Community-led Accelerated WASH Project,

Phase IV (COWASH IV)

COWASH IV Baseline Survey Report

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December 2022, Addis Ababa, Ethiopia

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Acronyms and Abbreviations

CAPI	-	Computer-Aided Personal Interview
CLTSH	-	Community Led Total Sanitation and Hygiene
COWASH	-	Community-led Accelerated WASH
CMP	-	Community Managed Project
CSA	-	Central Statistical Agency
CSS	-	Central Statistical Service
DHS	-	Demographic Health Survey
EA	-	Enumeration Area
EDHS	-	Ethiopian Demographic and Health Survey
Ex. Queue	-	Excluding Queue
FGD	-	Focus Group Discussion
FSM	-	Faecal Sludge Management
FTC	-	Farmers Training Center
GBV	-	Gender Based Violence
Gov't	-	Government
HH	-	Household
In. Queue	-	Including Queue
JMP	-	Joint Monitoring Programme
KAP	-	Knowledge, Attitude and Practice
KII	-	Key Informant Interview
KWT	-	Kebele Water Team
MHM	-	Menstrual Hygiene Management
MoWE	-	Ministry of Water and Energy
NA	-	Not Applicable
NGOs	-	Non-Governmental Organizations
ODF		Open Defecation Free
O & M	-	Operation and Maintenance
OWNP	-	One WASH National Program
PPS	-	Probability Proportional to Size
PWDs	-	Persons with Disabilities
RCT	-	Randomized Control Trial
RWSEP	-	Rural Water Supply and Environmental Program
SDG	-	Sustainable Development Goal
SNNP	-	Southern Nations Nationalities and Peoples
SNNPR	-	Southern Nations Nationalities and Peoples Region
SPSS	-	Statistical Package for Social Sciences
ToR	-	Terms of Reference
VIPL	-	Ventilated Improved Pit Latrine
WASH	-	Water, Sanitation and Hygiene
WASHCO	-	Water, Sanitation, and Hygiene Committee
WHO	-	World Health Organization

Operational Definitions

Terms	Operational Definition
CLTSH	Community-Led Total Sanitation and Hygiene, Ethiopia's version of CLTS, is a triggering tool to mobilize communities to embark on construction of improved latrine, the use and promotion of handwashing practices with soap and water at critical times, and safe water handling and treatment at the household level, as well as the drive to achieve Open Defecation Free (ODF) status.
Community Empowerment	Community empowerment is bringing beneficiary communities be part of the whole process of planning, construction, operation and maintenance, and to forge sustaining action including maintaining ODF, universal handwashing practices, and tariff setting on the WASH services in their communities.
COWASH IV Regions	- Amhara Region – Group of 40 Woredas - Oromia Region – Group of 30 Woredas - SNNP Region – Group of 11 Woredas - BSG Region – Group of 4 Woredas - Sidama Region – Group of 5 Woredas - South West Ethiopia Region – Group of 2 Woredas - Tigray Region – Group of 12 Woredas
District/Woreda	The third lower level of administrative structure in Ethiopian government administrative system (annex 1 for the baseline survey woredas).
Kebele	The lowest administrative structure of the Ethiopian government administrative system. Kebeles are further sub-divided into villages or "gots".
Menstrual Hygiene Management	Women and adolescent girls are using clean menstrual management materials to absorb or collect blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials" (JMP 2012).
Improved Latrine or Toilet (JMP/WHO standard)	Sanitary latrine or toilet includes flush/pour flash, connection to a piped sewer system, connection to septic tank, VIP latrine, composting latrine, and latrine with slabs that do not allow flies and rodents to go in and out of the latrine.
Improved Drinking Water (JMP/WHO standard)	Water sources includes pipe water, protected spring or well, rainwater harvesting, packed water.

Terms	Operational Definition
Household Drinking Water Service Levels (Ladder)	Safely Managed - Drinking water from an improved water source that 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 round trip, including queuing. Limited - Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, 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.
Onsite Sanitation	A sanitation system whereby excreta are contained at the same location as the toilet; either in a pit, chamber, vault or septic tank.
Household Sanitation Service Levels (Ladder)	Safely Managed - Use of improved facilities that are not shared with other households and where excreta are safely disposed on-site or removed and treated off-site. Basic - Use of improved facilities that are not shared with other households. Limited - Use of improved facilities that are shared with other households. Unimproved - Use of pit latrines without a slab or platform, hanging latrines or bucket latrines. Open Defecation - Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open spaces, or with solid waste.
Household Hand Hygiene Service Levels (Ladder)	Basic - Availability of handwashing facility with soap and water at home. Limited - Availability of handwashing facility lacking soap (or with ash, soil, sand or other materials) and/or water at home. No Facility - No handwashing facility at home.
School Drinking Water Service Levels (Ladder)	Advanced -To be defined at national level. Basic - Drinking water from an improved source and water is available at the school at the time of the survey. Limited - Drinking water from an improved source but water is unavailable at the school at the time of the survey. No Service - Drinking water from an unimproved source or no water source at the school.
Health Facilities Drinking Water Service Levels (Ladder)	Advanced - To be defined at national level. Basic - Water is available from an improved source on the premises. Limited - An improved water source is within 500 meters of the premises, but not all requirements for basic service are met. No Service - Water is taken from unprotected dug wells or springs, or surface water sources; or an improved source that is more than 500 meters from the premises; or there is no water source.

Terms	Operational Definition
School Sanitation Service Levels (Ladder)	Advanced - To be defined at national level. Basic - Improved facilities, which are single sex and usable at the school. Limited - There are improved facilities (flush/ pour flush toilets, pit latrine with slab, composting toilet) but not single-sex or not usable at time of survey. No Service - No toilets or latrines, or unimproved facilities (pit latrines without a slab or platform, hanging latrines, bucket latrines).
Health Facilities Sanitation Service Levels (Ladder)	Advanced - To be defined at national level. Basic - Improved sanitation facilities are usable, 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 - At least one improved sanitation facility is available, but not all requirements for basic service are met. No Service - Toilet facilities are unimproved (e.g. pit latrines without a slab or platform, hanging latrines, bucket latrines) or there are no toilets
School Hand Hygiene Service Levels (Ladder)	Advanced - To be defined at national level. Basic - Handwashing facilities with water and soap available at the school at the time of the survey. Limited - Handwashing facilities with water but no soap available at the school at the time of the survey. No Service - No handwashing facilities at the school or handwashing facilities with no water.
Health Facilities Hand Hygiene Service Levels (Ladder)	Advanced - To be defined at national level. Basic - Functional handwashing facilities (with water and soap and/or alcohol based hand rub) are available at points of care, and within five meters of toilets. Limited - Functional handwashing facilities are available either at points of care or toilets but not both. No Service - No functional handwashing facilities are available either at points of care or toilets.
Persons with Disabilities (PWDs)	Those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.
Respondent	A person or group of persons provided the data for questions raised by data collectors.
Safe Water	Safe water is drinking water which is free from pathogenic organisms, toxic substances, an over dose of minerals and organic materials as well as with a tasteless, free of color, turbidity and odour.

Terms	Operational Definition
Water Quality Surveillance	Watching and protecting drinking water from potential sources of contamination through sanitary surveys and water quality analysis of samples taken at different points.
Enumeration Area	An enumeration area in the rural parts of the country is a locality that is, in most of the cases less than, and only in some cases equal to a farmers' association in geographical area and usually consists of 100-150 households.
Household	A household may be either: - a) a one-person household, that is a person who makes provisions for his own living without combining with any other person to form part of a multi- person household or b) a multi-person household, that is, a group of two or more persons who live together and make common provisions for food and other essentials of living. The persons in the group may pool their incomes and have a common budget to a greater or lesser extent. They may be related or unrelated persons or a combination of both.
Functional Water Supply	The water scheme is functional (in use) during the survey time or could be renovated easily and resume the intended service.

Executive Summary

1 The Community-led Accelerated WASH Project, Phase IV (COWASH IV) baseline survey is commissioned by the Ministry of Water and Energy (MoWE) of the Federal Democratic Republic of Ethiopia (FDRE) and the government of Finland with the technical support of NIRAS. The survey was undertaken by TechnoPack Business Solutions PLC in three project regions namely Oromia, Sidama and SNNP. The overall objective of the baseline survey is to establish benchmark data on water, sanitation and hygiene status of rural households and institutions (schools and health facilities) in COWASH IV intervention areas. Moreover, specific data needs that relate to the management practices, inclusion of women and vulnerable groups in water management and equal access to water services are also covered by the baseline survey. The analytical scope of the baseline survey report is descriptive focusing on providing a broad understanding of the Water, Sanitation and Hygiene (WASH) status based on cross sectional data.

2 The baseline survey employed a mixed-methods approach comprising of both quantitative and qualitative data collection techniques. The data collection activity was undertaken from the 4th of May 2022 - the 2nd of June 2022. Quantitative measures were obtained through structured questionnaires while qualitative information were collected using Focus Group Discussion (FGD), Key Informant Interview (KII) and on-site observations. Quantitative data were collected from 1,920 representative households of the rural households in COWASH IV project woredas while institutional data (146 schools and 104 health facilities) were census-based data collected from kebeles where the sample EAs are located and community water supply schemes data (145 community water points) were also census-based data collected from the sample EAs. The qualitative data were collected through FGDs (18 FGDs with kebele level WASH team members and 16 FGDs with woreda level WASH team members). Secondary data were also collected from woredas and kebeles where the sample EAs are located. The key findings are presented hereunder.

3 The baseline survey revealed that 4.7% of the under 5 years old household members had suffered from diarrhea during the last two weeks before the survey out of which 27.9% had blood in their stools while under 5 mortality was found to be 12.17 deaths per 1000 live births.

4 The overall top three available water sources of the COWASH IV project woredas during the dry season were protected spring (46.3%), river/lake/pond/dam (29.4%), and unprotected spring (27.0%). The household (HH) survey finding revealed that 56.8% of the HHs were using protected springs, 24.3% pipe water, and 18.2% protected wells while 75.8% were reported using at least one of these improved sources for drinking water at the time of the survey. The survey further revealed that the main improved source for drinking water was functional during the survey period (76.5%).The average litres of drinking water collected per family member per day was about 12.3 litres. However, the quantity of drinking water collected was reported to be adequate only for 43.9% of the HHs. Out of the 145 community water supply schemes inspected in the sample Enumeration Areas, majority of them (97.1%) were reported to be functional during the time of inspection. The average time spent for collecting water from improved water sources in COWASH IV woredas ranges from 21 to 26 minutes (excluding queuing) and 63 to 119 minutes (including queuing). The average time spent to collect water from improved sources was about 23 and 88 minutes excluding and including queue, respectively. Overall, 97.1% of

the respondents who were getting water from improved sources reported that their drinking water supply sources were functional during survey time.

5 It was observed that the most common types of household toilets in the project areas were pit latrine without slab-open pit (67.6%) and pit latrine with slab (8.6%). Open defecation was also being exercised by 23.1% of the households. On average, rural household's access to improved toilet facilities was only 9.3%. It was observed that 44.9% of the toilets were not free from human faeces and more than 33.0% had never been cleaned at all. As per the SDG service level, the HH toilets were observed to be basic (8.5%), limited (0.7%), unimproved (67.7%) and open defection (23.1%). About 88.1% of the rural HHs had designated place for handwashing in their dwelling, but only 30.2% of the facilities had water and 11.2% had soap during the time of observation. Regarding knowledge about the critical moments of handwashing, before eating or feeding others (87.0%), before cooking (80.3%), after using latrine (69.6%) were well known handwashing moments by most of the respondents (mothers or adult women family members) while after cleaning latrine or baby or adult bottom and before and after taking care of sick person were the least known (41.8% & 13.0%, respectively). A little above 11% were able to mention all the five critical moments. It was observed that 83.7% of the HHs access handwashing facilities with limited services and 4.3% with basic services while 12.0% of the HHs did not have designated handwashing facilities.

