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NEGELLE ARSI WOREDA WASH SUSTAINABLE DEVELOPMENT GOAL MASTER PLAN

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Executive Summary

This woreda WASH master plan contains the vision and strategies of Negelle Arsi Woreda. This master plan aims for universal access to safe and sustainable water supply and sanitation and hygiene services for the entire population of Negelle Arsi Woreda by 2030. The master plan is framed within the targets of the United Nations' Sustainable Development Goal 6 (SDG 6). The master plan provides a strategy towards achieving the set goals and visions for WASH in the woreda. 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 Joint Monitoring Program of the World Health Organization and UNICEF (JMP) is responsible for monitoring progress made towards meeting SDG 6. For water services, the JMP differentiates between safely-managed services, an improved water source which is located on premises, available when needed, and free from faecal and priority chemical contamination; basic services, an improved water source, provided collection time is not more than 30 minutes roundtrip, including queuing; limited water services, improved water source for which collection time exceeds 30 minutes roundtrip, including queuing; and unimproved water services, water source from an unprotected dug well or unprotected spring or directly from a river, dam, lake, pond, stream, canal or irrigation canal.

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

The JMP separately defines WASH for schools and health care facilities. For water, there is basic, an improved source available on premises; limited, an improved source within 500m; and no service, no water source or unimproved source. For sanitation, there is basic, an improved, sex separated, private, with menstrual hygiene facility, accessible to people with disability; limited, an improved facility; and no service, unimproved or no sanitation facility. For hygiene, there is basic, a hand washing facility with soap and water; limited, missing either soap or water and not available on point of care; and no service, no or non-functional hand washing facilities.

Negelle Arsi Woreda is located in West Arsi Zone of Oromia Regional State, Ethiopia. Administratively, the woreda is divided into thirty-six (36) rural and five (5) urban kebeles. The total population of the woreda is 312,799 (288,995 rural and 23,804 urban). The annual population growth rate of the woreda is 2.7%. Agriculture is the main source of household income in the woreda, accounting for 95% of the total population's livelihood, followed by trading and small business.

Water supply technologies in Negelle Arsi include hand-dug wells, motorized shallow wells, deep wells with distribution, springs on spot, and springs with distribution. There are 36 schemes in the woreda, of which 11 are non-functional (a 31% non-functionality rate). The SDG plan estimates that 2% of the woreda population currently has access to safely managed service and 55% with access to basic service. Forty-three percent of the woreda population has no access to water. Challenges include:

- Together, the water schemes have the potential to serve about 178,000 of the 312,799 people of the woreda (57%). This is because of lack of sufficient funds, the scattered settlement of the population, and water resource potential in different kebeles.
- At the time of the baseline, 11 rural water schemes were not functioning. This is because of low construction quality, lack of resources for maintenance, high maintenance costs for complex schemes, and the limited availability of spare parts.
- Only an estimated 2% of the woreda's population has access to safely managed services. This is because lack of capacity to pay for on-premises connections, lack of resources to develop high potential sources, and lack of water quality data and testing.
- Water resource availability is not uniform throughout the woreda. There are also fluoride and turbidity problems in most of the woreda. Lowland kebeles depend mostly on water supply from water sources from highland areas, i.e., springs or groundwater. In addition, hand-dug wells face shortages of water due to drops in groundwater levels during elongated dry seasons.
- The voluntary, community based WASHCOs are generally unlicensed, unsupported, and lack the technical and financial capacity to operate and maintain the water supply facilities under their charge. There are shortages of logistics, budget, and expenditures for the Woreda Water Office to undertake its functions.

The most common sanitation facilities in Ethiopia are unimproved latrines and 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 Negelle Arsi, there are only private improved household pit latrines within situ treatment and private unimproved latrines. The total number of reported improved latrines amounts to 24,589, covering 56% of the population, and the number of unimproved latrines amounts to 15,228, covering 34% of the population, with only 10% of the population practicing open defecation. Challenges include:

- 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 open defecation free (ODF).
- Once declared ODF, most villages fall back to old habits and resume open defecation practices.
- There are no households with a handwashing facility.

There are currently 98 schools and 44 health care facilities in the woreda. None of the schools in the woreda have handwashing facilities, 16 schools do not have sanitation facilities, and 59 schools do not have water facilities. About half of the health care facilities have basic water service. Half of the health care facilities have no sanitation facilities, while the other half have functional, usable improved sanitation facilities. All health care facilities were reported to have handwashing facilities. Main challenges include:

- Lack of budget or capacity to construct their own supply systems or connect schools and health care facilities to existing piped systems, even when there are pipelines nearby.
- The woreda and community do not have the capacity to cover the construction cost of WASH facilities in all schools.
- Health posts are constructed with community participation and latrines are constructed from low-quality materials making them susceptible to damage.

Negelle Arsi Woreda has set the vision of achieving 100% coverage with at least basic water supply, sanitation, and hygiene service in rural and urban areas. This is a big step up from the current 57% of people served with at least basic services (50% in urban areas and 58% in rural areas) for water, 56% of people served with basic sanitation services, and 0% of people served with hygiene services.

The woreda has also set the vision of achieving 100% coverage with basic water, sanitation, and hygiene 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 2%, 84%, and 0% respectively in the schools and water, sanitation, hygiene, and waste management service of 52%, 0%, 5%, and 0%, respectively, in health care facilities.

Going from 2% to 30% for safely managed service and 100% for at least basic water service by 2030 requires an additional 241,379 people gaining access to at least basic service and 119,031 people gaining access to safely managed service. Strategic directions are the 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 and water boards, tariff setting and revenue collection, strengthening spare part supply and preventive maintenance services, water resource protection, and addressing human and financial resource constraints at the woreda level.

Going from 56% basic sanitation services to 100% for at least basic services by 2030 requires an additional 14,972 households construct their own latrines and 15,008 households that currently have unimproved latrines to upgrade to improved latrines. Since the construction of sanitation and hygiene facilities is the responsibility of households, the main strategy is successful and sustainable implementation of community-led total sanitation and hygiene (CLTSH). The sanitation marketing approach will require strengthening of the Woreda Health Office capacity and performance.

Strategies to achieve 100% of at least basic WASH service in institutions will be achieved through the construction of adequate WASH facilities and ensuring these facilities are sustained. The woreda should work closely with partners and the regional government to allocate funds for water connections, increase community participation, work on WASH promotion, and increase attention to monitoring and support to institutional WASH from the Woreda Health Office and Woreda Education Office.

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 costs required for achieving 100% of at least basic water service by 2030 is ETB 2.95 billion (78.35 million USD). The total cost required for achieving 100% of at least basic sanitation and hygiene service by 2030 is ETB 5.24 billion (139.19 million USD). The total cost required for achieving 100% of at least

basic WASH service in schools by 2030 is ETB 355.7 million (9.45 million USD). The total cost required for achieving 100% of at least basic WASH service in health care facilities by 2030 is ETB 140.4 million (3.46 million USD).

Endorsement of the Negelle Arsi Woreda WASH SDG Master Plan

This woreda WASH SDG master plan is signed by the Woreda WASH Team, composed of representatives from the Woreda Water and Energy Resources Development Office, the Woreda Health Office, the Woreda Education Office, the Woreda Finance Office, and the Woreda Administration, to support implementation of water supply, sanitation, and hygiene services for the community and institutions.

The woreda WASH SDG master plan was developed with support from IRC WASH through the Directorate-General for International Cooperation (DGIS).

The following offices have endorsed the master plan with signatures and official stamps.

Signatures:

For Woreda Water and Energy Resources Development Office _____

For Woreda Health Office _____

For Woreda Education Office _____

For Woreda Finance Office _____

For Woreda Administration _____

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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
OWNP	One WASH National Program
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
WFECO	Woreda Finance and Economic Cooperation Office
WHO	World Health Organization
WWERDO	Woreda Water and Energy Resources Development Office
WWT	Woreda WASH Team

1. Introduction

After the Millennium Development Goal (MDG) period, which delivered improvement 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 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 Operation and Minor Maintenance Expenditure (OpEx), Capital Maintenance Expenditure (CapManEx), and Direct Support Costs 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 ODF villages from 15% to 80%, and increasing the proportion of households using household water treatment and safe storage practices from 7% to 77%. It is stated that hygiene and environmental health will be improved through the application of the Health Extension Program (HEP) packages designed to decrease communicable diseases caused by poor hygiene and sanitation practices.

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

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

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

The 10-year costed plan contains costs beyond building new infrastructure. It also includes mechanisms and costs for operation and maintenance, replacement, and direct support (monitoring, routine technical assistance, and training/retraining of service providers). The plan considers a variety of WASH service delivery models such as the commonly practiced self-supply, community managed, and utility managed service delivery models for water supply and community-led total sanitation and hygiene (CLTSH), school-led total sanitation and hygiene (SLTSH), and sanitation marketing approaches for sanitation and hygiene. The plan also helps to understand the costing gaps and henceforth uses them as evidence for resource mobilization.

The WASH SDG master plan is prepared and owned by the woreda WASH sector offices with technical support from IRC WASH through the WASH SDG consortium program funded by the Directorate-General for International Cooperation (DGIS) under the Dutch Ministry of Foreign Affairs.

1.1. The development of the woreda WASH SDG master plan

The woreda WASH SDG plan has been developed by the planning team drawn from district WASH sector offices of water, education, health, and finance.

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 by IRC WASH.

Workshop 1 (July 2019): In this workshop, the planning team was established from WASH sector offices, oriented on the SDG concepts, SDG WASH targets, and the master plan planning process, and had an introductory training on the water planning tool. There was also discussion on data requirements and timelines. The discussion was supported with the demonstration of similar activities from another program in the Amhara Region and the Excel planning tool. The woreda planning team is composed of WASH focal persons and planning experts from the water, education, and health offices, as well as planning experts from the finance office. The team is chaired by Woreda Finance and Economic Cooperation Office (WFECO) and co-chaired by Woreda Water and Energy Resources Development Office (WVERDO). The planning team agreed to be supported by the zone sector offices under the coordination of zonal Water and Energy Resources Development Department.

The planning team was responsible for collecting information and filling in the Excel planning tool by the next workshop. The planning team decided on a vision, collected data for the woreda information section, and selected a new infrastructure options to begin the planning draft after the first workshop was conducted. The team identified new infrastructure required to achieve full coverage and access to all by 2030, considering and providing attention to planning assumptions such as the number of users per scheme, the life span of water schemes, and the cost of water schemes.

Workshop 2 (October 2019): This workshop was scheduled to evaluate the status of data collection and provide additional training on using the Excel planning tool. The planning team reviewed the plan based on the vision and discussed challenges and questions about how to move up the service delivery ladder with improved services, sustainable access, and equitable provision of WASH services. The team agreed to achieve at least 100% basic access by 2030.

Workshop 3 (August 2020): This weeklong workshop was conducted to provide training on sanitation and hygiene and institutional WASH planning tools and provided refresher training on the water planning tool. The team also discussed the content of the narrative report for water, sanitation and hygiene and institutional WASH following the proposed document outline. Accordingly, the planning team completed their SDG WASH master plans, including inputs to the content of the narrative report.

Workshop 4 (December 2020): This two-day validation and launching workshop included WASH stakeholders beyond WASH sector offices from the woreda, zone and region. The planning team from water, health and education presented their respective office plans. Participants suggested the approval of the plan by the management of each WASH sector office, the Woreda Cabinet Council, and the Woreda Council respectively after incorporating the comments to be used as a WASH roadmap for the woreda.

1.2. Outline of document

Following the general introduction of the woreda SDG master planning in Negelle Arsi 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 Negelle Arsi 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 strategic directions 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 Negelle Arsi 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 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. For this master plan, the SDG targets are used in planning.

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

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.	Improved Sanitation Facility: A sanitation system that is safe and cleanable, sealed (with an appropriate lid and vent pipe) to discourage exposure to the 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.	Onsite Sanitation: 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.	Communal latrines: 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.	Basic/unimproved sanitation facility: 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.	Open defecation	

*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 5meters of toilet
Limited	Handwashing facilities with water but no soap available	Functional hygiene facilities available at either point of care or toilets but not both
No service	No handwashing facilities or no water available	No functional hand hygiene facilities are available at either point of care or toilets

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

Table 8: National health facility WASH indicators

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

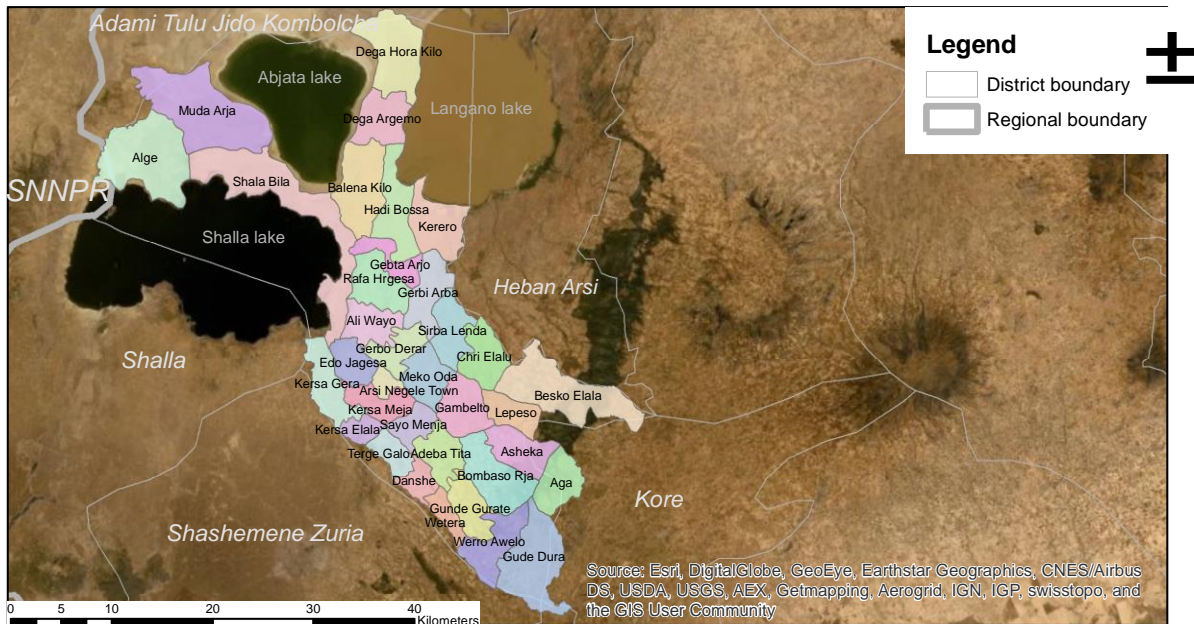
Table 9: National school WASH indicators

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 Menstrual Hygiene Management (washing, changing, and waste disposal).
	Adequate and safe water supply should be available in schools. There should be a drinking fountain or tap; at least one tap for 100 students.
Latrine stance ratios	One stance/cubicle per 50 girls and one toilet for female staff in rural schools.
	One stand/cubicle and one urinal per 75 boys and one toilet for male staffs in rural schools.
	In urban schools, the number of seats to student ratio should be one stance for every 25 girls and one toilet for female staff and one stance plus one urinal for every 50 boys and one toilet for male staff.
	At least one toilet cubicle, each should be accessible for staff, boys, and girls with disabilities; this includes level or ramped access, a wide door, and sufficient space inside for a wheelchair user or helper to manoeuvre, and the provision of support structures such as a handrail and toilet seat.

