	1	0	0	0	0	0
Hand dug well	40	0	0	0	0	1	0	1	0	0	0	1	1
Shallow well	140	0	0	0	0	3	1	1	4	2	0	2	1
Shallow with Solar pump	10	0	0	0	0	0	1	0	0	0	0	0	0
Deep Well with distribution	50	0	0	1	1	0	2	0	0	1	0	0	0
Rope pump (self-supply)	4160	0	0	0	40	53	6	0	170	3	104	0	40
Expansion work with distribution system	470	0	0	3	2	3	3	8	8	9	8	3	0
Multi kebele scheme	10	1	1	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

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Upgrade unimproved latrine, private -> improved latrine, private (only to basic service)		76	250	250	250	263	250	250	250	250	250	237	2,576
Upgrade improved latrine, basic -> improved latrine, safely managed			10	10	10	10	10	10					60
Improved household latrines, safely managed, private			300	320	440	361	310	310	200				2,241
Improved household latrines, basic, private	6,243		870	1,500	1,506	2,000	1,800	1,533	1,000	750	694		11,653
Hand washing facilities	947		2,000	2,286	2,500	3,000	2,500	2,500	3,000	1,500	1,500	1,000	21,786



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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
Ali	20	2	3	3	3	3	3	3	
Arkisha	55	6	7	7	7	7	7	7	7
Ashti	19	5	5	5	4				
Bako	10	3	3	1	1	1	1		
Baytsimal	28	5	5	5	5	5	3		
Geza	22	4	4	4	4	3			
Goyide	26	5	5	5	5	5	1		
Kaysa	39	5	5	5	5	5	5	5	4
Kure	20	5	5	5	5				
Senmamer	16	3	3	3	3	3	1		
Shepi Gayla	13	2	3	2	2	2	2		
Senegal	6	2	3	1					
Total	274	47	51	46	44	34	23	15	11



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Annex 6: Annual plans for institutional WASH

School WASH											
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Piped water into school building	0	0	0	0	0	0	0	1	0	0	1
Piped water to school yard	0	0	3	1	1	1	3	1	2	1	13
Protected dug well	0	2	0	0	0	1	0	1	0	0	4
Protected spring	0	0	0	1	0	0	0	0	0	0	1
Improved pit latrine	1	2	2	2	2	2	4	3	1	2	21
Handwashing facility	3	3	1	2	3	2	3	1	0	1	19

Health care facility WASH											
	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	
Piped water into health facility building	1	2	1	0	1	1	0	0	0	6	
Piped water to health facility yard	0	0	1	0	2	0	1	1	1	6	
Protected dug well	0	0	0	0	0	0	1	1	0	2	
Protected spring	0	0	0	0	0	0	0	1	0	1	
Improved pit latrine	1	2	2	1	3	2	2	2	1	16	
Handwashing facility at both latrine and point of care	1	2	3	1	3	2	2	2	2	18	
Incinerator	1	2	1	1	2	2	1	1	1	12	
Both incinerator and non-hazardous waste solid waste pit	1	0	1	0	1	0	0	1	1	5	