6 With regards to institutional WASH, the most common water sources reported around schools were river/lake/pond/dam (31.2%), protected spring (22.5%), pipe water (19.9%) and protected well (18.3%) while 54.1% of the surveyed schools had access to at least one improved source (irrespective of distance) during the dry season. More than 93.0% of the schools were using pipe water and protected spring for drinking during dry season. There was no practice of using rainwater harvesting for drinking. The surveyed schools were required to spend on average 4 to 6 minutes to get drinking water from piped water, 15 to 24 minutes from protected well, and 30 to 71 minutes from protected spring. It was observed that 55.2% and 9.1% of the schools had access to piped water and protected wells on premises, respectively, and none of the schools had access to protected spring on premises.

7 The most common water sources reported for health facilities during the dry season were protected spring (29.1%) and piped water (26.0%). Overall, more than 96.0% of the health facilities were using piped water for drinking during both rainy and dry seasons. The practice of using rainwater harvesting for drinking during dry season was reported to be 30.0%. The surveyed health facilities were required to spend 6 to 18 minutes, 23 and 34 minutes, and 24 to 50 minutes to get drinking water from piped water, protected well, and protected spring, respectively. About 46.2% and 7.7% of the health facilities had access to piped water and protected wells on premises, respectively, and none of the health facilities had access to protected spring on premises.

8 Pit latrine with slab (55.0%) and ventilated improved pit latrine (41.0%) were the most common types of toilets in the schools visited. Overall, 70.5% of the schools had access to improved latrines. It was observed that 27.4% of the schools in the surveyed areas had access to both improved water supply and latrine services.. The average number of seat/drop hole was found to be three for both male and female students. The desired number of toilet seats, however, were seven and five for female and male students, respectively. About 95.7% of the "Female Only" and 91.3% of the "Male Only" toilets were with missed doors. The accessibility of toilet blocks to PWDs was also observed and found that none of

the toilets were fully accessible to PWDs (toilets are accessible to PWDs if ramps, handrails, raised seats, and widened doors are in place). It was also observed that most of the students' toilets (about 74.0%) were dirty (with faeces, urine or used paper inside and around the floors).

9 Among the key issues covered by the baseline survey was about Menstrual Hygiene Management (MHM) status and practices in schools. In this regard, 73.3% of the sample school girls mentioned that their schools do not provide sanitary materials for menstrual management inside the toilets while 71.2% complained that the doors could not be closed and hence concern for privacy. It was also reflected through the FGDs conducted with WASH team members, both at woreda and kebele levels, that when the girls are menstruating while at school, most of them leave school and go home due to lack of, or poor, facilities and services in schools. About 46.3% of the sample school girls reported that there were designated rooms for MHM.

10 It was found out that less than three-fourth (72.1%) of the health institutions visited in the surveyed rural kebeles had access to improved latrines while 25.0% had access to both improved latrines and improved water sources. About 66.7% of female staff in health facilities access VIP toilets and the remaining, i.e., 33.3% of them access pit latrine with slab. About 50.0% of male staff access VIP latrine. The average number of seats/drop holes per health facility was found to be three for both female and male. The average number of toilet seats/ drop holes by sex was one. About 50.0% of the health facility toilets have no door and 25.0% of the toiles have cracked walls and surfaces. It was observed that 50.0% of the health facilities toilets were not clean or were dirty (with faeces, urine or used paper inside or around the floors). It was observed that 50.0% and 33.3% of the male and female staff toilets had ramp. While 25.0% and 16.7% of the female staff toilet had widened doors and handles for support, none of the male staff toilets had such arrangements. None of the health facilities visited had toilets having all the accessibility structures (ramps, handrails, raised seats, and widened doors).

1. Background

1.1 National and Regional WASH Contexts

11 Poor sanitation is a major public health problem that causes disease, sickness and death. Poor water and sanitation provision promotes diarrhea and intestinal parasites and have complex and reciprocal links to malnutrition in children. Diarrhea and intestinal parasites contribute to malnutrition by causing decreased food intake, impaired nutrient absorption and direct nutrient losses. Studies pointed out that even a relatively mild infestation of parasites can consume 10% of a child's total energy intake as well as interfering with digestion and absorption. Unsanitary environments also contribute to malnutrition by challenging children's immune systems; nutrients that would otherwise support growth go instead towards supporting the immune response. Some researches, for instance Christa & et.al (2012), demonstrated strong relation between diarrheal infections in the first two years of life and cognitive functioning when children are between six and nine.

12 In Ethiopia, 60 to 80% of communicable diseases are attributed to limited access to safe water and inadequate sanitation and hygiene services. In addition, an estimated 50% of the consequences of under nutrition are caused by environmental factors that include poor hygiene and lack of access to water supply and sanitation. There are strong links between sanitation and stunting, and open defecation can lead to faecal-oral diseases such as diarrhea, which can cause and worsen malnutrition.

13 Diarrhea is the leading cause of under-five mortality in Ethiopia, accounting for 23% of all under-five deaths – more than 70,000 children a year. While 65% of households in Ethiopia have access to improved water sources, it is only 6.3% of households in the country that have access to improved sanitation. Besides, only 17% of people practice improved hygiene behaviours and live in healthy environments[1].

14 Globally**,** in 2020, 3.6 billion people lacked safely managed sanitation services, including 1.9 billion people with basic services, and 92% of the population practicing open defecation live in rural areas. Furthermore, in sub-Saharan Africa, only 21% of the population uses safely managed, basic (12%), limited (19%) sanitation services, and open defecation (OD) (18%). The situation in Ethiopia was estimated as 9% of the people access at least basic sanitation, limited (9%) and open defecation (17%). In the rural part of Ethiopia, 5% of the rural people access at least basic sanitation services, limited (3%), unimproved (71%), and open defection (21%) (WHO/JMP 2021 Progress on household drinking water, sanitation and hygiene 2000-2020).

15 Aiming at assisting the Ethiopian government in improving the WASH situation in the country, Finland's support to the Ethiopian WASH sector started with the introduction of Rural Water Supply and Environmental Program (RWSEP) in Amhara region in 1994. After 17 years of intervention, benefiting 1.7 million people in 20 districts of Amhara region, RWSEP was replaced with or scaled-up to Community-led Accelerated WASH (COWASH I) project in 2011. COWASH has been implemented in phases, COWASH Phase 1, 2, 3 and 4 (2011-2024) with the task of further developing and scaling-up Community Managed Project (CMP) approach to national level and accelerate the rural WASH targets of the country. COWASH project expanded from 3 regions in 2011 to 5 regions in 2014 and from 31 woredas in 2011 to 76 woredas by 2015. The 4th Phase (2021-2024) has expanded from 5 regions and

[1] https://www.unicef.org/ethiopia/water-sanitation-and-hygiene-wash

76 woredas in the 3rd Phase to 7 regions, including Sidama and South West Ethiopia regions, which were split from Southern Nations Nationalities and Peoples (SNNP) region, and 104 woredas.

16 Among the regions covered by the 4th phase is Oromia region. Oromia is the largest region in Ethiopia in terms of landmass and population. It occupies approximately 34% of the land in Ethiopia and accounts for 37% of the population. In absolute numbers, this represents over 37 million people. According to the 2016 EDHS, 63% of households use improved drinking water sources in Oromia region compared to the national average of 65%. At the national level, in rural areas, 57% of households use improved drinking water sources versus 97% of urban households. About 17% of water sources in Oromia are piped. More than a quarter of the households (28%) spend more than 30 minutes fetching water to their houses compared to the national average of 32%, showing progress in water infrastructure and the availability of water sources since 2011[2].

17 According to the 2016 EDHS, 51% of households in Oromia have a place for washing hands (3% fixed and 48% mobile), which is under the national average of 60%. Only 12% of these households have water and soap. One factor that hinders hand washing is people's limited knowledge about the critical times when hands should be washed. Only 11% of women and 10% of men in Oromia knew that hands should be washed before breastfeeding/feeding a child, while 13% and 8% of women and men, respectively, knew that hands needed to be washed after cleaning a child's bottom after defecation. Less than half of women (44%) and 48% of men know that hands should be washed after defecation.

18 In addition to Oromia region, the survey also covered two regional states, namely, SNNP with Dawuro Zone of the South West Ethiopia (SWE) Region, and Sidama Region.. Since Sidama and SWE are newly formed regions, relevant background information available in literature is aggregated (all three regions together), not disaggregated by each region. Thus, below is some background information regarding the former SNNPR.

19 SNNPR, located in the south west of Ethiopia, before the split of the above mentioned two newly formed regions, was the third largest region in Ethiopia in terms of population Its estimated population before the split was approximately 20 million, which makes up 20% of the Ethiopian population[3].The region was one of the most populous parts of Ethiopia, with a density of approximately 151 people per square kilometer.

20 According to the latest EDHS (2016), 59% of households in SNNPR use improved drinking water sources compared to a national average of 65%. This signals a declining trend compared to the EDHS 2011, which found 65% of households in the region using improved drinking water sources. The availability and sufficiency of drinking water is 84% and 81%, respectively, the highest rates in the country. However, many households, particularly pastoralists in South Omo and Bench Maji, still use unprotected sources of water, such as river water. Ethiopia Socioeconomic Survey (2017) shows the time needed to collect water, in SNNPR, 36% of households spend more than 30 minutes roundtrip (per person) including queuing time, compared to 32% at the national level. This figure shows a decrease from 41% in 2011, implying that some progress has been made in terms of drinking water infrastructure and

[2] https://www.unicef.org/ethiopia/media/2341/file/Oromia%20region%20.pdf

[3] https://www.unicef.org/ethiopia/media/2336/file/Southern%20Nations,%20Nationalities,%20and%20Peoples'%20region.pdf

availability. However, it is high in absolute terms, especially considering that it affects gender equality, as women and girls are mainly responsible for fetching water.

21 Compared with EDHS 2011, the EDHS data also showed a positive trend in the percentage of households in SNNPR that use improved sanitation facilities. While the rate is low, the region still has one of the higher rates in the country, at 8%. The percentage of households that have an improved, including shared toilet facility, is 5%. According to the same EDHS result, 53% of households in SNNPR have a place for washing hands (2% fixed and 51% mobile), which is below the national average of 60%. Of these households, 19% have water and soap, which is relatively high. According to the UNICEF KAP study, knowledge about the importance of washing hands in particular situations, or critical times, in SNNPR compared to other regions is indicative of the higher performance of the region in this indicator: 16% of women and 11% of men know that hands should be washed before breastfeeding/feeding a child, and 19% and 9% of women and men, respectively, know that hands should be washed after cleaning a child's bottom who has defecated. While these figures are high compared to other regions, they are very low in general terms, and raising awareness about the importance of handwashing is a highly relevant intervention to tackle diarrhea, as one of the factors hampering survival, especially of young children[4].

1.2 Overview of COWASH Phases I-III Implementation

22 In the last 26 years (1994 to 2020), RWSEP, COWASH and FinnWASH-BG project, another bilateral WASH project between the two governments, have provided safe water supply to over 5.68 million rural Ethiopians in five regions: Amhara, Oromia, SNNP, BG, and Tigray. From this, COWASH alone in the ten years (2011-2021) has contributed safe water to over 3.68 million rural Ethiopians in these regions through the construction of 15,573 new and rehabilitation of 1,981 community water supply schemes. Furthermore, Finland decided to join the group of donors (World Bank, DFID, African Development Bank and UNICEF) contributing to the One WASH National Program-Consolidated WASH Account (OWNP-CWA) Program starting in 2016.

23 The method deployed by the project to transfer finance for construction of safe water supplies and institutional sanitation services is in line with Finland's assertion and decision to continue supporting COWASH. In COWASH, investment funds are generated from the regional government budget and these funds flow directly to the target communities through micro- finance institutions (MFIs) in the project regions. Government of Finland (GoF) support is channeled mainly to capacity building through the government funds channeling structure.

24 The achievements in institutional WASH, especially nitation were below the targets due to the priority in investments given to community water supply, challenging hydro-geological conditions of the institutions' locations and expensive technical solutions required to solve the institutional WASH problems. The three phases of COWASH managed to construct and made accessible potable water supply and improved latrines to 1,045 rural institutions (805 schools & 240 health institutions) and 579 rural institutions (313 schools & 266 health institutions), respectively.