3. Woreda context

Negelle Arsi Woreda is located in West Arsi Zone of Oromia Regional State, Ethiopia. It has borders with Shashamane, Kore, Heban Arsi, Shalla, Adam Tullu Jiddoo Kombolcha (East Shoa), and the Southern Nations, Nationalities and Peoples' Region (SNNPR). The capital of the woreda, Negelle Arsi Town, is located 25 km from Shashamane Town, the zonal capital. The woreda has a total area of 91 km² with an altitude range from 1600 to 2780 meters above sea level.

Figure 1. Map of Negelle Arsi Woreda



The woreda has several perennial and seasonal rivers as well as springs. The main rivers are Gedamso, Lephis, Huluka, Awede Jitu, Awede Gudo, and Dadaba Gudo. There are three major lakes in the woreda namely Lake Shalla, Langano, and Abjata. Except Langano, the other two are salty lakes. In most parts of the woreda the groundwater table is found at a shallow depth. In lowland areas the depth of groundwater is deeper and is contaminated with natural fluoride.

Administratively, the woreda is divided into thirty-six (36) rural and five (5) urban kebeles. The woreda sector offices use different population data sets. For this plan, the Woreda Water and Energy Resources Development Office (WWERDO) uses data from the WFECO while the Woreda Health Office uses the population count by health extension workers. According to the WFECO data, the total baseline population of the woreda is 312,799 (288,995 rural and 23,804 urban). According to the Woreda Health Office data, the total baseline population of the woreda is 210,060.

Based on the WFECO data the annual population growth rate of the woreda is 2.7%. The population density is six persons per km². There are 62,560 households (HH) in the woreda, with an average household size of five people.

Agriculture is the main source of household income in the woreda accounting for 95% of the total livelihood for the population followed by trading and small business. Most of the population performs mixed farming with both crop and livestock production. The main crops are maize, teff, and sorghum.

Currently, there is a 43 km asphalt road that crosses over the administrative boundary. There is also 200 km of standard, rural gravel roads and 144 km of rural roads that connect 30 kebeles. Nine kebeles have access to the electric power grid and all kebeles have access to a mobile telephone network.

4. Situational analysis

4.1. Water services

4.1.1. Water Infrastructure

Negelle Arsi is in the Great Rift Valley of Ethiopia where rural people rely on springs and groundwater for their water supply. Water supply technologies include hand-dug wells, motorized shallow wells, motorized deep wells with distribution, springs on spot, and gravity springs with distribution.

Three functional hand-dug wells are found in rural Maraaro and Gode Duro kebeles and urban Godee Kebele. In addition, four non-functional, hand-dug wells are found (one in Leephis Kebele and three in Gode Duro Kebele). Two non-functional motorized shallow wells are found in Qaraaruu Kebele. There are also 14 functional and three non-functional deep wells with distribution systems. Most of the deep wells with distribution serve more than one kebele through a pipe system.

- Two deep wells with distribution systems up to 1000 users
- Four deep wells with distribution up to 2000 users
- Five deep wells with distribution to up to 4000 users + three non-functional deep wells
- Two deep wells with distribution to up to 5000 users (in Makko Oda Kebele and Gorbi Dareera Kebele)
- The Kersa Gara deep well serving up to 6000 users

There are three non-functional spring on spot schemes, one serving 1500 people in Aagaa Kebele and two in Boombaaso Regji and Aagaa kebeles. Additionally, there are six functioning springs with distribution systems, some of them serving multiple kebeles:

- Spring with small distribution – up to 1000 users serving Cirrii Laaluu Kebele
- Goljo spring with distribution serving the rural Tullu Qadhoo and Basaku Ilaalaa kebeles and urban Basakqu Kebele.
- Wotars spring with distribution serving the rural Wotara and Danshee Kebeles.
- Mume Hawulo spring with distribution serving the rural Maraaro, Gondee Gurrattee, and Gode Duro kebeles and the urban Godee Kebele.
- Dabale spring with distribution serving eight rural kebeles and the urban Doole Kebele.
- Goben Gabello spring with distribution serving eight rural kebeles and the urban Qaloo Kebele.

In total, there are 36 schemes in the woreda, of which 11 are non-functional (a non-functionality rate 31%). There are instances where the system is partially functional, i.e., some of the water points are non-functional. All the urban kebeles in the woreda get water supply from a rural pipe system that serves both the rural villages and urban settlements.

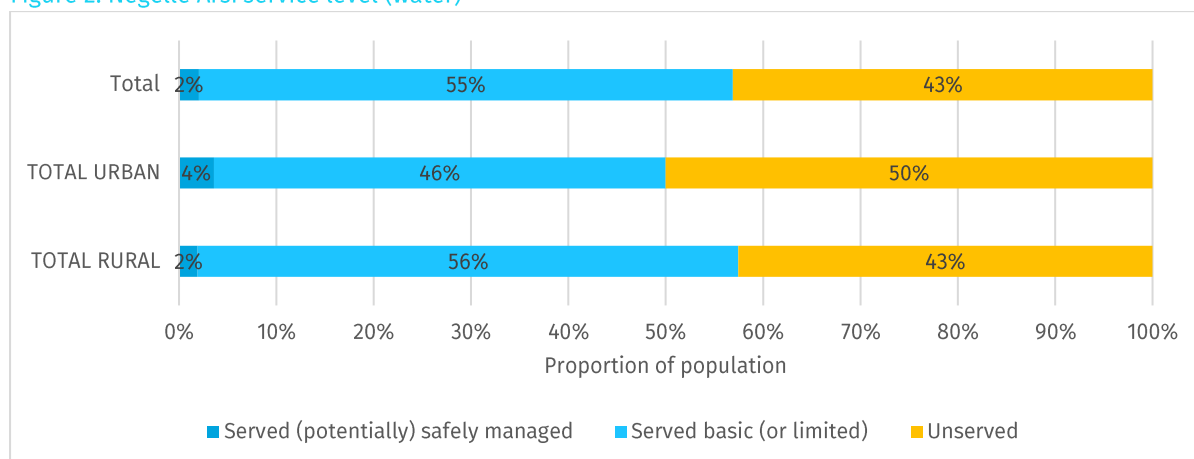
4.1.2. Water service level

Based on the currently functional schemes in each kebele, the proportion of the population that is currently getting (potentially¹) safely managed service is 2% while those getting (potentially²) basic service are 55%. Figure 2 shows an overview of the service level for Negelle Arsi Woreda (urban, rural, and total). Overall, 43% of the woreda population has no access to water. Five rural kebeles (Eddo Jiggeessa, Ashookaa, Leephis, Haraago Leemano, Qarsaa Majaa) and one urban kebele (Leephis) are not served with water services at all (100% unserved).

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

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

Figure 2: Negelle Arsi service level (water)



4.1.3. Water service delivery models

The main service delivery model in Negelle Arsi Woreda is community management. There are multi-village and multi-kebele schemes managed by WASH committees (WASHCOs) and caretakers. WASHCOs are supposed to consist of five members, including at least 50% women, a chair, a secretary, a cashier, an auditor, and a member. They are elected from the user community and work voluntarily. WASHCOs are responsible for tariff collection and the day-to-day operation and maintenance of schemes.

The government (WWERDO, Zone Water and Energy Resources Development Department, and Regional Water and Energy Resources Development Bureau) are service authorities that support the service providers. The service authorities are responsible for new water scheme construction, major maintenance, and rehabilitation. These responsibilities fall under woreda, zone and region based on scale.

4.1.4. Service provider performance

WASHCOs are responsible for the operation and maintenance of schemes with the support from the woreda. The Oromia Regional Water and Energy Resources Development Bureau has recently enacted a WASHCO legalisation proclamation but there is no legalization process at this moment.

WASHCOs are volunteers and prioritize their personal daily routines. As a result, monitoring of caretakers, water point attendants, and cashiers is weak, as well as timely reporting of maintenance requests and responding to household connection requests.

It is difficult to hold WASHCO members accountable as they are doing this on a volunteer basis. WASHCOs 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.

The water office structure at the region, zone, and woreda supports water service delivery. At the scheme level, WASHCOs are responsible for the daily management. WASHCOs that manage motorized schemes also hire technicians to operate schemes. All the multi-village schemes have a tariff system. A tariff is set based on the principle of covering the running cost, but communities are sometimes requested for major item replacement like pumps and generators. Most communities cannot afford these costs. Based on the national strategy for rural water supply, the service authority is responsible for major maintenance and rehabilitation work.

4.1.5. Systems strength at woreda level

The WWERDO receives primarily technical support from the zone and region, but it is reported to be inadequate. Technical support mainly comes from the zone, but this can take a while as the zone struggles with an inadequate number of skilled staff, lack of machinery like service rigs and cranes, and a lack of budget, among other challenges.

The WASHCOs do not receive continuous support and follow-up from the WWERDO. When WASHCOs are established, they receive training on scheme management based on regional guidelines. 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. The woreda has many rural pipe systems that cover multiple kebeles, but lack of transport limits the woreda support. Woreda motorcycles, the only available means of transportation, are very old and in need of maintenance. It is difficult to use public transport while carrying hand tools and walking long distances from main road.

Six handpumps and three springs on spot do not have WASHCOs, hence, no tariff is collected. If there is a requirement for maintenance, the community contributes on an ad-hoc basis, but even when a tariff is collected, it is not sufficient to cover the running cost.

The budget allocation for rural water at the woreda level is very limited. The woreda does not have sufficient budget for Capital Maintenance Expenditure (CapManEx). The financial gap between needs and current allocation to Direct Support Costs (ExpDS), mainly covering salary costs, is also high. Findings from ExpDS estimations in 2019 show that the current estimated expenditures on direct support is ETB 991,270 (26,322 USD) which is only about half of the required (desired) amount of ETB 1,958,112 (51,995 USD).

Users discuss with WASHCOs the rate of tariffs and the use of tariff revenues. The Oromo Region Water and Energy Resources Development Bureau does the tariff study, hence, there are problems in setting appropriate tariffs based on the context of the woreda and the community. If expenses exceed income, a new tariff study is recommended. If the audit finds a lack of proper tariff collection, a tariff collection campaign is recommended.

In Negelle Arsi, the GTP II plan links to the zonal GTP II plan which in turn is linked to regional and national (multi-annual) targets. The plans partly consider capital investment requirements and the need to ensure sustainable service delivery (direct support and capital maintenance).

Ownership of assets is not clear and no systematic asset management mechanisms are in place. Having an up-to-date asset inventory could help in identifying immediate and future maintenance and rehabilitation needs but would require service providers and service authorities to meet responsibilities for infrastructure management. This is a major system gap.

There are no mechanisms for citizens to hold service providers accountable other than not re-electing WASHCOs members and verbally complaining to government staff or local politicians about services. Information on the performance of service providers, beyond maintenance performance, is not communicated to users.

Groundwater is the main source for improved domestic supply. The unserved rely upon unprotected wells, springs, and surface water. Protection of improved sources is poor because of livestock watering, inadequate construction standards, and lack of fencing. At the catchment level, encompassing the water resources beyond political boundaries, there are no formal structures for making decisions about water resources or addressing conflicts over water allocations or pollution.

4.1.6. Water service challenges and gaps

The challenges and gaps to provide sustainable water supply service for the woreda include:

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

4.1.6.1. Low coverage (at least basic) levels

There are insufficient water schemes in the woreda for providing water services to all. Currently, none of the kebeles have enough schemes to provide at least basic water services. Together, the water schemes have the potential to serve about 178,000 of 312,799 population of the woreda (57%). Five rural kebeles (Eddo Jiggeessa, Ashookaa, Leephis, Haraago Leemano, and Qarsaa Majaa) and one urban kebele (Leephis) have no access to water (100% unserved).

Reasons for low basic coverage include:

- **A lack of sufficient budget allocation** for the construction of new schemes as the woreda mostly allocates budget for salary. Also, budget allocation for new construction and repairs of existing broken downs schemes is low.

- Distance between the user and water points often exceeds a 30 min round trip (SDG standard) or 500m (GTP2 standard) and 1km (GTP1 standard). This is due to the **scattered settlement** of the population and an insufficient number of water points. It is not economical to construct water points for individual households or small communities. The distance between users and water facilities can reach up to 3km or beyond in the woreda, hence average fetching time is about 1 to 2 hours.
- There is a difference in **water resource potential** between kebeles. Some have good potential like shallow groundwater for dug wells, springs, and deep wells, while others only have deep groundwater potential which is costly and difficult to plan. In addition, most springs are located around rivers and contaminated by river water in the rainy season.