[4] https://www.unicef.org/ethiopia/media/2336/file/Southern%20Nations,%20Nationalities,%20and%20Peoples'%20region.pdf

1.3 Survey Objectives

25 The overall objective of the COWASH Phase IV baseline survey is to establish benchmark indicators data for the water, sanitation and hygiene status in COWASH Phase IV intervention areas of Oromia, Sidama, and SNNP (including SWE) regions. Specific data needs that relate to the management practices, inclusion of women and vulnerable groups in water management and equal access to water services were also planned to be covered by the baseline survey. The analytical scope of this baseline survey report is descriptive focusing on providing a broad understanding of the WASH status on the ground based on cross-sectional data.

2. Methodology

2.1 Main M&E Indicators for COWASH Phase IV

26 Monitoring of COWASH Phase IV is result-based, focusing on progress made on achieving the outcomes and impacts, with the following five expected outcomes.

1. Increased and sustained access of safe climate-resilient community water supply in rural areas of project woredas;
2. Increased access to and usage of improved household latrines and increased practice of handwashing with soap in COWASH IV water supply beneficiary households of project woredas;
3. Improved institutional WASH by narrowing the gap in improved institutional latrine, climate-resilient and safe water supply, and MHM;
4. Enhanced sustainability and inclusivity of achieved WASH outcomes; and
5. COWASH IV implementation effectively managed, lessons learnt, documented, communicated and shared and put into action.

27 In the performance monitoring plan, a source of baseline information for each outcome, output and impact level indicator has been defined. Among others, the baseline survey collected benchmark information for the following outcome and impact indicators listed in COWASH Phase IV:

- Under-5 mortality in the two weeks preceding the survey;
- Under-5 diarrhea in the two weeks preceding the survey;
- % of schools (in the sample kebeles) having and using a full package of WASH services;
- % of health institutions (in the sample kebeles) having and using a full package of WASH services;
- % of rural household members reached with sanitation and hygiene and other thematic areas (disability inclusion, women empowerment, HTPs, management of water supplies) behaviour change messages;
- % of mothers/adult women (HH members) able to mention the names of critical times or moments for washing hands with soap and water;
- % of mothers/adult women whose household has handwashing facility (attached with latrine) and washing hands with soap and water;
- % of school girls (age 12^{+}) using MHM facilities constructed (disaggregated by disability);
- % of schools having no observable faecal matter inside/outside their latrines;
- % of health facilities having no observable faecal matter inside/outside latrines;

- % of community members who are aware of O&M and management responsibility of water supply schemes by beneficiary community;
- % of community water supply schemes accessible to all;
- % of institutional water supply schemes accessible to all;
- % of schools having latrines accessible to all;
- % of health facilities having latrines accessible to all; and
- % of rural household members respondents who have heard messages about thematic areas in WASH (climate change, disability inclusion, harmful traditional practices, menstrual hygiene, women empowerment, water quality, tariff collection, COVID-19 pandemic, human rights, etc.).

2.2 Overview of Data Collection Methods and Data Collected

28 In fulfilling the survey objectives, a mixed-methods approach comprising of both quantitative and qualitative data collection techniques was employed. Quantitative measures were obtained through structured questionnaires while qualitative information was collected using checklists / semi-structured questionnaires through FGDs, KIIs and on-site inspection of facilities. All available and relevant secondary sources of information were carefully reviewed. The specific data collection methods employed include quantitative survey of representative sample of rural households; FGDs with kebele WASH and woreda WASH teams; KIIs with some kebele WASH and woreda WASH team members; on-site inspection of community water supply schemes, water supply and sanitation facilities of schools and health institutions in the sample kebeles; and collection of secondary data and review of documents.

Please note that while the *data collected from rural households was based on representative sampling, the data collection from institutions and community water supply schemes were based on the total count of institutions available in the sample kebeles and Enumeration Areas (EAs), respectively, where the household level data was collected. Hence, it should be noted that the findings from the household data represent the whole households in the target areas while the findings from the institutional WASH and community water supply schemes, however, represent only those in the sample kebeles or EAs.*

2.3 Sampling Techniques and Approach

2.3.1 Study Design

29 The intent of the baseline survey is to establish benchmarks for key indicators against which future project outcomes will be assessed or evaluated. Randomized Control Trial (RCT) has the power for controlling all known and unknown extraneous variables by equating the groups at the start of an experiment, thus, are considered as the ‘gold standard’ in most evaluation studies. Allocating each unit of analysis/households to either the experimental or control groups in order to give each unit an equal chance of receiving the 'treatment' is however quite impractical in most developmental projects. The most widely used study design in developmental project evaluations particularly when it is not possible or practical to do a RCT is the non-equivalent control group pre-test-post-test or post-test only quasi-experiment design. It is similar to the randomized pre-test-post-test or post-test only control group design, except that the comparison group is created by matching rather than random assignment. Therefore, as this baseline study is carried out exclusively in the intervention areas/woredas, a pre-test-post-test study design was employed.

2.3.2 Sampling Design

30 A stratified two-stage cluster sample design was employed for selecting households in the project intervention areas. Study regions and woredas were the strata while the 4th round Ethiopian Population and Housing Census Enumeration Areas (EAs) were entities that were considered as clusters. Census enumeration areas and households were sampling units that were chosen in the first and second stages of sampling, respectively.

2.3.3 Sample Size Determination and Allocation

31 For the quantitative survey, estimate of the ideal sample size was determined assuming that the percentage value for the key indicators at the beginning of the project is P_1 and expected to increase to P_2 due to introduction of the project. When specific project targets are not available, it is usually recommended that sample size calculations use a "generic" target of 10-15 percentage points of detectable change. Considering the anticipated changes in the key indicators, a change of more than 10% in the key project outcome indicators over the project lifetime seems unrealistic. Hence, a 10% change over the project life span is considered for this baseline study. Based on the key impact and outcome level indicators captured by the project's results framework, the required sample size was calculated using the following formula.

$$n = deff\left(z_{1-\alpha}(2p(1-p))^{1/2} + z_{1-\beta}(p_1(1-p_1) + p_2(1-p_2))^{1/2}\right)^2 / (p_2 - p_1)^2$$

32 Where $Z_{1-\alpha}$ and $Z_{1-\beta}$ are the appropriate values from the standard normal distribution, $P = (P_1 + P_2)/2$ and *deff* is the design effect (assumed to be 1.4 for this baseline survey). After compensating for 5% possible non-responses and making some minor adjustments necessary for operational convenience, the sample size required to attain the desired precision per study region was calculated to be 640 households, which is 1,920 representative households of the rural households in COWASH IV project woredas for the three regions combined.

33 To keep the design effect as low as possible, apart from using smaller cluster size in terms of number of sampling units that is feasible, and using a constant cluster size instead of variable, it is recommended to use as many clusters as feasible. Taking both cost and precision to be gained into account, surveying a maximum of 20 sample households per cluster was decided to be optimum. Accordingly, a total of 96 EAs from the study regions were covered.

34 Regarding the qualitative data, one FGD per kebele with kebele WASH team and one FGD per selected woreda with members of woreda WASH team were conducted. One KII per kebele with kebele WASH team and one KII per woreda with woreda WASH team were also conducted. Inspection of water supply and sanitation facilities in all schools and health facilities in the kebeles where the sampled EAs are located and all community water supply schemes providing service to the sampled households were also conducted. Table 1 captures sample allocations and table 2 shows coverage of same.

Table 1: Distribution of Samples, FGDs and KIIs across the Three Domains[+]

Domain/reporting Level	Total project woredas	Sample Size			KIIs	FGDs	Inspection
		Woredas	EAs	HHs			Schools; Health Facilities; Water Schemes
Oromia Group of target woredas	20	16[++]	32	640	48	16	As many as available in the sample Kebele and sample EAs
SNNP (with Dawuro Zone) Group of target woredas	13	13	32	640	45	13	As many as available in the sample Kebele and sample EAs
Sidama Group of target woredas	5	5	32	640	37	5	As many as available in the sample Kebele and sample EAs
Total	38	34	96	1,920	130	34	As many as available in the sample Kebele and sample EAs

+ = refers to the geographical level by which the survey findings are going to be reported; ++ = 4 woredas were excluded from the survey due to security reason.

Table 2: Response Rate or Data Collection Coverage (Plan versus Achievement)

Region	Plan /Achievement	HHs	Schools	Health Institutions	Community WPs	Woreda KII	Kebele KII	Kebele FGD	Woreda FGD
Oromia	Plan	640	AF in Kebeles	AF in Kebeles	AF in EAs	16	32	8	8
	Achievement	640	58	40	56	15	32	8	8
SNNP (with Dawuro zone)	Plan	640	AF in Kebeles	AF in Kebeles	AF in EAs	13	32	7	6
	Achievement	640	42	34	40	13	32	7	6
Sidama	Plan	640	AF in Kebeles	AF in Kebeles	AF in EAs	5	32	3	2
	Achievement	640	46	30	49	5	31	3	2
Total	**Plan**	**1,920**	AF in Kebeles	AF in Kebeles	AF in EAs	**34**	**96**	**18**	**16**
	Achievement	**1,920**	**146**	**104**	**145**	**33**	**95**	**18**	**16**

Note: AF = All Found.

35 Note that Tole woreda in South West Showa Zone in Oromia region was not covered due to security problem during the data collection, and the two sample kebeles of the woreda were replaced by one kebele from Woliso woreda and the other kebele from Kersa Malima woreda. Furthermore, though the initial anticipation was to cover 32 EAs from 32 kebeles in Sidama region, the Ethiopian Statistics Service (ESS) probability proportional to size (pps) sampling procedure has resulted in selecting more than one EAs from a single kebele to arrive at 640 sample households from the woredas. As a result, 32 EAs in 31 kebeles were surveyed in Sidama region.

2.3.4 Sampling Frame

36 The lists of EAs of the survey woredas along with the number of households were used to select sample EAs. Fresh list of all the households within the sampled EAs were prepared using household listing form developed for this purpose and served as a frame to select sample households.

2.3.5 Selection Scheme

37 Enumeration areas were selected by the ESS using probability proportional to size selection technique, size being number of households. Households within each sample EA, however, were selected using an equal probability systematic sample selection scheme.

2.4 Data Collection Tools

38 Structured questionnaires, discussion guides, checklists and other relevant data collection tools were prepared in such a way that the information gathered enable data users to develop all the required indicators. The data collection tools were developed based on the project objectives and information needs of the survey. Apart from introductory guides and identification items, the questionnaires in general consist of a series of questions related to essential socio-economic characteristics (age, sex, educational level, etc.), characteristics of the physical and social environment of the respondents, and essential information on WASH related issues. Seven types of data collection tools were used for the primary and secondary data collection that include Household Questionnaire; School WASH Assessment Tool; Health Facility WASH Assessment Tool; Community Water Supply Scheme Assessment Tool; Woreda Key Informant Questionnaire; Kebele Key Informant Questionnaire; and discussion guides for FGDs with woreda and kebele WASH team members. The data collection tools were prepared in English language and translated into Amharic and Afan Oromo languages. Accordingly, data collection in Oromia region was conducted in Afan Oromo language and the ones in Sidama and SNNP regions were conducted in Amharic language. Data collection guide was also prepared to serve as quick reference guide for field staff including interview and supervision guides, explanations on baseline survey objectives, definition of procedures to be adhered to interviews and supervision, selection procedures, and provide item by item instructions.

2.5 Implementation of the Survey, Field Supervision, and Data Verification

2.5.1 Fieldwork Organization and Staffing

39 The fieldwork staff mobilized for data collection comprised of data collectors, supervisors and survey managers. Two of the core team members served as survey managers. The field staff in each study region were divided into three small groups, each consisting of 4 household level data collectors (of whom 50.0% were females), 1 institutional (community water supply, school and health facility water and sanitation facilities) data collector and 1 supervisor. In addition to their supervisory role, supervisors (with support from institutional data collectors) collected both primary and secondary data from each sample kebele and woreda.

2.5.2 Recruitment and Training of Field Staff

40 The field personnel were recruited based on a clear set of criteria that included interest to participate in the survey and availability for the survey period, experience in large-scale surveys, specific experience in electronic data collection and supervision, linguistic ability (Afan Oromo, Amharic and other local languages of the study areas), familiarity with the culture of the survey areas, and examination of their testimonials of their previous assignments.

41 Two-days intensive classroom technical training regarding the concepts, definitions and methods of collecting data was provided to supervisors and data collectors. The training program involved sessions for explaining the purpose of the survey, staff responsibilities, coordination and supervision procedures, approaches to be used in sampling, sample areas and respondents, steps to be followed and approaches to interviews. Key sessions of the training program also included explanations of the different sections of the questionnaires, the manner of filling-in responses, and survey questions.

2.5.3 Field Pre-testing and Revision of the Data Collection Tools

42 A one-day pre-test exercise was conducted on the data collection tools and Computer-Aided Personal Interview (CAPI) templates in two purposively selected kebeles in Ada'a woreda of East Shoa zone of Oromia region (in rural kebeles around Dire town) for getting insight into how well the draft data collection tools work, to ensure cultural sensitivity, simplicity of messages, gender sensitivity, message harmony, and clarity of questions to the intended respondents and data collectors. Debriefing on the pre-test findings was made and the data collection tools and templates for CAPI were accordingly revised as per the feedbacks from the pre-test.

2.6 Data Collection, Cleaning, Analysis, and Report Writing

43 The data collection activity was undertaken from 4th of May 2022 - the 2nd of June 2022. Electronic data collection mechanism was used for this specific assignment. CSEntry (android version data entry tool) in Census and Survey Data Processing (CSPro) software was used to collect the survey data. The system was designed in such a way that it fully supports both online and offline data collections. Dropbox spaces were used to temporarily store and retrieve the survey data. Interviews were conducted in local languages of the study areas as appropriate. Throughout the fieldwork, continuous and close communication were maintained between the central office and fieldwork teams with regular feedback provided to field teams on the observed issues.

44 For quantitative data, data cleaning was accomplished and the cleaned datasets were then exported to SPSS version 24 software for further cleaning and analysis. Regarding the qualitative data component, the collected data were summarized on key discussion topics. Before commencing analysis, quantitative data were explored using frequency tables and graphs (bar graphs, histograms, line graphs, box plots and scatter plots) to inspect nature of variables and checking errors like missing values, outliers and inconsistent values.

45 As this is a baseline study, describing the baseline situation and preparing reliable estimates for key indicators are sufficient for the analysis. Thus, after ensuring error-free datasets**,** descriptive analyses were made to describe the characteristics of the samples, to check feasibility of variables for further (multivariate) analysis in case there are future necessities and to address the study objectives. Frequency tables, means, proportions, charts and bar graphs are the main analysis mechanisms employed to describe the baseline data findings. The qualitative data were summarized and analyzed based on thematic issues and used to augment the quantitative findings

46 To provide reliable population parameter estimates, the sample household raw data was carefully weighted taking into consideration of initial selection probabilities. The following was weighting procedures followed in weighting the sample household data.

$$W_{hi} = \frac{\mathrm{M_h\ X\ M'_{hi}}}{\mathrm{n_h\ X\ M_{hi}\ X\ m_{hi}}}$$

Where,

W_{hi} =Basic sampling weight of the COWASH IV sample households in the ith sample EA, in stratum (domain) h.

M_h = Total number of households in the sampling frame for stratum (domain) h (based on the cartographic mapping data done for the upcoming population and housing census of Ethiopia).

M'_{hi} =Total number of households listed in the i[th] sample EA in stratum (domain) h (based on listing of the data collectors and supervisors).

n_h= Number of sample EAs selected in stratum (domain) h for COWASH IV.

M_{hi} = Total number of households in the sampling frame for the i[th] sample EA in stratum (domain) h (based on the cartographic mapping data done for the upcoming population and housing census of Ethiopia).

m_{hi} = Number of sample households selected in the i[th] sample EA in stratum (domain) h for COWASH IV baseline survey (20 households in this survey).

2.7 Data Quality Assurance

47 The quality of a research heavily relies on the quality of data to be collected from the field. To this effect, various quality assurance mechanisms were applied to ensure data quality at the stages of design, data collection, and processing. The following specific mechanisms were employed to ensure the acquisition of high quality data:

- Use of highly qualified and experienced experts to work as a team in a complementary and integrated manner;
- Intensive training provided to the data collectors and supervisors on the data collection tools and use of the mobiles including the approaches to be followed for data collection;
- Designing of sound sampling methodology and development of questionnaires following applicable scientific standards with simple guides, skip rules, etc;
- Maps of the EAs obtained from the CSS provided to the supervisors for listing of the sample frames for the household sample selection;
- A detailed guideline, including household sample selection technique, was developed and used by data collectors and supervisors;
- Close follow-up and supervision of the survey data collection by experienced supervisors and core team members;
- On-site editing of inconsistencies and errors; and
- Close communication and follow-up by local administrative staffs in the sample areas.

2.8 Survey Ethics

48 Permission to undertake this study was obtained from every relevant authority at all levels (Regional, Zonal, Woreda and Kebele). To facilitate and encourage cooperation, official letters were written to Regional, Zonal and Woreda Offices. Data collectors applied the principles of introducing themselves and the purpose of the survey to the officials at kebele levels as part of permission. Community elders and concerned individuals were also informed about the study.

49 During the informed consent/assent process, data collectors explained that the data collected will not be shared with anyone outside the research team and interviewees expressed their willingness to give

information. The information from the informed consent forms were not recorded anywhere or entered into the study database and will be kept separate. Inconveniences associated with responding to the household interviews were reduced by conducting interviews at participants' homes at a time that is convenient for them.

2.9 Survey Challenges and Limitations

50 Due to security situation in some parts of the country, especially in Oromia woredas, covering some of the sampled woredas and/or EAs was a challenge. Transfer of some kebeles from one woreda to another woreda within a survey region was also another challenge faced during the data collection process. In both cases, comparable EAs were identified from CSS list and substituted.

51 Furthermore, during the first week of data collection, few limitations related to skip rules were observed and corrected as soon as possible.

52 Rural Water Supply Coverage could not be estimated as per the SDG Water Supply Service Levels as water quality testing was not made during the data collection.

3. Findings and Discussions

3.1 Characteristics of Sample Rural Households and Institutions

3.1.1 Household Characteristics

53 A total of 1,920 rural sample households (the three study regions combined) were included in the baseline survey. As part of the broad findings of the baseline survey, weighted results on family size, age and sex of household heads, education level of family members and household heads, and health conditions of the family members are presented in this sub-section.

54 As shown in Table 3 below, the overall average family size of the target households was found to be 4.8. The highest average family size was recorded in Sidama (5.1) and the least in Oromia (4.7). Looking at the results by sex, male-headed households have the highest family size throughout the study sites. The overall average age of household heads was about 45.4 years with female household heads relatively showing higher age than male household heads (51.2 years and 44.3 years, respectively). In general, 15.3% of the households were female-headed while 84.7% were male-headed. The proportion across the study regions is more or less similar with the exception of Sidama, which has the least female-headed households (11.7%).

Table 3: Average Family Size and Age of the Household Heads by Sex and Region

Parameters	Oromia			Sidama			SNNP			Total		
	Male Headed	Female Headed	Total	Male Headed	Female Headed	Total	Male Headed	Female Headed	Total	Male Headed	Female Headed	Total
Average Family Size	4.9	3.4	4.7	5.4	4.1	5.3	5.1	3.7	4.9	5.1	3.6	4.8
Average Age of Head	44.4	51.2	45.5	41.4	44.3	41.7	45.4	53.2	46.7	44.3	51.2	45.4
% of Household Heads by Sex	84.5	15.5		88.3	11.7		83.6	16.4		84.7	15.3	

55 The other important information that could be linked to the water and sanitation status either at household or school level is the highest level of education completed Accordingly, Table 4 below reveals that in all the surveyed regions, more than half of the household heads (50.6%) didn't have completed any formal education. Likewise, Table 5 shows that in all the surveyed regions, 37.3% of the household members didn't have completed any formal education.

Table 4: Highest Grade Completed by the Head of Households by Sex and Region (%)

Education Level	Oromia			Sidama			SNNP			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Less than one year	46.3	82.3	51.9	38.0	79.9	42.9	43.5	81.8	49.8	44.0	81.8	49.7
Primary (1-8)	43.0	17.3	39.0	43.8	16.1	40.6	39.1	17.7	35.6	41.6	17.3	37.9
Secondary (9-12)	7.2	0.0	6.1	8.7	1.0	7.8	8.1	0.0	6.7	7.8	.1	6.6
Technical/vocational	.2	.3	.2	0.0	0.0	0.0	.9	0.0	.7	.4	.2	.4
Higher (Diploma or above)	1.2	0.0	1.0	7.2	0.0	6.3	7.9	.6	6.7	4.6	.2	4.0
Religious/Non-formal education	1.7	0.0	1.4	.1	0.0	.1	.5	0.0	.5	1.0	0.0	.9
Don't Know	.5	0.0	.4	2.2	3.0	2.3	0.0	0.0	0.0	.6	.3	.5
Refused	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5: Highest Grade Completed by Household Members by Region (%)

Education Level	Oromia	Sidama	SNNP	Total
Less than one year	41.8	28.6	34.9	36.9
Primary (1-8)	50.0	57.6	53.1	52.4
Secondary (9-12)	6.6	9.5	9.2	8.1
Technical/vocational	0.3	0.0	0.3	0.3
Higher (Diploma or above)	0.5	2.8	2.4	1.6
Religious/Non-formal education	0.7	0.0	0.1	0.4
Don't Know	0.1	1.6	0.0	0.3
Refused	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0

56 Below (Table 6) are the health-related characteristics of the households in the study regions. Around 22.5% of the household members had suffered from some kind of health problems during the last 2 weeks preceding the survey, out of which 21.1% were suffering from diarrhea.

Table 6: Health Characteristics of the Family Members by Sex and Region (%)

Health Status	Oromia			Sidama			SNNP			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Any health problem	34.9	34.8	34.9	2.7	3.9	3.3	15.1	16.8	15.9	22.2	22.7	22.5
Diarrhea prevalence	12.8	14.5	13.6	49.2	33.4	40.4	41.1	36.8	38.9	20.6	21.6	21.1
Blood in the stool	25.6	27.4	26.5	47.1	46.2	46.7	28.4	26.6	27.5	28.0	27.8	27.9
Advice or treatment for diarrhea	50.3	54.5	52.4	68.1	51.6	60.5	31.9	36.0	34.0	42.0	45.1	43.5
Eye Infection	20.6	21.1	20.9	1.5	1.7	1.6	7.4	8.6	8.0	12.6	13.0	12.8

57 Children under 5 years of age are the most affected by unsafe water and inadequate sanitation. In this regard, the result (Table 7) of this baseline survey reveals that nearly 36.5% of the under 5 years old household members had suffered from diarrhea during the last two weeks before the survey while the situation is more severe in Sidama (70.2%). The table further shows that 26.0% of the children suffering from diarrhea had blood in their stools. The case is relatively higher in Sidama (70.1%) than the other two study regions.

Table 7: Health Characteristics of Children Under 5 Years Old by Region (%)

Health characteristics	Oromia	Sidama	SNNP	Total
Under 5 years old household members who have suffered diarrhea during the last 2 weeks before the survey	4.8	1.3	6.2	4.7
Under 5 years old household members with diarrhea and have blood in their stool	26.5	27.5	46.7	27.9
Under 5 years old household members with diarrhea with no blood in their stool	73.5	72.5	53.3	72.1

58 Among the impact level indicators of COWASH Phase IV is under 5 mortality. Overall, the under 5 mortality was found to be 12.17 deaths per 1000 live births (Table 8).