4.1.6.2. Frequent breakdown of schemes

At the time of the baseline, 11 rural water schemes (four hand-dug wells, two motorized shallow wells, two springs on spot, and three deep wells with distribution for up to 4000 users) were not functioning. New schemes fail a few months after commissioning because of construction quality problems and material quality. WASHCOs are not able to finance maintenance for schemes when they fail this early because an early failure does not allow WASHCOs to save money for O&M.

Reasons behind the breakdown of schemes include:

- **Low construction quality:** Most projects implemented by the government and NGOs assume community contributions in the form of labour. However, the quality of construction by the community is poor (e.g., trench excavation for pipe laying is not to the required depth or lacks straightness). This results in frequent breakdowns. The woreda is responsible for construction quality control and supervision but is unable to fulfil this role.
- **Lack of resources for maintenance:** The tariffs collected do not cover running costs, let alone major replacement costs for items such as pumps or generators. Service providers do not conduct preventive maintenance. Since communities cannot afford their costs, scheme downtime is high. In addition, budget allocation by the woreda for maintenance is not sufficient.
- **High maintenance costs of complex schemes:** For complex technology like motorized systems, maintenance is costly. WASHCOs do not have money to buy replacement spare parts, and, therefore, the service could be interrupted for even longer time.
- **Lack of spare parts:** Spare parts are not available in the local market but can be found in Hawassa (some 47 km from the woreda) or Finfinnee (some 225 km from the woreda). Apart from the caretakers and woreda, there are no spare parts or maintenance service providers.

4.1.6.3. Low levels of safely managed water services

Only an estimated 2% of the woreda population (2% in rural and 4% in urban) have access to potentially safely managed services (improved water services on premises, regardless of quality and availability issues). The number of household connections to piped schemes is limited.

The reasons behind the low number of household connections include:

- Most households in the woreda **lack the capacity to pay** for on premises connections, the average cost of the connection being ETB 3,300. Also, the process of obtaining a household connection is complicated and bureaucratic. Households appeal to the WASHCO, the WASHCO sends the request to the woreda, and the woreda conducts a study on the availability of water in the water supply line and the capacity of the source. The supply of water meters is another challenge. Water meters are supposed to be supplied by the regional water bureau, however, because the region cannot supply the required quantity, there is a lag in service provision.
- The budget allocated for new construction by the government is always less than the design cost. Hence, structure sizes are reduced to match the available funds, affecting water supply.

Water quality data is hardly available, but there are observed challenges with groundwater turbidity. The WWERDO is responsible for checking the water quality of all schemes every quarter, paying ETB 2000 to 3000 per quarter depending on the distance and number of water points to be sampled, but because of budget shortages, they are not able to conduct water quality testing as scheduled. Instead, they do ask WASHCOs to pay for water quality tests, but the WASHCOs do not have the capacity either.

Water supply for piped schemes and household connections is generally rationed and often not available when needed preventing the ability to meet the JMP standard.

4.1.6.4. Challenges with the availability of water resources

Water resource availability is not uniform throughout the woreda. Lowland kebeles have deep groundwater resources that require huge capital for development which is not manageable with the woreda budget. In addition, high fluoride levels are a common problem in the groundwater. There is also turbidity in the groundwater, but it is possible to remove turbidity of the surface water by constructing treatment plants. Because of the high capital costs, surface water has not been taken into consideration. As a result, lowland kebeles depend mostly on piped water supply from water sources from highland areas. There is a reduction in the yield of springs in highland areas because of deforestation. In addition, hand-dug wells face a shortage of water because of a drop in groundwater levels in elongated dry seasons. The same problem occurs with springs.

4.1.6.5. Challenges with presence, capacity, and performance of service providers and service authorities

The voluntary community-based service providers are generally unlicensed, unsupported, and lack the technical and financial capacity to operate and maintain the water supply facilities under their charge. The WWERDO also has challenges with staffing, budget, and logistics.

Woreda staffing is determined at the regional level. Every woreda is assigned a grade (grades A, B, and C) based on the number of kebeles and population of the woreda with grade A requiring the highest number of staff. The region defines Negelle Arsi as a grade-A woreda. According to the data collected in the planning tool of the actual staff, there are 10 staff members in the WWERDO dedicated to supporting water service provision, but there are not enough technicians for timely connection and maintenance of schemes. Positions like plumber are not filled because the salary scale is very low. Lack of assigning proper personnel at proper positions is also another problem.

There are shortages of logistics, budgeting, and available funds for expenditures for the WWERDO to undertake its functions. WASHCOs are expected to pay for support from the woreda. However, the WASHCOs do not usually pay peridium on time to experts who go to support. As a result, the next time WASHCOs request support, it will not be given on time.

WASHCOs do not have the financial or technical capacity to do maintenance. They mostly concentrate on managing the day-to-day operations. Some WASHCOs managing motorized schemes have also hired staff to operate the schemes. Payment for operation and maintenance is expected to come from the community, though this mostly happens on an ad-hoc basis.

4.2. Sanitation services

4.2.1. Sanitation and hygiene infrastructure

The most common sanitation facilities in Ethiopia are improved latrines, either with emptying or sewerage (off-site treatment) or in situ treatment, and unimproved latrines. These facilities can be private (serving a single household), shared (serving 2-10 households), or communal (serving more than 10 households). Currently, in Negelle Arsi, there are only private improved household pit latrines within situ treatment and private unimproved latrines. Improved and unimproved latrines can be found in each kebele.

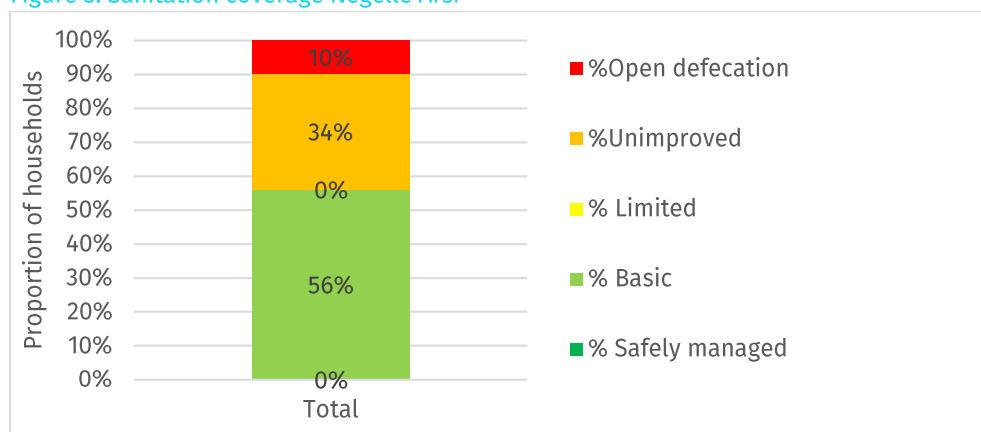
There are 1068 villages in the woreda. Five hundred seventy (570) (53.3 %) are ODF while only 349 (32.7%) have received CLTSH triggering. Triggering has caused neighbouring communities to achieve open defecation free status as well.

4.2.2. Sanitation and hygiene service levels

The total number of improved latrines amounts to 24,589, covering 56% of the population, and the number of unimproved latrines amounts to 15,228, covering 34% of the population, with only 10% of the population practicing open defecation. There are no facilities for the collection and treatment of faecal sludge. None of the improved latrines have proper in-situ treatment, with proper lining, not contaminating groundwater, and are not covered when full.

Figure 3 shows sanitation service levels in Negelle Arsi. In addition, there are no households with handwashing facilities, which makes service levels for hygiene 0% at the baseline.

Figure 3: Sanitation coverage Negelle Arsi



However, it should be noted that there is a lack of a proper definition of the sanitation and hygiene ladder. There are different definitions of improved and unimproved sanitation facilities and open defecation. This makes it difficult to track which villages have sanitation services and which are ODF. Once declared ODF, most villages fall back to old habits and resume open defecation practices. With One WASH National Program funding, many kebeles were declared ODF, but there was no follow-up, and their status is unknown at this moment. In addition, there are no households with handwashing facilities.

4.2.3. Sanitation and hygiene approaches

The main approaches towards improving sanitation and hygiene in Negelle Arsi Woreda are Community-led Total Sanitation and Hygiene (CLTSH), School-led Total Sanitation and Hygiene (SLTSH), sanitation marketing, and the production of Information Education Communication (IEC) and Behaviour Change Communication (BCC) materials.

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

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

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

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

4.2.4. Sanitation and hygiene service challenges and gaps

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

the enabling environment and demand creation. In addition, the government is responsible for the construction of facilities in public areas, schools, health care facilities, and communal latrines.

Despite the high number of household latrines in the woreda, challenges remain, such as:

- Prevalence of open defecation
- Prevalence of unimproved household latrines
- Lack of safely managed facilities
- Challenges with the presence, capacity, and performance of service providers and authorities

4.2.4.1. Challenges with coverage (at least basic) levels

Almost half of the villages (47%) have not attained open defecation free status yet. An estimated 10% of the households do not have household latrines. Also, about 34% of the population have unimproved household latrines. Reasons for low basic coverage include:

- **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. In addition, the community lacks technical capacity.
- **Lack of capacity** to upgrade from unprotected to protected sanitation facilities.
- The community considers latrine construction a favour for health extension workers and not for themselves

4.2.4.2. Challenges with levels of safely managed sanitation and hygiene services

Safely managed services are not available in the woreda for many reasons, including:

- Lack of well-lined pit latrines without groundwater contamination
- Lack of the practice of covering up full pit latrines and constructing a new one
- Lack of latrines which allow for off-site treatment (e.g., with septic tank) and lack of faecal sludge management facilities in the woreda
- No practice of using the sludge as compost

4.2.4.3. Challenges with presence, capacity, and performance of service authorities

The woreda water office is the service authority for sanitation and hygiene through approaches described in section 4.2.2. The woreda water office carries out these approaches through health extension workers. The CLTSH approach was fruitful at the beginning, but because of the lack of follow-up, it is no longer working. CLTSH triggering was done in some villages, and neighbouring villages are assumed to be triggered by diffusion.

Health extension workers perform most sanitation and hygiene activities. There are two health extension workers per kebele. With an average of 1,221 households per kebele, there are about 610 households per health extension worker. Health extension workers are required to reach all households in a month, which, assuming a 20-day work week, means visiting about 30 households per day. The health extension workers have a high workload with the number of households they need to reach and the area they need to cover. In addition, WASH is a small part of their responsibilities.

Additional challenges in implementation of CLTSH approach include:

- Shortage of budget for monitoring, support, and supervision
- Lack of accountability of health extension workers
- There is lack of behaviour change in the community, even following triggering

4.2.4.4. Challenges to establishing sanitation marketing enterprises

There is a lack of a trained workforce for the sanitation marketing approach within the Woreda Health Office. Even with training, there are limited resources to establish a sanitation marketing centre. There is shortage of logistic and finance for the activity.

4.3. Institutional WASH

4.3.1. Institutional WASH infrastructure

There are currently 98 schools and 44 health care facilities (seven health centres and 37 health posts) in the woreda. Some kebeles have more than one school to prevent long-distance walking for children (a maximum of 3km as per the standard). Most of the schools were constructed by the community to address issues of access without standard design and sufficient WASH facilities.

Table 10 presents an overview of WASH services in schools. No schools in the woreda have handwashing facilities, 16 schools do not have sanitation facilities, and 59 schools do not have water facilities.

Table 10: WASH facilities in schools

Total number of schools	Service level	Water	Sanitation	Hygiene
98	Basic	39	82	0
	Limited	0	0	0
	No service	59	16	98

Table 11 presents an overview of WASH services in health care facilities. Half of the health care facilities have basic water service. Most of these health facilities were connected to community water supply systems using funding from the Consolidated WASH Account of the One WASH National Program. Half of the health care facilities have no sanitation facilities, while the other half have limited service. All health care facilities have handwashing facilities with water and soap, or alcohol rub available at the point of care. However, only two health care facilities have handwashing facilities with water and soap available at the latrine bringing the number of health care facilities with basic hygiene services to two and those with limited hygiene services to 42. Most health care facilities do not have waste management facilities or environmental cleaning practices in place.

Table 11: WASH facilities in health care facilities

Total number of health care facilities	Service level	Water	Sanitation	Hygiene	Waste management	Environmental cleaning
44	Basic	23	0	2	0	0
	Limited	0	22	42	7	7
	No service	21	22	0	37	37

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 40% of the schools and 52% of the health care facilities have water services, 84% of the schools and 0% of the health care facilities have sanitation services and 0% of the schools and 5% of the health care facilities have hygiene facilities. In addition, 0% of the health care facilities have basic waste management or environmental service levels.