Table 8: Under 5 Mortality by Region

Health characteristics	**Oromia**	**Sidama**	**SNNP**	**Total**
Under 5 mortality in surveyed woredas (per 1000 live births)	6.34	14.10	20.08	12.17

59 Disability is also among the issues covered by the survey. The three study regions aggregated, 8.5% of the household members were having some kind of disability with the disability prevalence varying between 3.9% in Sidama and 11.4% in SNNP regions (Table 9). Out of the household members with disability (8.5%), 38.8% had multiple types of impairments. The most common types of disabilities were visual impairments, difficulties in walking or climbing steps and hearing difficulties.

Table 9: Household Members with Disability by Sex and Region (%)

Response	**Oromia**			**Sidama**			**SNNP**			**Total**		
	M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
With Disability	7.4	8.1	7.8	3.9	3.8	3.9	10.8	12.1	11.4	8.1	9.0	8.5
Without Disability	92.6	91.9	92.2	96.0	96.2	96.1	89.1	87.9	88.5	91.8	91.0	91.4
Don't Remember	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Refused	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

3.1.2 Characteristics of Institutions Inspected

60 The institutions inspected during the baseline survey include rural schools and health facilities. The WASH data collected from institutions is not weighted and also not representative of the WASH situation of the overall institutions of the surveyed COWASH IV project woredas. Instead, the data represents only the WASH situations of the specific kebeles, where the sample EAs are located and the survey data was collected. With regards to rural schools (Table 10), 146 schools (58 in Oromia, 42 in SNNP, and 46 in Sidama) found in the rural kebeles were covered by the baseline survey. On average, in 2021/22 academic year, 711 students were enrolled in these schools visited schools visited. The highest number of students per school was recorded in Sidama region, with an average of 1,074 students per school, while the least was in Oromia region with 490 students per school, may be due to security issues in some of the survey woredas. The schools reported that a little above 1.0% of the students were having some kind of disability.

Table 10: Particulars of Schools Visited by Region

Schools particulars	Oromia	Sidama	SNNP	Total
Number of schools visited	58	46	42	146
Average number of students per school	490	1,074	608	711
Average number of school community per school	505	1,116	630	736
Average number of student/teacher per school	33	28	29	30
Average number of students with some kind of disability per school	5	7	12	7
Students with some kind of disability (%)	0.8	0.8	2.4	1.2

61 Regarding health facilities, 104 health facilities (40 in Oromia, 34 in SNNP & 30 in Sidama regions) were inspected with background information captured by Table 11 below.

Table 11: Basic Characteristics of Health Facilities Inspected by Region

Basic characteristics	**Oromia**	**Sidama**	**SNNP**	**Total**
Number of health facilities visited	40	30	34	104
Average number of staff per health facility	6	13	11	10
Average number of female staff per health facility	3	7	6	5
Average number of male staff per health facility	3	7	5	5

62 The most common diseases reported by the health institutions include diarrhea, pneumonia, typhoid and malaria.

3.1.3 Characteristics of Community Water Supply Facilities Inspected

63 In total, 145 community water supply schemes were inspected in 96 sample EAs during the baseline survey. As shown in Figure 1 below, majority of the drinking water supply schemes found were protected springs (55.2%) followed by piped water (28.3%). A single community water supply scheme benefits, on average, 50 rural households in the sample EAs of the kebeles where the sample EAs are located. From perspectives of the study regions, the average number of households benefitting from a single community water supply scheme inspected stood at 27 in Oromia, 104 in SNNP and 18 in Sidama regions.

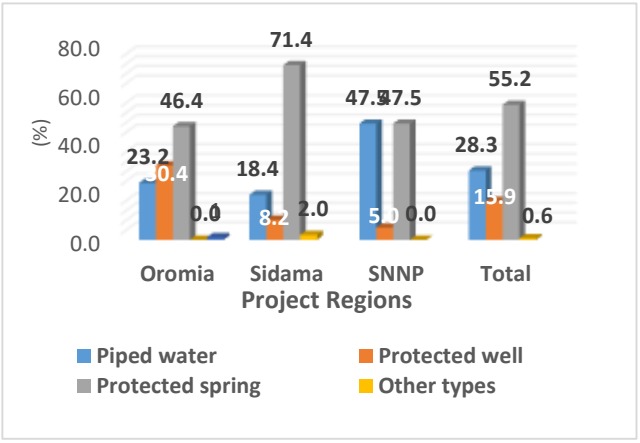


Figure 1: Community Water Supply Schemes Inspected by Region (%)

3.2 Findings on Rural Community Water Supply

64 In the rapid global socio-economic development, it's difficult to imagine that billions of people are denied their basic right to access adequate, safe drinking water every day and at any time. Recent assessment shows that worldwide, over 2 billion people rely on unsafe drinking water, the Global and local government commitments via the MDG and SDG is significantly improving the situation[5]. Nevertheless, the access to safe drinking water in the rural setting is far below the urban and peri-urban areas. The rapid population growth, climate change, limited institutional and professionals' capacity, low level of private sector engagement, a bit complicate accelerating the sustainable services delivery.

65 In Ethiopia, 69% of households have access to an improved source of drinking water, including 87% of urban households and 61% of rural households. Access to an improved source of drinking water increases with increasing wealth, from 37% among those in the lowest wealth quintile to 93% among those in the highest quintile. The Oromia region improved drinking water sources coverage is 65.2% and unimproved is 34.4%. Likewise, in SNNPR (including Sidama region) 71.4% of the HH's sources of drinking water is improved, 28.6% is unimproved, 54.2% with basic drinking water services and 17.2% with limited (Ethiopian Public Health Institute (EPHI) [Ethiopia] and ICF. 2021 EDHS. 2019).

3.2.1 Household Access to Drinking Water Supply

66 Most of the rural HHs in the COWASH phase IV project [6]target regions use both improved and unimproved water sources for various purposes. These include pipe water, protected well, protected spring, rainwater harvesting, unprotected well and spring, and river, lake/pond /dam. As captured by Table 12 below, the overall top three water resource of the project regions during the dry season were protected spring (46.3%), rive/lake/pond/dam (29.4%) and unprotected spring (27.0%) while 75.8% were using at least one protected source. Finding of the survey also revealed that the main improved source for drinking water was functional during the survey period (76.5%).

[5] who.int/news-room/fact-sheet/detail/drinking-water.

[6] COWASH phase IV target regions this baseline covered only groups of woredas in Oromia, Sidama, and SNNP regional states

67 Depending on the level of development intervention, hydrogeological condition, and representativeness of the sample districts, the type of water sources slightly varied among the three regions. For instance, the major sources were protected spring (42.2%) and pipe water (41.2%) in SNNP, protected spring (47.7%) and unprotected spring (24.0%) in Oromia and, protected spring (52.8%) and river/lake/pond/dam (34.9%) in Sidama.

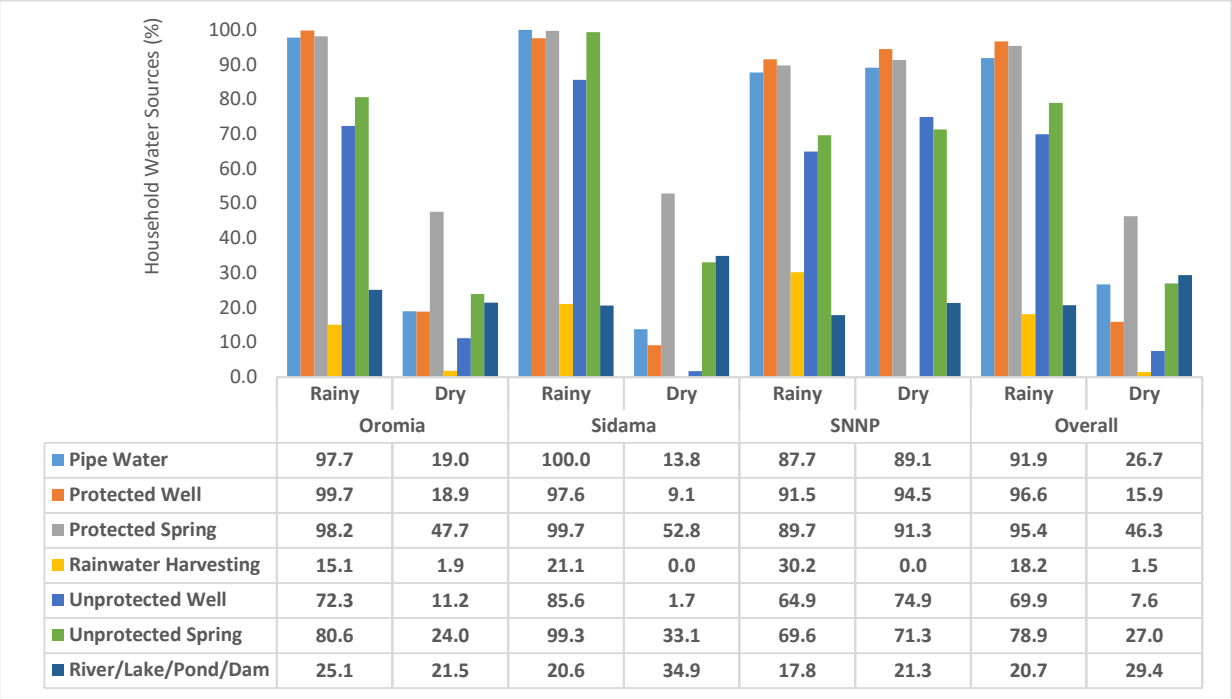
Table 12: Water Sources for Rural Households during Dry Season by Region (%)

Type of water sources	Oromia	Sidama	SNNP	Total
Piped Water	19.0	13.8	41.2	26.7
Protected Well	18.9	9.1	14.9	15.9
Protected Spring	47.7	52.8	42.2	46.3
Rain Water Harvesting	1.9	0.0	1.5	1.5
At least One Protected Source	75.0	71.2	78.7	75.8
Unprotected Well	11.2	1.7	5.4	7.6
Unprotected Spring	24.0	33.1	28.3	27.0
River/Lake/Pond/Dam	21.5	34.9	36.8	29.4

68 Practical observation informed that HHs had preferences on the type of drinking water sources during dry and rainy seasons. To this end, there are a number of factors, among others, that include level of awareness and access to safe water, distance of the water sources, availability of water due to rainfall, water tariff, etc. However, in the project regions, there was no significant difference on the preferred sources of drinking water during dry and rainy seasons. The HH survey found out that the percentage of HHs using rainwater harvesting was low (with the exception of Oromia) as compared to other sources. There was no practice of using rainwater harvesting in SNNP and Sidama regions during dry season (Figure 2).

69 This might be due to the fact that Oromia region relatively receiving more amount of rain annually (1221 mm[7]) or the technology is not promoted in Sidama and SNNP.

[7] http:// dataafrica.io. Oromia-eth



	Oromia		Sidama		SNNP		Overall	
	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry
Pipe Water	97.7	19.0	100.0	13.8	87.7	89.1	91.9	26.7
Protected Well	99.7	18.9	97.6	9.1	91.5	94.5	96.6	15.9
Protected Spring	98.2	47.7	99.7	52.8	89.7	91.3	95.4	46.3
Rainwater Harvesting	15.1	1.9	21.1	0.0	30.2	0.0	18.2	1.5
Unprotected Well	72.3	11.2	85.6	1.7	64.9	74.9	69.9	7.6
Unprotected Spring	80.6	24.0	99.3	33.1	69.6	71.3	78.9	27.0
River/Lake/Pond/Dam	25.1	21.5	20.6	34.9	17.8	21.3	20.7	29.4

Figure 2: Household Water Sources during Rainy and Dry Seasons by Region (%)

70 HHs were requested to list down the main sources of drinking water/ improved water they were using. Accordingly, HHs identified four out of the seven available waters sources, namely pipe water, protected well, protected spring and rainwater harvesting. The overall finding of the survey shows that 56.8% of the HHs in the project areas surveyed were using protected spring for drinking followed by piped water and protected wells (24.3% and 18.2%, respectively). The practice of using rainwater harvesting for drinking was almost nil (0.4%).

71 The types of drinking water sources vary among the three regions. For example, about 62.7% of the HHs in Oromia, 71.3% in Sidama and 45.1% in SNNP were using protected springs. One can draw from this water system that investment in SNNP region is relatively cheaper as most of the HHs are using protected spring or the potential for spring development is high. About 1.0% of the HHs in Oromia region are using rainwater harvesting technology for drinking purposes though 22.4% are harvesting it. However, the practice in the other two regions is almost nil (Figure 3). It is wise to learn from the rainwater harvesting technology practice in Oromia region and share the experience to the other regions.

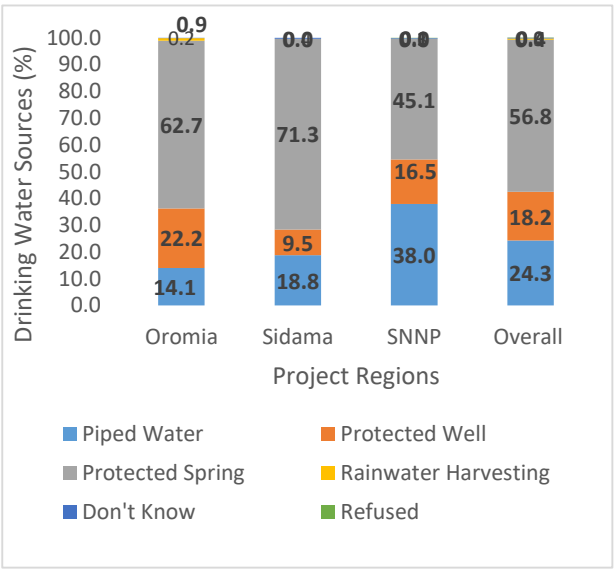


Figure 3: Household Main Drinking Water Sources by Region (%)

72 In order to validate the data and deduce better conclusion, the survey also conducted FGDs at woreda and Kebele levels. In terms of WASH service delivery satisfaction, the FGDs conducted at woreda level

showed that community members were dissatisfied on the service being delivered. For instance, below is the response of WASH team members in Sululta Woreda of Oromia region:

"No, we are not satisfied *with the WASH situation in our woreda because there are kebeles with* shortage *of water and can't be covered by this project due to shortage of budget."*

73 *The* discussion participants further argue that the shortage of budget also affects functionalities of water supply systems because there is no proper maintenance of facilities due to shortage of budget and / or spare parts. The FGDs conducted with Wondo Genet and Arbegona woredas community members in Sidama region also confirmed the following.

> *"…the community is not satisfied with water supply because the demand and supply do not match."*

74 The dissatisfaction of WASH services in SNNP was also reflected in the FGDs of Tembaro and Lemo *woredas*. Participants in both woredas stated that the drinking water supply coverage is small and quantity and quality fluctuates between dry and rainy seasons.

75 Budget *limitation*, improper budget allocation, and lack of coordination between sectors are reported to be the main causes of dissatisfaction. For instance, the participants from Berek woreda of Oromia Region said that:

> *"WASH situation in our woreda is not satisfactory for the community and the budget we get from this project up to now supports only training activities." The other challenge is that, even if the budget is there, it is not released on time but prices are changing rapidly and hence affects accomplishment of the project."*

76 The outcome of the discussion at kebele level showed that budget was the main barrier for improving access to community water supply (90.3%), HH sanitation and hygiene (61.7%), and institutional water supply (90.4%).

77 In general, in developing countries or more specifically in the rural parts of Ethiopia, domestic water collection is assumed to be the role of women and children, regardless of the amount and the distance they travel to fetch water. HHs were asked about whose role is collecting water for domestic purposes and replied that about 81.3% in all regions are women, adolescent girls (93.0%) and children (69.0%). This shows that women and children spend most of the HH time on water collection that would have been a resource to improve their way of life such as improved education performance, healthcare, engaging in additional income generation or asset building, or involve in other social activities.

78 Rural *water* supply schemes non-functionality is estimated up to 11.2%, OWNP 2018. Due to this fact, the government of Ethiopia GTP II and the OWNP targeted to reduce the non-functionality to 7% until 2020. The HH survey findings (Figure 4) revealed that, overall, 97.1% of the water schemes in the project areas were functional. There was no such major difference on functionality of the water schemes by region, however, the non-functionality in Sidama region was slightly high (5%) followed by SNNP (2%).

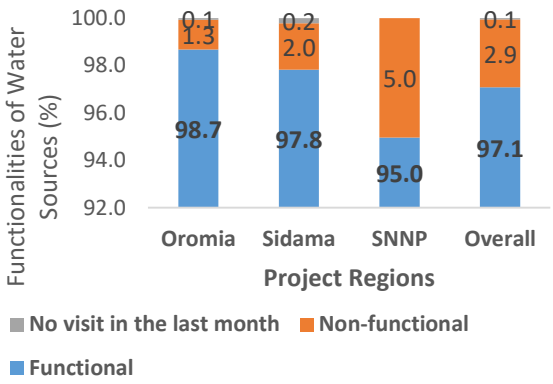


Figure 4: Functionality of Household Drinking Water Sources by Region (%)

79 Functionality of drinking water schemes were assessed by the data collectors and consequently out of 145 schemes visited, 87.6% (or 127 schemes) were found functional, and out of the 12.4% non-functional water schemes (18) or 55.6% were abandoned (as defined by professionals) and about 44.4% were non-functional (working only during rainy season) but can be maintained /renovated.

80 The survey also captured the amount, quality, and time elapsed to fetch water from nearest drinking water sources. Overall, a HH collects about 60.7 liters of drinking water per day. The amount of water collected by a HH per day by region shows that, on average, a HH in Oromia, Sidama, and SNNP fetches 68.8, 37.0, and 59.6 liters, respectively, of potable water per day. The Ethiopia GTP II established the minimum standard on daily water demand both in rural and urban households. Rural HHs should access a minimum of 25 litters of water per person per day (lpd) to meet all of their domestic water demand. The average HH size of the project regions is about 4.8 persons, and based on the above-mentioned amount of water collected per day per HH, the mean per person or per capital water consumption is about 12.3 liters. The regional disparities shows that HHs in Oromia consume 14.6 liters, Sidama 6.98 liters and SNNP 12.16 liters per person per day

81 The above estimates show that the target regions' HH water consumption (about 50.0%) is much below the minimum standard set in GTP II (25 lpd). This implies the project HHs didn't collect sufficient amount of water to meet their domestic demand due to many reasons, such as the water point might be located at relatively far distance from their house, low yield of the water point/ source and HHs might need to line long queue, unaffordable water tariff, poor sanitation and hygiene practices, non-functionality of water point/ sources, HHs might use different water sources/ unimproved water/ for non-drinking purposes etc. In any case, the target regions HHs are at risk of communicable diseases due to insufficient amount of water consumption for drinking, cooking, personal hygiene and sanitation.

82 The finding of the survey showed that overall time required to fetch domestic water from improved water sources varies from 21 to 26 minutes (excluding queuing time) and 63 to 119 (including queuing time). The project woredas HHs average time spent to collect water from improved sources is 23.4 and 88.2 minutes excluding and including queuing tim, respectively. This shows that, on the average, a HH spent over an hour (64.8 minutes) for queuing in a single trip of fetching water from improved sources. The situation by region showed that domestic water fetching including queuing in Oromia ranges from 42 to 85 minutes, in Sidama ranges from 30 to 101 minutes, and in SNNP ranges from 77 to 162 minutes (Table13). HHs in Oromia relatively spend less time to collect water and return home, including queuing.

83 Comparing the time required to fetch water from the unimproved water sources (38 to 56 minutes, excluding queuing time) and improved water sources (21 to 26, excluding queuing time), HHs spend more time to fetch from unimproved water sources. This is due to the fact that the unimproved water sources are river/lake/pond/dam which are normally located a bit away from settlement areas (Table 13).

Table 13: Average Time (in Minutes) Required to Fetch Water from Water Sources during Dry Season by Region

Drinking Water Source	Oromia		Sidama		SNNPR		Total	
	Ex.queu	Inc.queu	Ex.queu	Inc.queu	Ex.queu	Inc.queu	Ex.queu	Inc.queu
Pipe Water	16	42	13	30	23	147	20	100
Protected Well	24	77	25	72	30	162	26	106
Protected Spring	21	65	30	101	26	77	24	75
Rainwater Harvesting	23	85	NA	NA	NA	NA	23	85
Average for Protected Source	20.5	62.8	26.3	84.6	25.7	118.8	23.4	88.2
Unprotected Well	34	82	44	174	82	146	48	104
Unprotected Spring	27	77	31	101	54	155	38	110
River/lake/pond/dam	117	141	19	28	39	61	56	76

84 Female members of the HHs were asked if their husband usually helps them with household chores like looking after the children, cooking, cleaning the house, and doing other work around the house. The overall situation shows that about 39.2% of women reported that husbands do not provide support while 47.8% do.

85 One of the objectives of availing safe water to nearest location of the HHs is to reduce the time spent to fetch water from the different water sources for various purposes. Cognizant with this, HHs were asked for what purpose female HH members could use the time saved from fetching water. Overall, most of the women in the project regions spend the time saved to relax/doing nothing (54.9%), participating in social issues (21.0%), cooking food (20.7%), and collecting firewood (20.2%).

86 The data segregated by region revealed that in SNNP about 36.8% of women preferred to use the time *saved* from fetching water to participate in agricultural activities whereas in Oromia 32.6% and 30.1% of the women preferred using the time saved for collecting firewood and washing clothes, about 47.7% of women in Sidama region proposed to use the saved time just for relax/ doing nothing (Table 14).

Table 14: Women's Use of Time Saved from Fetching Water by Region (%)

Possible Activities	Oromia	Sidama	SNNP	Overall
Cooking food	23.5	23.6	16.2	20.7
Participating in agricultural activities	22.6	36.8	9.3	19.6
Collecting firewood	32.6	15.0	7.0	20.2
Sending students to school/study	2.6	9.2	2.9	3.7
Study	0.6	2.0	1.8	1.3
Relax/doing nothing	50.5	47.7	63.1	54.9
Washing clothes	30.1	12.3	9.2	19.4
Engaging in petty trade	4.8	4.6	3.1	4.1
Sleeping	10.7	20.3	14.4	13.5
Participating in social issues	16.9	19.0	26.9	21.0
Participating in community issues	8.9	10.6	8.6	9.0
Other	1.0	1.8	0.3	0.9
Don't know	0.9	0.0	0.0	0.4
Refused	0.0	0.0	0.0	0.0

87 Even though HHs spent such a huge time to fetch water from the nearest water sources, overall, it was only for 43.9% of the HHs that the collected water was adequate for household use. The analysis by region shows that the collected water was found to be adequate for about 52.4% of the HHs *in* SNNP whereas for about 32.7% and 18.0% of the HHs in Sidama and Oromia, respectively, the collected water was not adequate to meet all the HH daily needs (Table 15).

Table 15: Adequacy of Collected Water by Region (%)

Adequacy of water collected	Oromia	Sidama	SNNP	Overall
Adequate	40.2	31.7	52.4	43.9
Somewhat Adequate	41.8	35.6	31.2	36.7
Not Adequate	18.0	32.7	16.2	19.3
Don't Know	0.0	0.0	0.2	0.1
Refused	0.0	0.0	0.0	0.0

3.2.2 Community Water Supply Facilities Management

88 There are a number of attributing factors for sustainability of Rural WASH facilities and services. Among *others*, level of community participation, inclusive business development, capacity of private and public services providers, private sector engagement, budget for O & M, women empowerment, marketing or market-oriented approach, awareness raising on various development agenda were the major ones. In addition to these, the recent and alarming climate change led to design WASH facilities with climate-resilient leans otherwise conventional approaches could not help to mitigate the risk.