Figure 4: School WASH service levels

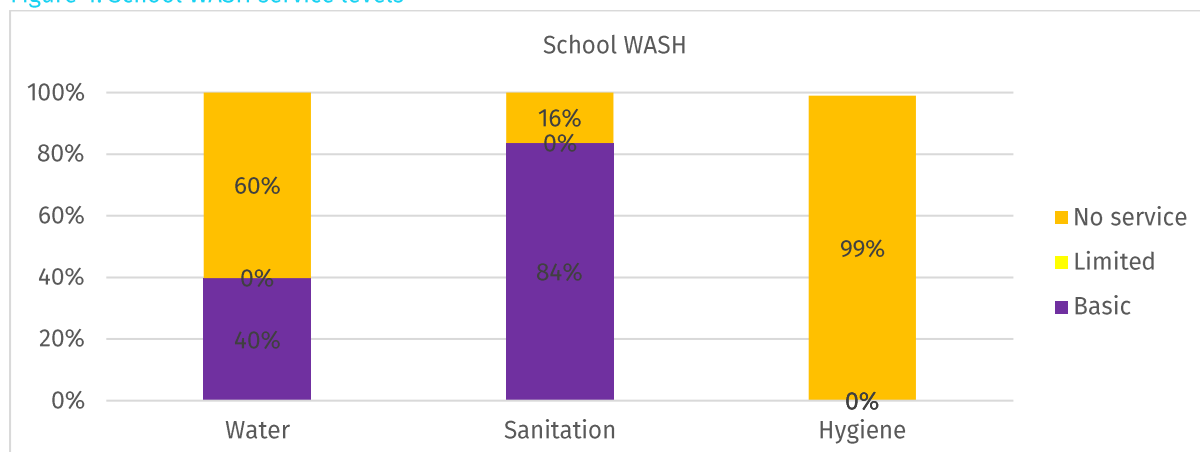
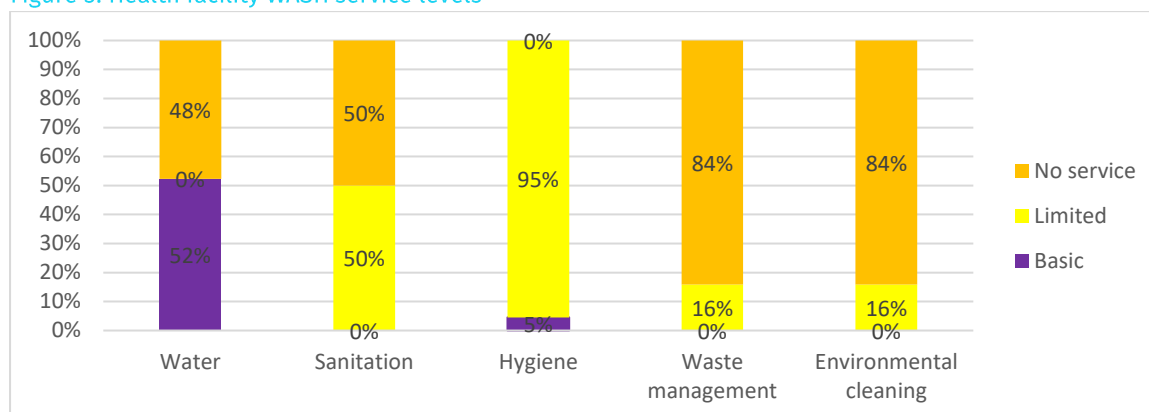


Figure 5: Health facility WASH service levels



4.3.3. Institutional WASH challenges and gaps

4.3.3.1. Challenges having at least basic water, sanitation, and hygiene services

According to the baseline data, only 40% of the schools and 52% of the health care facilities in the woreda have basic water services. The main challenges include:

- The institutions do not have the budget or technical capacity to construct their own 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. In addition, neither the government nor NGOs allocate budget for connections, schools and health care facilities get connection to water supply systems mostly through the consolidated WASH account (CWA) funding.
- Health posts in rural areas are far from existing water systems.
- In lowland kebeles, there is little potential for hand-dug wells.

Many of the schools (84%) have basic service and 50% of the health care facilities have limited sanitation facilities. Underlying reasons which make it difficult for all schools and health care facilities to have basic sanitation facilities include:

- Many schools and health care facilities are constructed with community contributions, both materials and labour, but full WASH facilities cannot be constructed with materials that are contributed by the community alone due to the need for industrial products that are too expensive and cannot be obtained as well as the general lack of finance for other construction costs.
- There is a lack of clarity on the criteria for basic sanitation with national criteria differing from the JMP criteria.
- Many health posts and schools are constructed with community contribution. Therefore, latrines are constructed from low-quality material, making them susceptible to damage.
- For institutions constructed by the community, the community leaves out the construction of improved latrines due to lack of finance which leaves most institutions without any facility.
- Schools are expected to improve their sanitation infrastructure by generating income but have limited capacity.
- Community construction focuses on access rather than meeting standards. Most of the sanitation and hygiene facilities that meet standards are constructed by NGOs.

None of the schools have handwashing facilities. Most health care facilities have handwashing facilities with water and soap (or alcohol rub) at the point of care since the COVID-19 pandemic, but not at latrines. Because of the lack of attention, there are no functional handwashing facilities at latrines in most health care facilities, even when they have water supply connections.

4.3.3.2. Challenges with presence, capacity, and performance of service providers and authorities

There is supposed to be a staff member responsible for environmental hygiene at every health centre. At health posts, the deputy is responsible for WASH activities. There are vacant positions (expert positions) at health

centres and posts that need to be filled for better performance. This is due to budget allocation problems and institutional structure issues.

Health extension workers provide awareness creation for school WASH facilities and work with school WASH clubs. However, awareness creation, supervision, support, and monitoring are not uniform in all schools because of the inconsistent implementation of the huge number of duties health extension workers are responsible for.

There are no WASH specialists at the school level and no proper training has been given to school staff. The schools' directors, teachers, and parents' committees supervise the facilities, but their knowledge is limited. Cleaning of latrines is done by students on a weekly basis. There are also WASH and environmental cleaning clubs at the school level, but they are generally not effective.

There is no specific budget allocated from the woreda to WASH in schools for support, follow-up, and major maintenance. Schools are expected to improve infrastructure from their own income like farming and community contributions.

5. Woreda vision and targets

5.1. Woreda vision and targets for water supply

The Negelle Arsi Woreda planning team 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 57% of people served with at least basic services (50% in urban areas and 57% in rural areas). The woreda has envisioned having 30% of the total population served with safely managed water services with 100% of the urban population accessing safely managed water services and 25% of the rural population accessing safely managed water services (Table 12).

Table 12: Negelle Arsi Woreda vision for 2025 and 2030 based on SDG definitions

	2019 baseline	2025 vision	2030 vision
% Served	57%	89%	100.0%
% Served – basic	55%	78%	70%
% Served - safely managed	2%	11%	30%
RURAL			
% Served	57%	89%	100%
% Served – basic	55%	81%	75%
% Served - safely managed	2%	8%	25%
URBAN			
% Served	50%	87%	100%
% Served – basic	46%	50%	0%
% Served - safely managed	4%	37%	100%

5.2. Woreda vision and targets for sanitation and hygiene

The Negelle Arsi Woreda planning team has envisioned achieving 100% coverage with basic sanitation services by 2030. This is a big step up from the current 56% of people served with basic services. There is no plan for safely managed sanitation service because the woreda has no plan for stimulating the construction of latrines which require off-site treatment nor for implementation of a faecal sludge management facility. In addition, the woreda envisions having 100% of households having handwashing facilities with soap and water (Table 13).

Table 13: Negelle Arsi Woreda vision for 2025 and 2030 based on SDG definitions

	2019 baseline	2025 vision	2030 vision
SANITATION			
% HH Safely managed	0%	0%	0%
% HH Basic	56%	84%	100%
% HH Limited	0%	0%	0%
% of HH Unimproved	34%	13%	0%
% HH Open defecation	10%	3%	0%
HYGIENE			
% HH basic	0%	68%	100%
% HH limited	0%	0%	0%
% HH no service	100%	32%	0%

5.3. Woreda vision and targets for institutional WASH

The Negelle Arsi Woreda planning team envisions achieving 100% coverage with basic water, sanitation, and hygiene services for all schools by 2030. This is a big step up from the current water, sanitation, and hygiene service of 2%, 84%, and 0% respectively in the schools (Table 14).

Table 14: Negelle Arsi Woreda 2025 and 2030 vision for school WASH

	2019 (Baseline)	2025 vision	2030 vision
Number of schools	98	100	104
% schools with basic water	2%	27%	100%
% schools with basic sanitation	84%	91%	100%
% schools with basic hygiene	0%	100%	100%

The Negelle Arsi Woreda planning team envisions achieving 100% coverage with basic water, sanitation, hygiene, and waste management services for all health care facilities by 2030. This is a big step up from the current sanitation, hygiene, and waste management service of 0%, 5%, and 0%, respectively, in health care facilities. Water service is higher, with 52% of health care facilities having basic water service (Table 15).

Table 15: Negelle Arsi 2025 and 2030 vision for health care facility WASH

	2019 baseline	2025 vision	2030 vision
Number of health care facilities	44	49	54
% health care facilities with basic water	52%	78%	100%
% health care facilities with basic sanitation	0%	80%	100%
% health care facilities with basic hygiene	5%	100%	100%
% health care facilities with basic waste management	0%	59%	100%
% health care facilities with basic environmental cleaning	0%	100%	100%

6. Strategic directions

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

6.1. Water services

Table 16 shows the actual population served (2019), the required population to be served by 2030 as per the vision, and the additional population to be served.

Table 16: Projected population and population unserved

	2019 baseline	2030 vision	Additional number of people served
Total population	312,799	419,315	106,516
People served	177,936 (57%)	419,315 (100%)	241,379
People served – basic	171,522 (55%)	290,554 (69.3%)	119,031
People served - safely managed	6,414 (2%)	128,761 (30.7%)	122,347

In 2019 there were an estimated 177,936 people (57%) served by existing, functional water schemes including 6,414 people with (potentially) safely managed services. Going from the current situation to the vision of provision of sustainable services to all by 2030 and access to safely managed services to at least 30% of the woreda requires:

- Ensuring that an additional 241,379 people have access to at least basic services by 2030
- Ensuring an additional 119,031 people have access to safely managed water services by 2030
- Ensuring sustainability of water services

The strategic directions for going from the current water service situation towards the set vision, therefore, include strategic directions related to:

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

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

Strategic directions for ensuring that 100% of the population will have access to at least basic water services in 2030 include:

- Rehabilitation of broken-down schemes
- Construction of new schemes

Together the proposed strategies are expected to ensure 419,233 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, three deep wells with distribution schemes for up to 4000 people, two springs on spot, and two motorized shallow wells were not functional. The plan is to have these facilities rehabilitated in the first three years of implementation of the Woreda WASH SDG Master Plan (2020-2022).

Deep well pumps and generators are costly to replace. Pumps and generators tend to get damaged because of operational faults and the lack of preventive maintenance. As these are costly to replace, capacitating caretakers and ensuring that they can operate the schemes and undertake effective preventive maintenance will be key.

To ensure this objective, the proposed actions include:

- Establish WASHCOs on point sources to manage schemes and set and timely collect tariffs for maintenance
- Strengthen WASHCOs to plan operation and maintenance, support and monitor preventive maintenance, and regularly evaluate performance

- Advocate to prioritize the rehabilitation of non-functional schemes in fund allocation by all WASH actors (Community, government, NGOs, and private sector)
- Legalise WASHCOs
- Strengthen quality control during construction and replacement
- Increase support to water point with a timely visit from woreda staff

6.1.1.2. Implementation of new schemes

A mix of self-supply options and community-managed point sources, such as springs on spot and communal hand-dug wells, and community-managed piped schemes (springs and deep wells with different sizes of distribution networks) are planned to be implemented (Table 17).

Table 17: Number of water schemes to be implemented

Service delivery model	Type of scheme	Planned additional new schemes
Self-supply	Rainwater harvesting	6
	Cistern	2
	Self-supply hand dug well	3
Community managed point sources	Hand dug well	14
	Spring on spot	8
Community-managed well or borehole with distribution scheme	Motorized shallow well	2
	Shallow well with motorized pump	1
	Deep well with distribution - up to 1000 users	8
	Deep well with distribution - up to 2000 users	4
	Deep well with distribution - up to 4000 users	13
	Deep well with distribution - up to 5000 users	5
Community-managed spring with distribution scheme	Spring with small distribution- up to 1000 users	17
	Spring with large distribution - up to 5500	10
	Ashoka Lephis spring with distribution	0.8
	Goben Gabello spring with distribution	0.2

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

- Prioritize kebeles with low and no coverage
- Promote self-supply
- Implement multi-village/ multi-kebele schemes for the lowland areas
- Where availability of water resources allows, expand of pipelines to unserved areas will be considered

To ensure this happens, the proposed actions include:

- Promote the coordination of all WASH actors, i.e., NGOs, communities, government offices, and other investors to address the water supply problems in lowland kebeles
- Develop proposals and apply for funds for support from development partners
- Use the SDG plan to lobby for finance from government, NGOs, and other investors
- Protect the environment around spring sources by planting trees that do not consume water
- Convey water from available areas to areas where there are a shortages

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

To achieve the vision of having safely managed water services for at least 25% of the rural population and 100% of the urban population of the woreda, sufficient people in the woreda need access to water services on premises, water is available when needed, and it is free from contamination.

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

To achieve the vision of having 25% safely managed water services in the rural areas and 100% in the urban areas, a total of 20,391 households must get access to water supply on premises through self-supply options on premises or through household connections to piped schemes.

Self-supply options like rooftop harvesting in lowland kebeles and improved hand-dug wells in highland kebeles where shallow groundwater is feasible can contribute to meeting the 2030 vision. To ensure this, the proposed actions include:

- Strengthening awareness creation and mobilization activity for the construction of rainwater harvesting in lowland kebeles
- Awareness creation on the benefits of having their own supply source and mobilizing households to construct hand-dug wells

However, the number of people to gain access to water supply on premises through self-supply is expected to be limited.

There is potential to ensure water supply on premises through household connections considering the presence of many piped schemes. An additional 14,576 households in urban areas and 5,190 households in rural areas are expected to have connection.

To increase the number of household connections, the proposed actions to be undertaken are:

- Community awareness creation of household connections (social, health, and economic benefits)
- Develop additional sources to increase water supply
- Improve the supply of water meters

Stimulation of self-supply options and household connections is expected to result in 30% of the population (100% in urban areas and almost 25% in rural areas) to have access to water supply on premises.