89 Cognizant with this, the government of Ethiopia embarked and developed Climate- Resilient Green Economy Strategy (CRGE) with the theme "the path to sustainable development." The strategy has been implemented since 2011 and encouraging changes have been observed in development project design and implementation.

90 The *O*ne WASH National Program (OWNP) recommends rural water schemes need to establish WASHCO to ensure active participation of the user and voice of vulnerable groups heard during the full cycle of the water sources development, i.e., from the design up to operation and management. The CMP implementation approach recommended about 50.0% of the WASHCO members should be women. The data gathered from the discussion with the members of WASHCOs showed that the overall number of WASHCO members is five and only one member is female. The total number of WASHCO members didn't show difference by region except that the number of female members is two in Sidama region. This shows that the target regions WASHCOs didn't meet the minimum gender composition of a WASHCO. All of them were observed to have been far below the minimum standard (Figure 5).

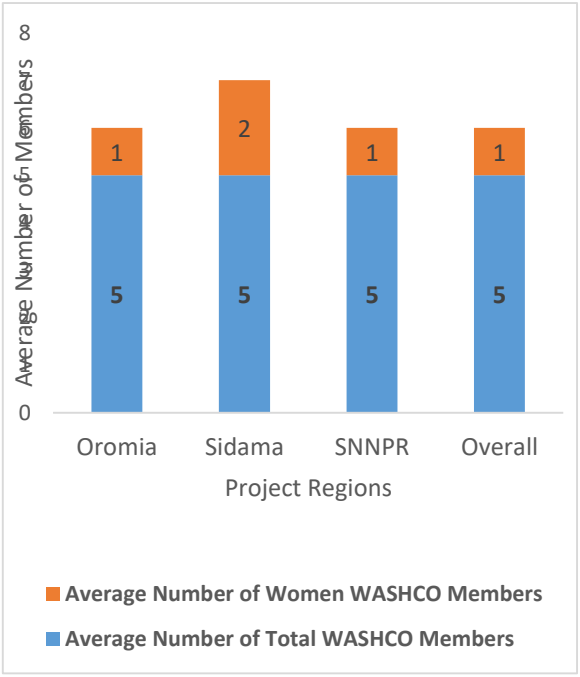


Figure 5: Total Number of WASHCO Members and Women WASHCO Members by Region

91 The HH survey finding showed that it was the joint decision of both the women and the husbands (49.1%), the husbands only (24.4%) and the women themselves (23.7%) that made a woman to be member of the WASHCOs.

92 The WASHCOs are volunteers and are expected to meet regularly and discuss about the various aspect of the water scheme or source they are managing. The survey also collected data from WASHCOs about the number of meetings they held during last year. The overall maximum number of meetings (Table 16) held by WASHCOs showed that about 55.6% of them have never conducted a meeting in the last one year whereas 13.5% of them conducted their meetings like once in a quarter. The situation by region showed that about 67.3% of the WASHCOs in Sidama have never conducted a meeting in the past one year. However, about 22.9% of the WASHCOs in Oromia region held the meeting like quarterly. This indicated that strengthening the capacity of the WASHCOs to enhance the quality of their services delivery is critical.

Table 16: Frequency of the WASHCO Meetings by Region

Number of meetings per year	Oromia		Sidama		SNNP		Overall	
	#	%	#	%	#	%	#	%
At least ten	3	6.3	2	4.1	6	16.7	11	8.3
At least four	11	22.9	4	8.2	3	8.3	18	13.5
At least two	6	12.5	6	12.2	5	13.9	17	12.8
One	5	10.4	2	4.1	4	11.1	11	8.3
None	23	47.9	33	67.3	18	50.0	74	55.6
Don't know	0	0.0	2	4.1	0	0.0	2	1.5
Total	48	100.0	49	100.0	36	100.0	133	100.0

93 The discussion with WASHCOs at community level had also shown that only 29.6% of the committees have written bylaws. This would affect them in terms of clearly understanding their roles and responsibilities, and it also affects the expectation of the user community as well as provision of the expected supports.

94 Women WASHCO members assumed different roles in the committees. The overall and the region level survey findings didn't show big difference. In most cases, women assumed the role of treasurer that might be due to the fact that the community's perception that women are usually more careful in resources management than men especially in financial assets. However, relatively higher proportion of women in SNNP assumed the role of chairperson (5.6%) than the other two regions. No single women assumed the role of chairperson and secretary position in Oromia and SNNP regions (Figure 6).

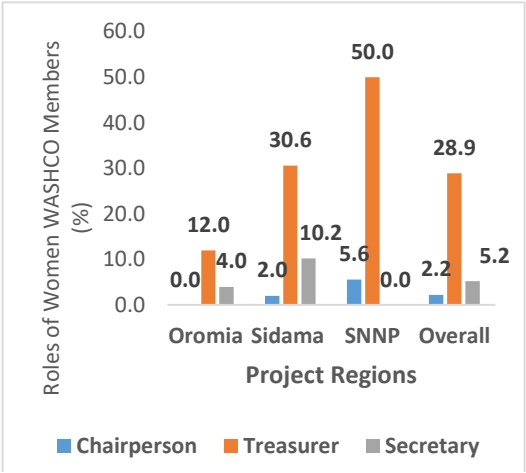


Figure 6: Role of Women Members in WASHCOs by Region (%)

95 Regarding the confidence to assume chairperson or other leadership positions in the WASHCOs, about 55.2% of the women have the confidence to assume the top leadership positions if they would be elected. Nevertheless, the remaining proportions lack the courage because of their level of education (36.4%), cultural acceptance (9.0%), co-operation from men (1.8%), and willingness of their partner (1.5%) (Table 17).

96 Even though 55.2% of the women HHs members have the confidence to assume a chairperson position in the WASHCOs, the community water point inspection finding showed that out of the 135 water points (functional or temporarily non-functional), only three water points (2.2%) have female WASHCO chairpersons. That is, about 97.8% of the WASHCO chairpersons were males or dominated by males. Thus, a lot of effort is required to empower women and assume the leadership position in the WASHCOs regardless of their level of education.

Table 17: Womens' Reasons for not Assuming Leadership Positions in WASHCO by Region (%)

Reasons	Oromia	Sidama	SNNP	Total
Not allowed in our culture	11.0	14.4	4.3	9.0
Partner is not willing	3.1	0.4	0.0	1.5
No education	34.6	27.6	42.3	36.4
Busy with household chores	1.5	0.0	0.2	0.8
No full cooperation of men	1.4	1.9	2.4	1.8
No full cooperation of women	0.9	0.1	0.9	0.8
Other	0.7	1.1	7.2	3.2
Don't know	0.2	0.0	0.3	0.2
Refused	1.9	2.4	0.8	1.6

97 Some of *the* expected roles of the WASHCOs and other actors in WASH project implementation include dissemination of general information about WASH, empowering women, and accessibility of the WASH

facilities for all. The overall access to information about WASH shows that 49.5% of the COWASH targeted HHs (at least one member of the family) received the information. The information delivery disparities by region show that HHs in SNNPR relatively have got better opportunity (58.4%), followed by Oromia region (46.1%).

98 The survey also gathered data about the importance of engaging women in WASH management and found that overall, 59.4% of the HHs of the COWASH project regions surveyed have received the information. The information on the importance of engaging women in WASH management significantly varies among the target regions - Sidama (86.3%), SNNP (60.1%), and Oromia (51.8%). Regarding information about accessibility of WASH facilities to all members of the HHs, it is reported that overall, 39.8% of the target project HHs have received information on the need for making accessible WASH facilities and services for PWDs and elderly people. The situation by region showed that only 35.0% of HHs in Sidama region have received the information while in the other two regions slightly more than 60.0% have confirmed to have received the information.

99 Quality of information sharing about the aforementioned development agendas depends on the innovativeness of the message, channel of communication and means of communication. Accordingly, the overall top three sources of information for the project regions rural HHs were health extension workers (58.6%), radio (10.8%), and neighbors/friends (6.3%). WASHCOs as sources of information were 10.5% in Sidama, 7.0% in SNNP and less than 1.0% in Oromia. So, as a key stakeholder of the rural WASH project, it requires to strengthen the capacity of the WASHCOs in Oromia region than Sidama and SNNP regions (Table 18).

Table 18: Sources of WASH Information by Region (%)

Sources of information	Oromia	Sidama	SNNPR	Total
Radio	14.4	12.1	6.7	10.8
Television	2.6	0.7	0.4	1.4
Health Extension Workers	56.9	45.0	65.4	58.6
Woreda Sector Offices	1.5	0.2	0.4	0.8
Kebele Water, Sanitation & Hygiene Team (KWT)	2.2	2.6	4.4	3.2
Church/Mosque	1.6	0.5	1.3	1.3
WASHCO	.5	10.5	7.0	4.8
Family Members	1.6	4.1	0.4	1.5
Farmers Training Center (FTC)	6.0	3.0	2.0	3.9
Neighbors/Friends	4.3	4.2	9.2	6.3
School & Health Centers	5.4	13.1	1.1	4.8
Development Agents (DAs)	0.6	2.2	0.5	0.8
Associations in the Kebele	1.3	1.7	0.2	0.9
Don't remember	1.1	0.2	0.7	0.8
Refused	0.0	0.0	0.2	0.1
Total	100.0	100.0	100.0	100.0

100 House to house visits, meetings, and radio were found to be the most common mechanisms to transmit information to rural HHs of the project regions. Overall, about 48.1% of the HHs (or at least one member of their family) received the message during the house-to house visit, through meeting (41.9%) and via radio (5.8%). In none of the regions, HHs received information through newspapers. This might be due

to the fact that low literacy, availability of newspapers in the rural areas, even if they exist, it may not have WASH related information or messages, etc.

101 The overall findings of the survey shows that most topics covered in the WASH promotion using the various communication channels and means of communication included WASH facilities maintenance (73.2%), bylaw (38.7%), sanitation (37.3%), and cleanness of the water sources (35.9%).

102 Majority (66.0%) *of* the HHs missed the WASHCO meeting because they were not informed about it while for 18.2% was due to inconvenient time or schedule. Regarding who usually makes decisions about women to participate in meetings, the overall finding showed that the decision was made by the women themselves (23.6%), by their husbands (26.0%), and jointly (48.9%).

3.2.3 Drinking Water Supply Sustainability

103 Sustainability is a broad term and has been embarked in most policy, sector development programs, strategies, and development agents and authorities has been exerting effort to realize long term *services* without affecting the environment. Sustainability refers to the ability to maintain or support a process continuously over time. In business and policy contexts, sustainability *seeks* to prevent the depletion of natural or physical resources, so that they will remain available for the long term.

104 In rural WASH programs, various aspects have been considered to ensure sustainability of water schemes. Among others, community participation starting from project inception phase, community capacity on preventive and routine operation and management of their scheme, establishing functional WASHCO, setting affordable water tariff and regularly collecting on agreed units, spare part supply chain and marketing, sector integration, coordination & collaboration, and inclusive services are the main ones. Cognizant with this, the survey tool was designed to capture and analyze the existing situation of the COWASH targeted regions. Key findings are presented in the sub section below.

3.2.3.1 Functional WASHCOs

105 Nowadays, most rural WASH projects have established WASHCOs, but, their functionality depends on the level of community support, their voluntary services and the committee's respect to their bylaw and managing the schemes accordingly. In line with this, HHs were interviewed if the improved water sources they have been using have WASHCO or not. Accordingly, the overall awareness of project region HHs showed that about 43.3 % of the HHs know that there is elected WASHCO and about 88.7% know personally at least one of the members.

106 The finding segregated by region shows that majority (65.5%) of the HHs in SNNP were aware of the WASHCO election and 87.0% know at least one of the WASHCO members. Relatively lower proportion (22.4%) of the Sidama region HHs know the election, but 92.7% of them know at least one of the WASHCO members. This might be due to the fact that HHs did not participate in the WASHCO election but they work together (Table 19).