6.1.2.2. Ensuring reliable, continuous piped water supply

Currently, water is rationed in the woreda because of a shortage of water. To ensure reliable, continuous water supply, the following proposed actions are to be undertaken:

- Additional source development and expanding existing sources
- Awareness creation and capacity development of WASHCOs for timely reporting and undertaking action related to water facility breakdowns
- Improve spare part supply and provision of maintenance services
- Provide timely preventive and minor maintenance including timely replacement of valves, leakage detection, and maintenance on pipelines, etc., to avoid long downtime of schemes

6.1.2.3. Ensuring water services free from contamination

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

- Water quality testing on a regular basis. The WWERDO is responsible for water quality monitoring and treatment
- Awareness creation at the household level to ensure good water quality during fetching and transportation, use and storage
- Awareness creation to ensure household-level water treatment practices
- Create awareness, stimulate, and enable source protections by fencing the sources, ensure proper depth of installation of pipes, regularly wash water hauling equipment, and environmental sanitation of water points
- Construction of treatment plant for treating turbidity in all areas where the groundwater has water quality problems.

6.1.3. Strategies for ensuring sustainable water service provision

Strategies to improve the sustainability of water services include:

- Establishment, legalization, and strengthening of both WASHCOs and water board (a multi-kebele water system governance body established by WASHCOs)
- Improve tariff setting and revenue collection
- Improve spare part supply and preventive maintenance services
- Strengthen monitoring and record keeping by WASHCOs
- Improve water resource protection
- Address human and financial resource constraints at the woreda level

6.1.3.1. Establishment, legalization, and strengthening of WASHCOs and water boards

Hand pumps and springs on spot currently do not have WASHCOs, hence, no tariff is collected. If there is a requirement for maintenance, the communities contribute on an ad-hoc basis.

WASHCOs have many mandates including planning for new connections, maintaining water points, following up on repayment of revenues unlawfully spent by water point attendants collecting tariffs, conducting preventive maintenance, purchasing fuel, or paying power costs, changing taps, and supervising caretakers and water point attendants. Most do only some of the tasks they are required to do. Hence, they need to be strengthened to discharge their roles and responsibilities better. For this, the proposed activities to be undertaken include:

- Establish WASHCOs on all systems and make sure tariffs are collected for operational activities
- Evaluate the performance of WASHCOs and water board members and replace inactive members regularly
- Legalize WASHCOs by establishing Water User Associations and Water User Federations, both being the standard legal authority under the regional WASHCO proclamation.
- Plan for regular awareness creation, capacity building, and monitoring and evaluation to strengthen the service provision by WASHCOs.
- Cluster WASHCOs with utilities and create rural utilities for multi-kebele schemes. Clustering is a service delivery model where utilities that have technical capacity on operation and maintenance support nearby community-managed systems
- Upgrade multi-village/kebele water supply system to rural utilities

6.1.3.2. Ensure tariff setting and revenue collection of community-managed schemes

As WASHCOs are responsible for the operation and maintenance of community-managed water facilities, regular revenue collection through tariffs is a key element for ensuring sustainable water service provision in the woreda. Currently, tariff setting and revenue collection by WASHCOs is a challenge in the woreda and poses a serious sustainability challenge. Proposed actions to improve this include:

- Ensure tariffs are in place for all improved schemes, strengthen collection, and put a mechanism in place to monitor tariff collection and record keeping
- Stimulate and ensure timely tariff revision to ensure sustainable service provision. This should be done by WASHCOs in consultation with the community
- Advocate for tariff setting at woreda level, not regional level since the woreda knows the context of the community
- Ensure WASHCOs have a savings account

6.1.3.3. Strengthen spare part supply and maintenance services

Strengthening spare part supply and maintenance services improves scheme functionality and reduces downtime contributing to more reliable and sustainable water services. Proposed actions to ensure that spare part supply and maintenance services are strengthened include:

- Establishing and strengthening the spare part and maintenance enterprise
- Ensure that each piped scheme has fast-moving spare parts in stock
- Ensure timely replenishment of spare part stocks
- Encourage construction material suppliers to engage in the supply of spare parts for water supply schemes

6.1.3.4. Strengthening monitoring and record keeping by WASHCOs

Monitoring and record keeping by WASHCOs are both key for ensuring sustainable water service provision. It helps to detect problems before they escalate so problems can be addressed in a timely manner.

Proposed actions to be undertaken include training, follow-up, and monitoring of WASHCOs:

- WASHCOs undertake regular sanitary inspections of the schemes they manage. This includes regular monitoring of infrastructure from sources to water points including source protection measures, fencing of all system components, checks for drainage and leakage around the source and water points, and monitoring of the distance of pack animals from water points to understand potential groundwater pollution
- WASHCOs set tariffs and keep good financial records
- WASHCOs undertake regular sanitation and hygiene education at water points

6.1.3.5. Water resource protection

Ensuring water resource availability is key for ensuring sustainable water service provision. To ensure resource availability, WASHCOs are recommended to replace water-consuming trees and plant alternative trees to improve sources. In addition, the above-mentioned actions related to sanitary inspections are expected to contribute to ensuring sustainable water resource potential.

6.1.3.6. Addressing human financing resource constraints at the woreda level

Many of the proposed actions related to ensuring sustainable water service provision require a strong, well-funded, and capacitated service authority. However, the number of WWERDO staff is insufficient for the service that needs to be provided. The office is currently using staff from other departments that have similar professions and experience. There is a need to:

- Discuss with the region to improve staffing and advocate for additional budget allocation to fill the staffing gap
- Assign proper professionals at the right positions
- Consider having two technicians on one post so they can support and learn from each other
- Improve the salary scale of plumbers to encourage interest for the position
- Provide regular skill-upgrading training and on-job training to caretakers, water boards, and plumbers

6.2. Sanitation and hygiene services

Table 18 presents the current and projected 2030 population and number of households based on the number of people and households per kebele according to WHO data. It also shows the number of households with unimproved and basic sanitation and hygiene services. There was no data on the existing shared latrine facilities. Hence, it is assumed as non-existent.

Table 18: Population water sanitation services, baseline and 2030

	2020 baseline	2030 vision	Additional
Population	210,060	281,591	71,531
Number of households	43,968	58,940	14,972
SANITATION			
% HH served - open defecation	10%	0%	
% HH served - unimproved	34%	0%	
% HH served - limited	0%	0%	
% HH served - basic	56%	100%	
% HH served - safely managed	0%	0%	
HYGIENE			
%HH basic	0%	100%	
%HH limited	0%	0%	
%HH no facilities	0%	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:

- An additional 14,972 households construct their own latrines due to population growth
- The existing 4,371 households that currently do not have a latrine construct their own latrines

- 15,008 households that currently have unimproved latrines upgrade to improved latrines
- 58,940 households will have hand washing facility with soap and water

To ensure this is done sustainably, households will need to be stimulated to maintain their sanitation facilities and cover them 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 social marketing approach will require strengthening of the Woreda Health Office capacity and performance.

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

The CLTSH approach includes the following activities:

- Training of trainers on CLTSH approach
- Orientation on CLTSH for kebele volunteers: Orientation of two volunteers per village so they can implement CLTSH triggering including awareness creation on contamination and use of sanitation and hygiene facilities
- Post triggering support including technical support (five persons/woreda)
- Verification, certification, and recognition of ODF villages

Once villages and kebeles have been declared ODF, there should be monitoring and follow-up so that people do not fall back into old behaviours. In 2020, 570 of 1068 villages were reported as 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. Triggering in certain villages is expected to result in surrounding villages taking up good sanitation and hygiene practices, moving away from open defecation, and constructing improved household latrines. Therefore, the strategy is not to target all non-ODF villages for triggering, but only 235 villages, identified by the woreda, until 2030. Post ODF follow-up will take place in all villages which have received triggering. The WHO will also work on advocacy for increasing the number of health extension workers per kebele based on the population.

6.3. Institutional WASH

The number of schools is expected to increase from 98 in 2020 to 104 in 2030, and the number of health care facilities is expected to increase from 44 in 2020 to 54 in 2030. To go from the current situation towards the 2030 vision with all schools and health care facilities having sustainable WASH services, there is a need for:

- Construction of adequate WASH facilities in six new schools and ten new health care facilities
- Ensure adequate WASH facilities in the 98 existing schools
- Ensure adequate WASH facilities in the 44 existing health care facilities
- Ensure sustainability of WASH facilities through WASH promotion

6.3.1. Construction of WASH facilities in new schools and health care facilities

Each of the six newly constructed schools and ten new health care facilities will incorporate WASH facilities in their design and implementation which includes:

- Connection to the piped scheme or standalone water supply system
- Sex-separated functional and usable improved pit latrines
- Handwashing facilities (in case of health care facilities at both point of care as well as at the latrine)

6.3.2. Ensuring WASH service provision in existing health care facilities

WASH facilities to be implemented in health care facilities include:

- Water facilities in 21 existing health care facilities
- Functional and usable improved latrines in 22 existing health care facilities. At least one sex-separated with menstrual health facilities and at least one accessible for people with a disabilities
- Handwashing facilities at latrines in all health care facilities

Many health care facilities were constructed when no water was available in the vicinity. Now pipe water supply systems are available in the vicinity of most of these institutions and they are able to connect to these systems. There are also many health facilities that were constructed through community contributions which were unable to afford to pay for a connection. The WHO must budget for connections to nearby water supply systems or for the construction of standalone systems when not possible. Hence, the WHO must work closely with partners and regional government to allocate funds for connections. In lowland kebeles without easy access to piped water supply, rooftop rainwater harvesting schemes are proposed to be constructed.

Improved pit latrines are to be constructed in unserved health care facilities. This should include at least one latrine for staff, at least one sex-separated latrine with menstrual hygiene facilities, and at least one accessible for people with a disability.

Health care facilities without a sex-separated latrine with menstrual health facilities will be stimulated to put these in place through support on improving the standard design. Similarly, all health care facilities will have to put in place facilities enabling access to at least one latrine for people with disabilities.

6.3.3. Ensuring WASH service provision in existing schools

WASH facilities to be implemented in schools include:

- Water facilities in 59 unserved schools: Emphasis will be on connecting schools to piped schemes. Protected dug wells will be constructed where piped connections are not applicable.
- Sex-separated functional and usable improved pit latrines in 16 unserved schools
- Handwashing facilities with water and soap in all schools

6.3.4. Strengthening service provider and service authority capacity and performance

The main strategies and activities for ensuring basic WASH service target in institutions by 2030 are:

- Increase community participation
- Behavioural change and training for health care facility staff
- School WASH promotion
- Increased attention to monitoring and support to institutional WASH by WHO and WEO.

7. Costing and financing

This section presents the estimated water services, sanitation and hygiene, and institutional WASH expenditures required to reach the 2030 vision as presented in Section 5 based on the strategies presented in Section 6. Each section presents the estimated required costs for reaching the 2030 vision, including:

- Capital Expenditure (CapEx),
- Capital Maintenance Expenditure (CapManEx),
- Operation and Minor Maintenance Expenditure (OpEx),
- Direct Support Costs (ExpDS)

The costs are calculated considering an assumed annual inflation rate of 10% from the Oromia Region Finance and Economic Cooperation Bureau and an exchange rate of ETB 37.66 from the Commercial Bank of Ethiopia as of November 2020. 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 water vision for the woreda are:

- Taxes: Expenditure by government, paid for through tax revenues.
- Tariffs: User contributions, in the form of volumetric or time-based (e.g., monthly) tariffs and other user contributions such as contributions to CapEx of new 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 CapEx 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. Unit cost for CapEx covers study and design, contract administration, and construction supervision costs. The unit cost has taken into consideration infrastructure design and construction. Table 19 presents an overview of the number of assets to be developed and the unit costs.

Table 19: CapEx unit costs and number of planned schemes

Water supply system	Unit Cost CapEx New (ETB)	Unit Cost CapEx New (USD)	Number of planned schemes
Household connections	3,300	88	19,766
Self-supply options			
Rainwater harvesting	82,500	2,191	6
Cistern	220,000	5,842	2
Self-supply hand-dug well	110,000	2,921	3
Communal point sources			
Hand dug well	110,000	2,921	14
Spring on spot	330,000	8,763	8
Wells with distribution schemes			
Motorized shallow well	1,540,000	40,892	3
Deep well with distribution system - up to 1000 users	2,750,000	73,022	8
Deep well with distribution system - up to 2000 users	5,500,000	146,044	4
Deep well with distribution system - up to 4000 users	11,000,000	292,087	13
Deep well with distribution system - up to 5000 users	13,750,000	365,109	5
Springs with distribution schemes			
Spring with small distribution system - up to 1000 users	1,815,000	48,194	17
Spring with medium distribution system (motorized/gravity)	4,510,000	119,756	20
Spring with large distribution system - up to 5500 users	9,900,000	262,878	10
Ashoka Lephis spring with distribution system	10,396,000	276,049	0.8
Goben Gabello spring with distribution system	22,000,000	584,174	0.2

The total required CapEx for new schemes is ETB 871 million (23 million USD) and ETB 141 million (3.7 million USD) for household connections, with an average per year of ETB 73 million (1.9 million USD) and ETB 12 million (320 thousand USD), respectively.

7.1.1.2. Capital Maintenance Expenditure (CapManEx)

CapManEx includes the costs of repairs and rehabilitation of currently broken-down schemes and the future costs of major repairs, rehabilitation, and replacement of major components. 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 20 gives an overview of the expected costs of required repairs for the 11 currently broken-down schemes.

Table 20: Costs of repairs of broken-down schemes

Non-functional schemes requiring repairs	Number of schemes	Unit cost for rehabilitation per scheme (ETB)	Unit cost for rehabilitation per scheme (USD)
Hand dug wells	4	22000	584
Motorized shallow well	2	154,000	4089
Spring on spot	2	33000	876
Deep well with distribution - up to 4000 users	3	1,100,000	29,209

The estimated required CapManEx is estimated based on the CapEx divided by the expected lifespan (Table 21).

Table 21: CapManEX unit costs

Water supply system	Expected minimum lifespan	Unit costs CapManEx (ETB/year)	Unit costs CapManEx (USD/year)
Self-supply			
Rainwater harvesting	10	8250	219
Cistern	10	22000	584
Self-supply hand-dug well	5	22000	584
Communal water points			
Hand dug well	5	22000	584
Spring on spot	10	33000	876
Wells with distribution scheme			
Motorized shallow well	10	154,000	4089
Deep well with distribution - up to 1000 users	10	275,000	7302
Shallow well fitted with motorized pump	10	154,000	4089
Deep well with distribution - up to 2000 users	10	550,000	14,604
Deep well with distribution - up to 4000 users	10	1,100,000	29,209
Deep well with distribution - up to 5000 users	10	1375,000	36,511
Spring with distribution scheme			
Wotars spring with distribution	10	100,000	2,655
Spring with small distribution - up to 1000 users	10	181,500	4819
Spring with medium distribution system (motorized/gravity)	10	451,000	11,976
Spring with large distribution - up to 5500	10	990,000	26,288
Ashoka Lephis spring with distribution	10	1,039,600	27605
Dabale spring with distribution	10	1,500,000	39,830
Goben Gabello spring with distribution	10	2,200,000	58,417
Mume Hawulo spring with distribution	10	4,000,000	106,213
Goljo spring with distribution	10	21,000,000	557,621

Considering the number of schemes requiring CapManEx per year and inflation, the required CapManEx has been estimated as 4.16 million ETB (111 thousand USD) for the rehabilitation of currently broken-down schemes and 1,646 million ETB (43.7 million USD) for regular CapManEx with an average per year of ETB 347 thousand (9.2 thousand USD) and ETB 137 million (3.6 million) USD), respectively.

7.1.1.3. Operation and Minor Maintenance Expenditure (OpEx)

The required OpEx is estimated by calculating the required annual expenditures for 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 22 gives an overview of the annual OpEx per scheme type.

Table 22: OpEx unit costs ETB/year

	Number of users	Preventive & minor maintenance	Salary	Spare parts	Transport	Power	Total OpEx
Self-supply options							
Rainwater harvesting	6	4750	0	9000	200	0	13950
Cistern	30	2500	0	9000	200	0	11700
Self-supply hand-dug well	160	3950	0	9000	200	0	13150
Communal water point							
Hand dug well	400	2500	0	0	200	0	2700
Hand dug well 2	2600	3750	0	9000	200	0	12950
Spring on spot	1500	3550	0	0	200	0	3750
Well with distribution							
Motorized shallow well	555	26450	12000	28200	200	6000	72850
Shallow well fitted with motorized pump	1450	26450	30000	2400	200	0	59050
Deep well with distribution - up to 1000 users	1000	32200	48000	28200	200	14400	123000
Deep well with distribution - up to 2000 users	2000	49000	84000	34600	200	0	167800
Deep well with distribution - up to 4000 users	4000	49250	84000	34600	200	0	168050
Deep well with distribution - up to 5000 users	5000	50750	102000	34600	200	0	187550
Spring with distribution							
Spring with small distribution - up to 1000 users	1000	27200	36000	2400	200	0	65800
Spring with medium distribution system (motorized/gravity)	1728	27900	48000	8000	200	0	84100
Spring with large distribution - up to 5500	5500	54650	90000	8800	200	0	153650
Kersa Gara deep well	6000	51750	150000	34600	200	0	236550
Goljo spring with distribution	12800	63500	216000	21600	200	0	301300
Wotars spring with distribution	15000	63500	282000	21600	200	0	367300
Mume Hawulo spring with distribution	20000	63500	162000	21600	200	0	247300
Ashoka Lephis spring with distribution	30297	63500	360000	0	200	0	423700
Dabale spring with distribution	35525	63500	152400	21600	200	0	237700
Goben Gabello spring with distribution	41650	63500	996000	21600	200	0	1081300

The total required OpEx is ETB 243 million (64.6 million USD) with an average per year of ETB 20.7 million (5.4 million USD).

7.1.1.4. Direct Support Costs (ExpDS)

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

- Planning and reporting
- Capacity building training for WASHCO and operators
- Performance monitoring
- Technical support (inventory, O&M, chlorination)
- Water quality monitoring
- Administrative support (tariff setting, conflict resolution, legalization, finance management)
- Supply of spare parts for major rehabilitation (pump, generator, grid connection, borehole rehabilitation)

Table 23 gives an overview of the required personnel. Currently, only 10 of the 14 required positions have been filled.

Table 23: Actual and required personnel Woreda Water Office

Positions	Actual (current) number of staff	Required number of staff
Scheme administration team leader	1	1
Electromechanical Engineer	1	1
Water Quality expert	2	2
Electrician	1	1
Office head	1	1
Plumber	1	2
Social promoter	0	2
Secretary	0	1
Support staff (planning, HR, & finance)	3	3
Total	10	14

Table 24 presents an overview of the estimated actual and required ExpDS in 2019. It shows that non-staff (non-salary) costs are 67% of the ExpDS. It also shows that actual expenditures on ExpDS amounts to only a bit more than half (51%) of the required expenditure.

Table 24: Annual direct support costs (yearly staff costs)

Positions	Actual 2019 staff costs	Required 2019 staff costs
Staff costs		
Scheme administration team leader	35,688	53,532
Electromechanical Engineer	45,270	72,432
Water Quality expert	92,872	117,312
Electrician	25,840	38,760
Office head	34,616	34,616
Plumber	26,180	89,760
Social promoter	0	148,608
Secretary	0	24,288
Support staff (planning, HR & finance)	74,304	74,304
Total staff costs	334,770	653,612
Non-staff costs		
Per diems	64,500	153,500
Transport costs (fuel, depreciation, maintenance)	72,000	22,000
Office costs and admin	20,000	17,500
Costs of meetings and workshops	0	70,000
Water quality testing	0	41,500
Other costs	500,000	1,000,000
Total non-staff costs	656,500	1,304,500
TOTAL ExpDS	991,270	1,958,112

Total required district support costs from 2020 to 2030 amount to ETB 46 million (1.2 million USD) with an average per year of ETB 4 million (101 thousand USD).

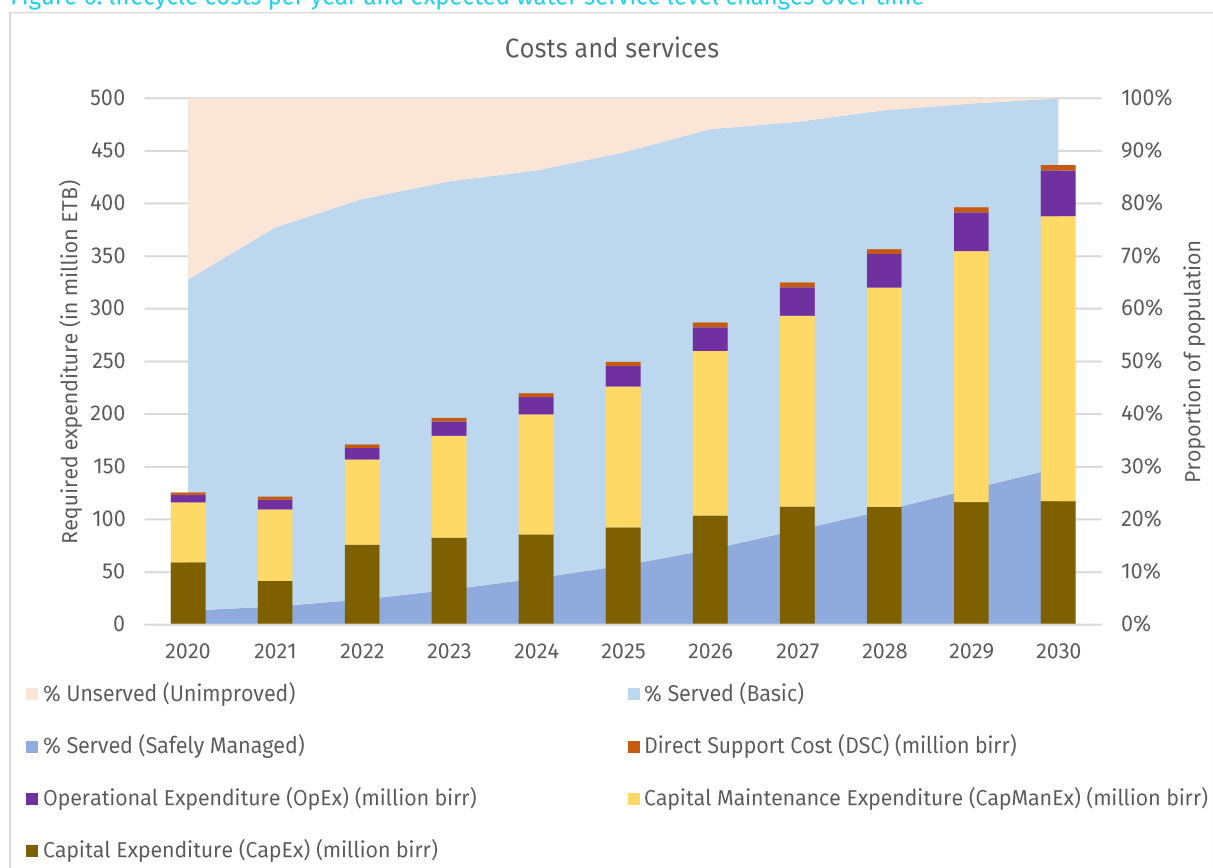
7.1.2. Projected changes in service levels and costs

Table 25 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, resulting changes in service levels. Table 25 shows in the period 2020-2030, CapManEx constitutes the largest proportion (56%) of required costs. Over the years, with an increase in the number of schemes, annual required CapManEx is expected to be higher than annual required CapEx, as shown in Figure 6.

Table 25: Total required lifecycle costs

	Total 2020 - 2030 (ETB million)	Total 2020 - 2030 (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	1,011.53	26.86	84.29	2.24	257.88	6.85
CapManEx	1,650.25	43.82	137.52	3.65	408.65	10.85
OpEx	243.26	6.46	20.27	0.54	59.29	1.57
ExpDS	45.51	1.21	3.79	0.10	12.01	0.32
Total costs	2,950.54	78.35	245.88	6.53	737.83	19.59

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

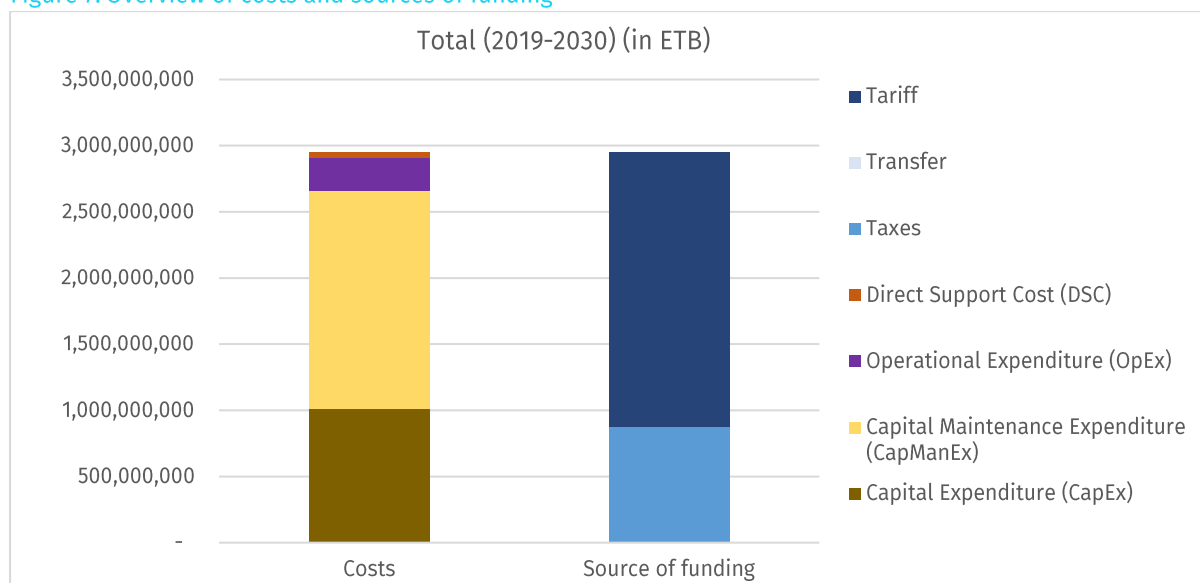


7.1.3. Funding for projected costs

Apart from household connections and self-supply, which are expected to be paid for fully through user contributions via tariffs, the government is expected to fund the main part (95%) of the required CapEx via taxes for all scheme types with users contributing the remaining 5% via tariffs. Government is responsible for major maintenance of currently broken-down schemes and the rehabilitation and replacement of ongoing systems. Provision of basic services is the responsibility of the government, but this does not mean government cannot employ different financing modalities such as increasing participation of NGOs, arranging for loans, increasing community participation, and engaging the private sector. Water users are responsible for 100% of the OpEx of all types of schemes.

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

Figure 7: Overview of costs and sources of funding



7.2. Costing and financing sanitation and hygiene services

7.2.1. Estimated required expenditures for reaching the 2030 vision

This section presents the estimated expenditures 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 existing sanitation facilities.

7.2.1.1. Capital Expenditure (CapEx)

The CapEx 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 26 presents the number of planned schemes, the planned number of villages to be triggered, and total costs.

Table 26: Sanitation CapEx unit costs

	Unit	Unit Cost CapEx (ETB per unit)	Unit Cost CapEx (USD per unit)	Total number of planned units
CapEx hardware (construction of latrines and hand washing facilities)				
Improved household pit latrines	Latrine	15,000	398	19,343
Hand washing facilities		5,000	133	58,940
CapEx software (CLTSH triggering)				
Orientation on CLTSH for kebele volunteers (2/village)	Village	1,000	38	235
TOT training on CLTSH approach	Village	40,000	1,062	235
Verification, certification, and recognition	Village	50,000	1,328	235
CapEx software (Sanitation marketing)				
Sanitation marketing centres	Woreda	200,000	5,310	1/year
Sanitation marketing awareness and demand creation for community	Woreda	100,000	2,655	1/year
Sanitation marketing training for enterprises	Woreda	50,000	1,328	1/year
Sanitation marketing campaigns	Woreda	30,000	797	1/year
Sanitation marketing implementation follow-up	Woreda	10,000	266	1/year

Total required CapEx over the period 2020-2030 is estimated to be ETB 1.06 billion (28.17 million USD) for hardware (construction of improved latrines and hand washing facilities) and ETB 231 million (6.6 million USD)

for software (CLTSH triggering, ODF verification, social marketing etc.) with an average per year of ETB 88.4 million (2.35 million USD) and ETB 19 million (549 thousand USD), respectively.

7.2.1.2. Capital Maintenance Expenditure (CapManEx)

CapManEx includes the costs of repairs and rehabilitation of sanitation and hygiene facilities. This includes the cost of the upgrades from 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 15,008 households with unimproved latrines are expected to spend 5,000 ETB (133 USD) on upgrading to an improved pit latrines in the period 2020-2030. Based on an expected lifespan of 10 years, the required annual CapManEx for improved pit latrines is estimated to amount to 1500 ETB (40 USD) per year. The required annual CapManEx for hand washing facilities is 1000 ETB (27 USD).

The total required CapManEx over the period of 2019-2030 is estimated, as shown in Table 27.

Table 27: CapManEx overview sanitation

	Total (ETB)	Total (USD)	Average per year (ETB)	Average per year (USD)	Average per year per served person (ETB)	Average per year per served person (USD)
CapManEx, upgrade	139 million	3.97 million	11.6 million	331 thousand		
CapManEx, household latrines	2.25 billion	59.86 million	187.88 million	4.99 million		
Total CapManEx	2.39 billion	63.56 million	199.47 million	5.29 million	907	24

7.2.1.3. Operation and Minor Maintenance Expenditure (OpEx)

The required OpEx includes expenditures on toilet paper, water bills, minor repairs, and soap. Annual OpEx for improved household pit latrines is estimated to amount to 1,000 ETB per year (about 27 USD per year). Annual OpEx for hand washing facilities is 500 ETB per year (13 USD per year). Table 28 gives an overview of the required annual OpEx.

Table 28: OpEx overview

	Total	Average per year	Average per year per served person
Total required OpEx	1.37 billion ETB (36.35 million USD)	114.09 million ETB (3.03 million USD)	518 ETB (14 USD)

7.2.1.4. Direct Support Costs (ExpDS)

The required ExpDS are the costs of post triggering support and costs of IEC and BCC material production. Table 29 gives an overview of the unit costs of the direct support activities. Table 30 presents an overview of the required ExpDS. The total ExpDS is ETB 187 million (5 million USD) with an average per year of ETB 15.6 million (0.45 million USD).

Table 29: Direct support costs activities and costs

	Unit	Unit Cost CapEx (ETB/unit)	Unit Cost CapEx (USD/unit)
ExpDS – post triggering CLTSH software			
Post triggering support including technical support (5 persons/woreda)	Per village	2,500	66
Post ODF follow-up	Per village	10,000	266
ExpDS – IEC and BCC production			
IEC production	Per woreda	100,000	2,655
BCC production	Per woreda	100,000	2,655
Media coverage	Per woreda	50,000	1,328

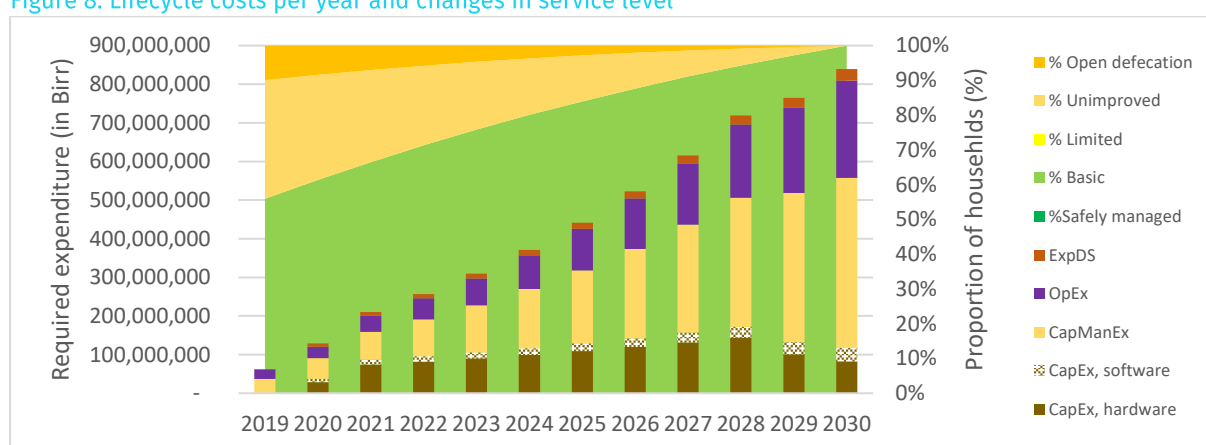
7.2.2. Projected changes in service levels and costs

Table 31 gives an overview of the total required lifecycle costs. It shows in the period 2019-2030, CapManEx constitutes the largest proportion of the required costs. Figure 8 presents an overview of the required lifecycle costs per year and the expected resulting changes in service levels.

Table 31: Total required lifecycle costs

	Total 2019 - 2030 (ETB million)	Total 2019 - 2030 (USD million)	Average/year (ETB million/year)	Average/year (USD million/year)	Average/person served/year (ETB/person/year)	Average/person served/year (USD/person/year)
CapEx, hardware	1,061	28.17	88.40	2.35	444	12
CapEx, software	231	6.13	19.23	0.51	93	2
CapManEx	2,394	63.56	199.47	5.30	907	24
OpEx	1,369	36.35	114.09	3.03	518	14
ExpDS	187	4.98	15.62	0.41	76	2

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

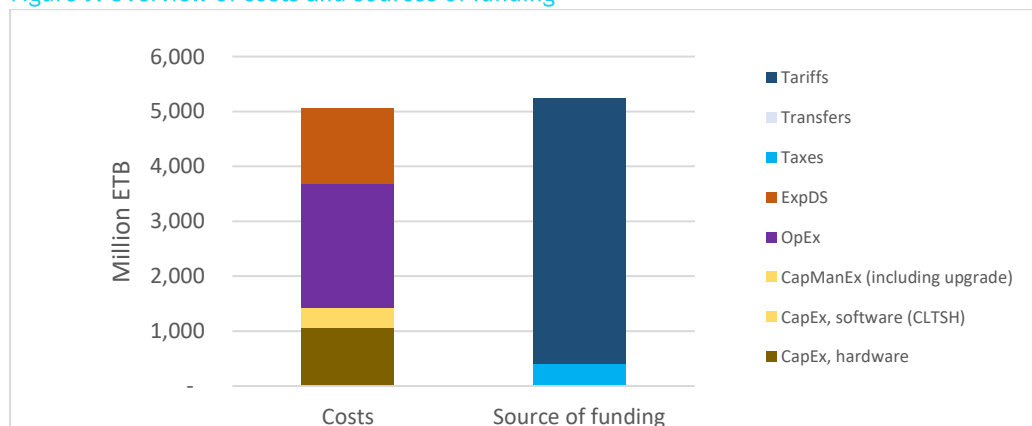


7.2.3. Funding for projected costs

This section shows the funding sources for the projected expenditures required for reaching the sanitation and hygiene vision. In Negelle Arsi, households are expected to pay for CapEx hardware, CapManEx, and OpEx, while the government pays for CapEx software and ExpDS. The inflation rate is applied to both hardware and software, but community awareness is expected to increase over time and might not require the same amount of effort as in the beginning of implementation. Hence, in practice, the fund requirement will decrease.

Figure 9 presents an overview of the required expenditures and sources of funding.

Figure 9: Overview of costs and sources of funding



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. All the required costs for institutional WASH will be covered by the government. But this does not avoid the possibility of strategizing different financing strategies by the government such as increased participation of NGOs, involving the private sector, engaging the community in new construction, and applying cross subsidy (improving tariff of households to cover the WASH bill at institutions) to finance OpEx costs.

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)	Number of units required
Water supply		
Piped water into health facility building	50,000	1
Piped water to health facility yard/plot	100,000	28
Rainwater collection	82,500	2
Sanitation		
Improved pit latrine	200,000	54
Handwashing facility		
Hand washing facility at latrine	7,000	52
Hand washing facility at point of care	10,000	32

The required CapEx is estimated based on the planned construction of new WASH facilities and their unit costs (taking inflation into account). Table 33 gives an overview of the estimated required CapEx for health facility WASH. It shows very low required CapEx for hygiene. This is because improving hygiene services is not very capital intensive, as usable hardware can be provided at very low costs,) and mainly requires appropriate behaviours and the availability of handwashing agents (soap, water, alcohol rub). This is in contrast to the cost of providing improved latrines, therefore, generally, costs are highest for capital intensive sanitation interventions in many health facilities.

Table 33: CapEx overview WASH in health care facilities

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
CapEx - Water	5.5 million	145 thousand	910 thousand	24.2 thousand
CapEx - Sanitation	15.5 million	412 thousand	2.6 million	6.6 thousand
CapEx - Hygiene	154 thousand	4 thousand	25.7 thousand	682
CapEx - Solid Waste	4.4 million	118 thousand	740 thousand	19.7 thousand
Total CapEx	25.5 million	679 thousand	4.3 million	113.1 thousand

7.3.1.1.2. Capital Maintenance Expenditure (CapManEx)

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

Table 34: CapManEx unit costs health care facility WASH

Type of facility	Expected lifespan (years)	Unit costs (ETB)
Water supply		
Piped water into health facility building	10	5,000
Piped water to health facility yard/plot	10	10,000
Rainwater collection	10	5,250
Sanitation		
Improved pit latrine	10	20,000
Handwashing facility		
Handwashing facility at latrine	5	1,400
Handwashing facility at point of care	10	1,000

The annual required CapManEx is estimated based on the presence of WASH facilities and their CapManEx unit costs, taking inflation into account. Table 35 gives an overview of the estimated required CapManEx for health facility WASH.

Table 35: CapManEx overview health care facility WASH

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
CapManEx - Water	7.4 million	197 thousand	1.2 million	32.9 thousand
CapManEx - Sanitation	16.8 million	447 thousand	2.8 million	74.5 thousand
CapManEx - Hygiene	1.9 million	50 thousand	314.6 thousand	8.35 thousand
CapManEx - Solid waste	15.5 million	411 thousand	2.6 million	68.4 thousand
CapManEx Total	41.6 million	1.1 million	6.57 million	185 thousand

7.3.1.1.3. Operation and Minor Maintenance Expenditure (OpEx)

Table 36 presents the unit costs for operation and minor maintenance of WASH facilities in health care facilities.

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

Type of facility	Unit costs (ETB/year)
Water supply	
Piped water into health facility building	20,000
Piped water to health facility yard/plot	20,000
Rainwater collection	10,000
Sanitation	
Improved pit latrine	30,000
Handwashing facility	
Handwashing facility at latrine	2,000
Handwashing facility at point of care	3,000

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 facility WASH.

Table 37: OpEx overview WASH in health care facilities (2020 – 2030)

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
OpEx - Water	14.7 million	391 thousand	2.46 million	65 thousand
OpEx - Sanitation	23.0 million	610 thousand	3.8 million	102 thousand
OpEx - Hygiene	4.3 million	114 thousand	716 thousand	19 thousand
OpEx - Solid waste	5.0 million	133 thousand	838 thousand	22 thousand
OpEx Total	47.0 million	1.25 million	7.3 million	193 thousand

7.3.1.1.4. Direct Support Costs (ExpDS)

The required ExpDS related to health facility WASH are estimated by calculating the required personnel and non-personnel costs (per diems, transport, office costs and admin, meetings and workshops), and other costs. This is related to the following direct support considering:

- Planning and reporting
- Capacity building training
- Monitoring WASH in health care facilities
- Technical support to health care facilities
- WASH promotion
- Review meeting
- Woreda WASH team meeting

Table 38 gives an overview of the required personnel. Currently, only three of the 12 required positions have been filled.

Table 38: Required personnel for support to health care facility WASH

Positions	Actual (current) number of staff	Required / desired number of staff
WASH focal person at woreda level	1	2
Office head	1	1
Planning expert	1	1
Health centre WASH staff	0	8
Total	3	12

Table 39 presents an overview of the estimated actual as well as the required 2020 ExpDS. It shows that non-staff (non-salary) costs are 86% of the ExpDS in actual costs and 59% of the ExpDS in desired costs. It also shows that the actual current expenditures on direct support is only a bit more than a third (35%) of required expenditures.

Table 39: Annual direct support costs (yearly staff costs) health care facility WASH

Posts/positions	Actual 2020 costs (ETB/year)	Required 2020 costs (ETB/year)
Staff costs		
WASH focal person at woreda level	90,560	191,987
Office head	9,651	9,657
Planning expert	9,056	9,056
Health centre WASH staff	0	705,496
Total staff costs	109,267	916,196
Non-staff costs		
Per diems	31,300	348,000
Transport costs (fuel, depreciation, maintenance)	100,800	594,000
Office costs and admin	28,000	240,000
Costs of meetings and workshops	0	132,000
Other costs	500,000	-
Total non-staff costs	660,100	1,314,000
TOTAL ExpDS	769,367	2,230,196
Total ExpDS/health care facility	17,486	50,686

Considering the expected increase in the number of health care facilities and inflation, the total required ExpDS for the period 2020-2030 is estimated to amount to ETB 16.1 million (430 thousand USD) with an average per year of ETB 2.55 million (68 thousand USD).

7.3.1.2. School WASH

7.3.1.2.1. Capital Expenditure (CapEx)

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

Table 40: CapEx unit costs for WASH in schools

Type of facility	Unit costs (ETB)	No. of units required
Water supply		
Piped water to health facility yard/plot	100,000	60
Protected hand dug well	110,000	5
Sanitation		
Improved pit latrine	320,000	22
Handwashing facility		
Handwashing facility	5000	104

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 WASH in schools (2020 – 2030)

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
CapEx - Water	13.1 million	348 thousand	1.2 million	31.6 thousand
CapEx - Sanitation	13.0 million	344 thousand	1.2 million	31.3 thousand
CapEx - Hygiene	550 thousand	14 thousand	50 thousand	1.3 thousand
Total CapEx	26.6 million	707 thousand	2.4 million	64.3 thousand

7.3.1.2.2. Capital Maintenance Expenditure (CapManEx)

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

Table 42: CapManEx unit costs school WASH

Type of facility	Expected lifespan (years)	Unit costs (ETB)
Water supply		
Piped water to schoolyard/plot	10	10,000
Protected hand dug well	5	22,000
Sanitation		
Improved pit latrine	10	32,000
Handwashing facility		
Handwashing facility at latrine	10	500

The annual required CapManEx is estimated based on the presence of WASH facilities 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 (2020 – 2030)

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
CapManEx - Water	14.4 million	383 thousand	1.3 million	34.8 thousand
CapManEx - Sanitation	61.3 million	1.6 million	5.6 million	148 thousand
CapManEx - Hygiene	1 million	27.3 thousand	93.3 thousand	2.5 thousand
CapManEx Total	76.76 million	2 million	7 million	185 thousand

7.3.1.2.3. Operation and Minor Maintenance Expenditure (OpEx)

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

Table 44: OpEx unit costs for WASH in schools

Type of facility	Unit costs (ETB/year)
Water supply	
Piped water to health facility yard/plot	20,000
Protected dug well	20,000
Sanitation	
Improved pit latrine	120,000
Handwashing facility	
Handwashing facility	1,000

The required OpEx is estimated based on the presence 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 (2020 – 2030)

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
OpEx - Water	25.6 million	679 thousand	2.32 million	61 thousand
OpEx - Sanitation	209 million	5.55 million	19 million	505 thousand
OpEx - Hygiene	1.9 million	49.6 thousand	169 thousand	4.5 thousand
OpEx Total	236.5 million	6.28 million	21.5 million	571 thousand

7.3.1.2.4. Direct Support Costs (ExpDS)

The required ExpDS are estimated by calculating the required personnel and non-personnel costs (per diems, transport, office costs and admin, meetings and workshops, and other costs. This is related to the following direct support considering:

- Planning and reporting
- WASH promotion
- Monitoring WASH in schools
- Technical support to schools

Table 46 gives an overview of the required personnel based on the directions from the woreda planning team. Currently, only three of the six required positions have been filled.

Table 46: Required personnel for support to school WASH

Posts/positions	Actual (current) number of staff	Required number of staff
Wash planning	1	2
WASH focal person	1	3
Office head	1	1
Total	3	6

Table 47 presents an overview of the estimated actual and required 2020 ExpDS. It shows that non-staff (non-salary) costs are 82% of the ExpDS in actual costs and 43% of the required ExpDS.

Table 47: Annual direct support costs for school WASH

	Actual 2020 costs (ETB/year)	Required 2020 costs (ETB/year)
Staff costs		
Wash Planning	24,051	40,085
WASH Focal person	108,672	326,016
Office head	17,113	25,670
Total staff costs	149,836	391,771
Non-staff costs		
Per diems	28,000	77,050
Transport costs (fuel, depreciation, maintenance)	78,400	121,800
Office costs and admin	28,000	43,500
Costs of meetings and workshops	49,000	50,200
Other costs	500,000	0
Total non-staff costs	683,400	292,550
TOTAL ExpDS	833,236	684,321
Total ExpDS/school	8,502	6,983

Considering the expected increase in the number of schools and inflation, the total required ExpDS for the period 2020-2030 are estimated to amount to ETB 15.9 million (422 thousand USD) with an average per year of ETB 1.44 million (38 thousand USD).

7.3.2. Projected changes in service levels and costs

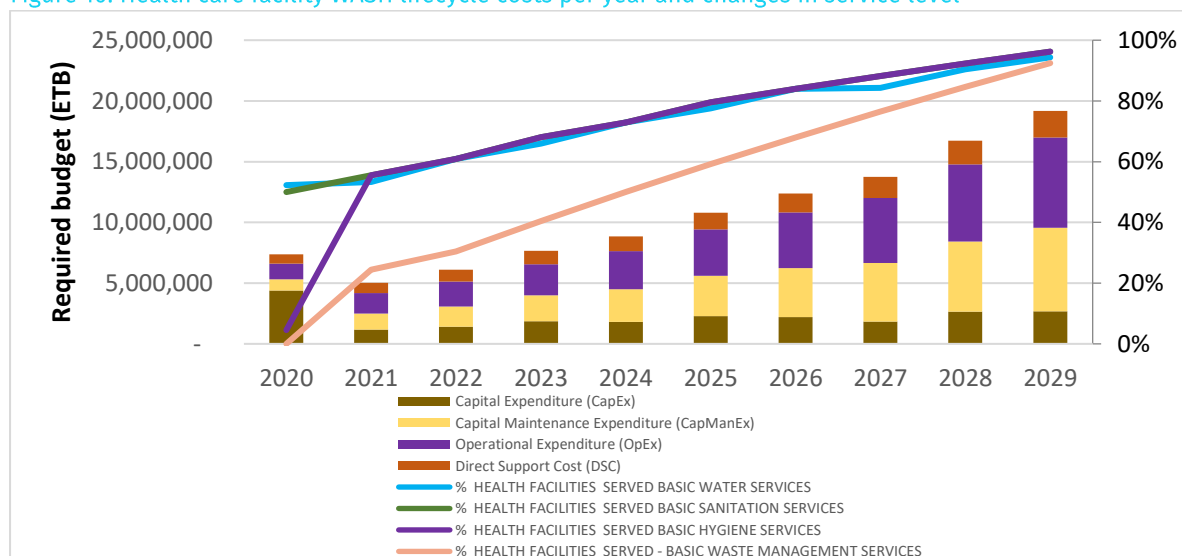
7.3.2.1. Health care facility WASH

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

Table 48: Total required lifecycle costs health care facility WASH (2020 – 2030)

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
CapEx	25,566,742	678,883	4,261,124	113,147
CapManEx	41,617,768	1,105,092	6,570,103	174,458
OpEx	47,042,470	1,249,136	7,272,995	193,123
ExpDS	16,180,686	429,652	2,548,518	67,672
Total	130,407,665	3,462,763	20,324,961	539,696

Figure 10: Health care facility WASH lifecycle costs per year and changes in service level



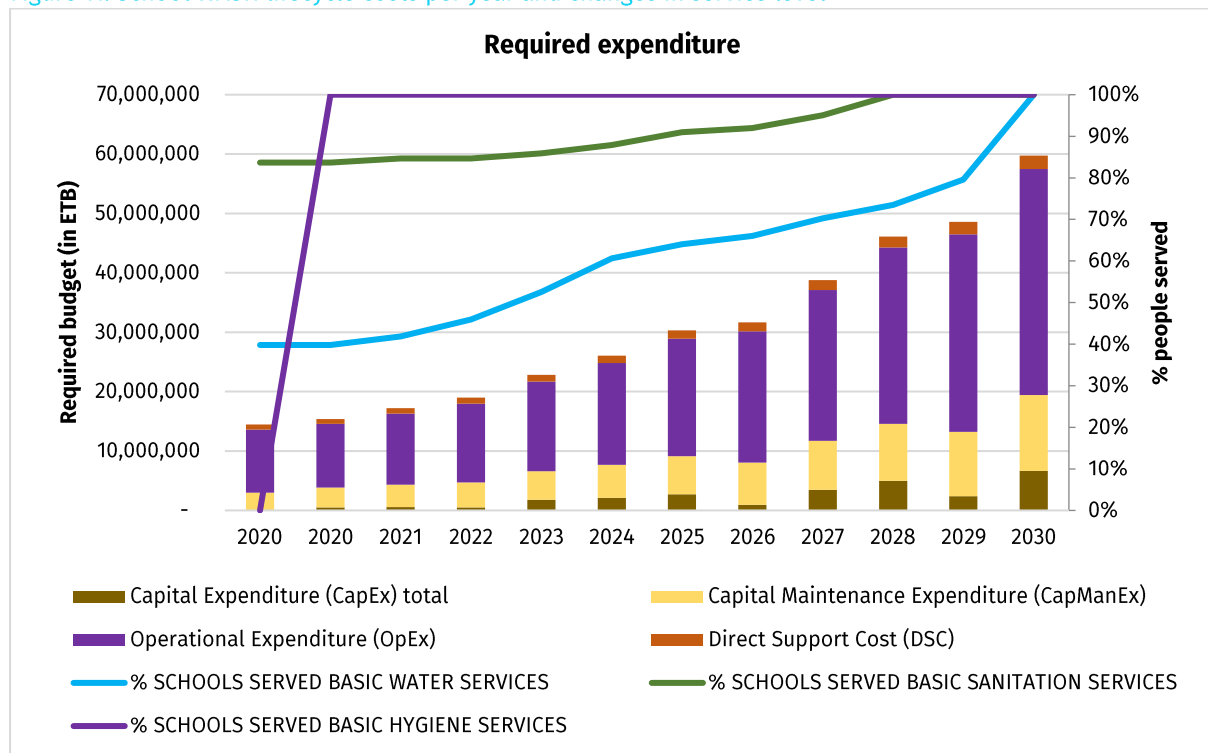
7.3.2.2. School WASH

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

Table 49: Total required lifecycle costs school WASH

	Total (ETB)	Total (USD)	Average/year (ETB)	Average/year (USD)
CapEx	26,623,670	706,948	2,420,334	64,268
CapManEx	76,759,773	2,038,231	6,978,161	185,294
OpEx	236,478,734	6,279,308	21,498,067	570,846
ExpDS	15,877,284	421,595	1,443,389	38,327
Total	355,739,460	9,446,082	32,339,951	858,735

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



The source of funding for the projected expenditures required to reach the institutional WASH vision for the woreda is the government.

8. Equity and Inclusion

The SDG plan prioritizes community and institutions having no or low service coverage for the provision of new infrastructure. Accordingly, community and institutions in arid kebeles where resources are scarce, water quality is challenge, and infrastructure coverage is low are prioritized for the implementation of new infrastructure. The implementation strategy also suggested consulting different social groups including women, children, elderly, people with disabilities, and people living with illness about their priorities, location, and on the design of WASH facilities. The cost estimates for the implementation of WASH facilities have taken into consideration inclusive design and implementation.

9. 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 used as a source document to improve unit cost estimates, population estimates 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 Woreda Finance and Economic Cooperation Office (WFECO) or another entity/office which the woreda could assign to oversee the implementation of the plan. The sector office reports will be supported with evidence from field supervision.

The WFECO will consolidate the reports from sector offices on a quarterly basis and report to the Woreda WASH Team (WWT). The WWT 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 review of reports, the consultative meeting, and field visits, the WWT will sit and evaluate the progress and challenges on a quarterly basis and provide feedback to sector offices. The WWT 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 WWT for approval.

Midterm evaluation: A midterm impact evaluation will be conducted by an external entity to be deployed by the WFECO. 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 WFECO. The end line evaluation will be conducted in quarter four (Q4) of 2030. The target of the end line evaluation is to measure the impact brought through the implementation of the master plan.

The data in the master plan shall be used as a baseline for progress evaluation and achievements. This plan is focused on achieving the SDGs, hence, SDG level indicators developed by the JMP both for community and institutional WASH will be used in monitoring progress. Customization of the indicators to local conditions will be done by the WTT drawn from WASH sector offices. The customized indicators will be annexed to this plan.

Annex 1: Overview of the planning tools

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

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

Woreda Information: General information about the woreda such as the total population per kebele, population served by different systems, type of existing and planned water supply technology in the woreda, the number of beneficiaries each scheme can serve, the potential for household connections, and the functionality status of each scheme are defined. This was defined for urban and rural areas separately. Information related to the population was taken from the Woreda Finance and Economic Cooperation 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, 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 ExpDS 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 (sufficient quality and quantity but travel distance is not acceptable), unimproved (drinking water from unprotected dug well or unprotected springs), and surface (drinking water from river, dam, lake, pond, stream, canal, irrigation canal). 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 change: This sheet presents the annual level of service for the woreda, rural areas, urban areas, and per kebele, based on the planning. This part has graphs showing service level changes over the planning period for the total woreda, the rural areas, the urban areas, and the kebeles.

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

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

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

Woreda Information: General information about the woreda such as total population per kebele, availability and functionality of faecal sludge management facilities, types of sanitation facilities, and their potential for safely managed service are described. It also includes the number of villages in each kebele, the total number of households, the number of CLTSH triggered villages, the number of open defecation free (ODF) villages, and the number of villages requiring CLTSH triggering. Information related to the population and households is taken from the Woreda Health Office. This part also includes population growth rate, inflation rate, exchange rate, and

average household size. In addition to sanitation facilities, this part also indicates the total number of households with handwashing facilities with or without soap and water.

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

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

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

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

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

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

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

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

To facilitate calculations, there is a separate sheet for ExpDS estimation. The ExpDS estimation section calculates current required and desired ExpDS 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 ExpDS estimation. The ExpDS estimation section calculates the current required and desired ExpDS 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.