Table 19: Household's Awareness about Presence of WASHCOs by Region (%)

WASHCO election	Oromia	Sidama	SNNP	Overall
Aware of WASHCO election	30.40	22.40	65.50	43.30
Know at least one of the WASHCO members	90.90	92.70	87.00	88.70

107 Planned and regular meetings between the WASHCO and the community will help to easily mobilize the community, learn the challenges the user community have, share the development agenda of the community to relevant development partners and look for financial and technical supports.

108 The survey found out that, overall about 53.9% of the HHs have attended formal meetings organized by the WASHCO, and about 50.1% of the meetings' minutes were documented for further actions and follow-ups. Compared to Oromia and Sidama regions, in SNNP about 59.6% of the HHs participated in formal meetings organized by the WASHCO and 45.5% of the meetings minutes were documented. However, only 16.0% of the HHs in Sidama region attended the meetings and about 36.6% of the HHs reported that the meetings' minutes were documented. Similarly, 51.6% of the respondents in Oromia participated in the meetings and 60.8% reported that the meetings' minutes were documented. Furthermore, the survey shows that overall, 30.1% of the decision made in the meeting has been implemented to the satisfaction of the HHs.

3.2.3.2 Water Scheme Operation and Management.

109 Assessment of the knowledge about the responsible body for O & M service provision was among the issues covered. Accordingly, it was found out that, overall, it is the responsibility of the community themselves (29.6%) and WASHCO of the water supply (29.0%).

110 Analysis of the responsibility by region showed that 44.9% and 25.6% of the HHs in SNNP reported that the role was assumed by WASHCO and community themselves, respectively. Examining the relationship between functionality of water schemes and the responsibility assumed, one can draw a conclusion that there is a need to improve the capacity of the WASHCO and the community to reduce non-functionality (Table 20).

Table 20: Community Water Supply Scheme O & M service Providers by Region (%)

O & M Responsible body	Oromia	Sidama	SNNP	Overall
Woreda Water Office	27.2	42.9	5.9	20.9
Kebele Administration	9.8	8.9	20.4	13.9
Committee/WASHCO	16.0	26.5	44.9	29.0
Pump attendant/Caretaker	0.7	0.0	0.5	0.5
Community	37.1	15.7	25.6	29.6
Nobody	7.2	1.9	1.2	4.1
Don't know	1.8	4.1	1.6	2.0
Refused	0.2	0.0	0.0	0.1

111 Community understanding about ownership of their drinking water sources matters depending on the level of participation of the community on the water sources development. The survey showed that overall, less than half of the HHs (47.1%) believe community is the owner of the water point, followed by government (35.9%), and committee/WASHCO (13.5%). The ownership understanding was relatively better in Oromia region as 59.5% believed that community is the owner followed by SNNP region where 39.5% believe that the community is the owner of the drinking water points. More than half (52.0%) of the HHs in SNNP perceived that government is the owner of the water points. Comparing the observed finding on functionality against the responsible body for O & M service provision role, the finding seems

not supporting the logic that sustainability of water point is dependent on ownership or in general term it is due to lack of awareness of the beneficiary community on the ownership and management of their facilities (Table 21).

Table 21: Assumed Ownership of Drinking Water Sources by Region (%)

Ownership of Water Point/Source	Oromia	Sidama	SNNP	Overall
Government	30.6	52.1	36.4	35.9
Committee/WASHCO	6.4	15.1	21.2	13.5
Pump attendant/Caretaker	1.3	0.0	0.1	0.6
Community	59.5	27.5	39.5	47.1
Nobody	1.7	3.0	2.1	2.0
Don't know	0.4	2.3	0.7	0.8
Total	100.0	100.0	100.0	100.0

112 Overall, only 34.4% of the HHs were aware that maintenance had been made on their water points. The situation by region showed that only 15.0% of the HHs in Sidama were aware on the maintenance of their water point. The finding revealed that, out of 135 water points only 31.9% were maintained, i.e., 89 water points were not maintained. Moreover, about 46.5% of the WASHCOs reported that overall, the O & M cost of their water points was secured by community (Table 22).

Table 22: Water Points O & M Service Financers by Region (%)

O & M funders	Oromia	Sidama	SNNP	Overall
WASHCO savings	60.0	41.7	37.5	46.5
Raising additional funds from the community	53.3	16.7	56.3	44.2
Private donation	20.0	0.0	6.3	9.3
Borrowing money	0.0	0.0	0.0	0.0
Woreda Water Office	46.7	58.3	18.8	39.5
NGO	6.7	0.0	6.3	4.7
Other organizations	0.0	0.0	6.3	2.3
Don’t know	0.0	8.3	0.0	2.3

113 It is very essential for HHs to know and get information about O & M services providers during downtime or if their water point is not working. If the downtime is longer, HHs either need to travel to another nearest drinking water sources or supposed to use unsafe water sources. The overall finding showed that most of the HHs reported to WASHCO (38.8%) and Kebele (30.7%) whenever their water source was not working. The percentage distribution was somehow similar across all the COWASH IV surveyed regions. It was reported that about 14.1% of the HHs in Oromia didn’t report to anyone when their water point was not working. This might be due to the fact that the water point was new or they may not have any awareness where and to whom they should report to and address their key problems (Figure 7).

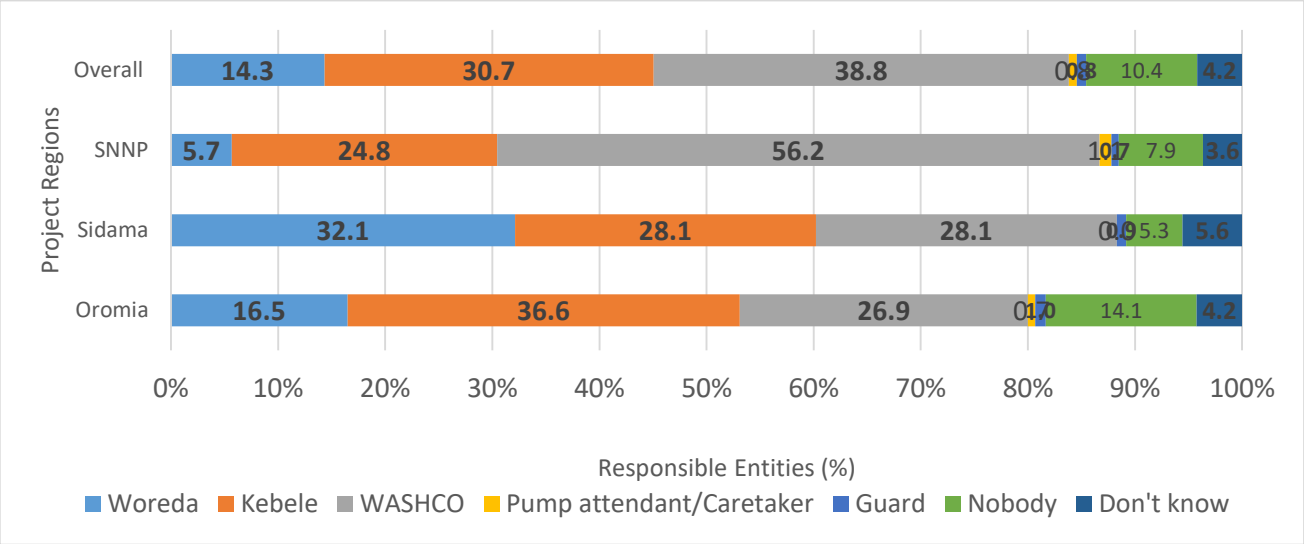


Figure 7: Entities Responsible for O & M by Region (%)

114 Discussions with WASHCOs showed that out of 135 water points it was only 19.3% of them who have trained pump attendants/caretakers. This shows that most water points (109) didn't have pump attendants or perhaps previously trained attendants have stopped providing the services and the community didn't know whom they should report to when their water point is not working.

3.2.3.3 Water Tariff

115 Functionality of water sources /points has direct relationship with water use tariff. That is, unless the WASHCO regularly collects and manages it for the intended purpose, as set in the bylaw, there will not be cash for O & M of the drinking water sources either to buy spare parts or pay for water technicians. The survey finding showed that about 67.8% of the HHs reported that water tariff was not yet established. The findings by region showed that more than 75.0% of the HHs in Oromia and Sidama reported water tariff has not been set for their drinking water sources (Figure 8).

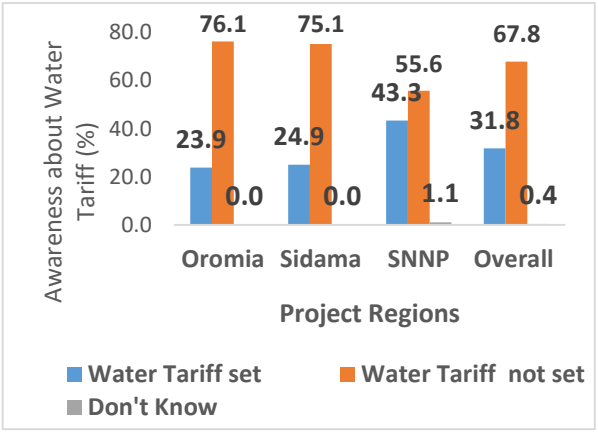


Figure 8: Household Awareness about Water Tariff by Region (%)

116 Depending on the socio-economic situation of the water user community, different modes of water tariff payments have been exercised across the survey regions. The COWASH phase IV target surveyed regions practiced mainly two kinds of water use tariff payments – payment in cash and in kind (grain, labor or other items). The discussion with the WASHCO showed that 45.8% of the mode of payment for water point guards was in cash. The most common mode of payment for guards in all the surveyed regions was cash (75%, 44.4% and 36.4% in Oromia, SNNP and Sidama, respectively) (Table 23).

Table 23: Mode of Payments for Community Water Points Guards by Region (%)

Mode of payment	Oromia	Sidama	SNNP	Overall
In cash	75.0	36.4	44.4	45.8
In kind	0.0	0.0	11.1	4.2
Both in cash and in kind	0.0	9.1	0.0	4.2
No payment for the guard	25.0	54.5	44.4	45.8
Don't know	0.0	0.0	0.0	0.0
Refused	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0

117 The overall findings of the HH survey showed that majority (54.8%) of the HHs had been paying on a monthly basis. The regional variations in terms of paying for water was almost the same. Mode of payment was also more or less similar across the three survey regions with the majority of households witnessing paying on a monthly basis (88.9%, 57.4% and 46.5% in Sidama, Oromia and SNNP, respectively), followed by "by Jerry can" (27.9%, 22.4% and 8.8% in SNNP, Oromia and Sidama, respectively) (Table 24).

Table 24: HHs' Water Tariff Mode of Payment by Region (%)

Water Tariff Mode of Payment	Oromia	Sidama	SNNP	Overall
By Jerry can	22.4	8.8	27.9	23.9
By day	0.0	2.3	0.0	0.3
By month	57.4	88.9	46.5	54.8
By 6 months	9.0	0.0	1.2	3.7
By year	4.0	0.0	23.8	14.5
Irregular	7.1	0.0	0.6	2.7

118 There were also HHs that do not pay water tariff for a number of reasons. The main reasons for not paying water tariff were lack of money (25.6%), water should be free (*gift of God*), exempted HHs (23.1%), and no services provided (18.5%). Analysis by region showed that about 49.8% of the HHs in Oromia reported that it is due to lack of money while 38.5% and 25.7% of HHs in SNNP mentioned water should be free and unavailability of services as the main reasons, respectively.

119 Among the issues covered during the survey were by whom and how often the water tariff was collected. The overall findings confirmed that more than three-fourth (78.7%) of the HHs reported that water tariff was collected by water user associations/ WASHCOs, and 56.3% of them reported that it was practically made on a monthly basis. However, the discussions with 133 WASHCOs showed that only 26.0% (38 WASHCOs) reported that they had been collecting water tariffs. So, it is important to verify the observed gap between what the HHs and the WASHCOs reported.

120 The HHs were also asked about how much they pay for the water they collected depending on the agreed mode of payment. The overall findings of the survey showed that most common mode of payment was cash (100.0%) and the average payment was reported to be 54 cents per liter. There is slight difference on the actual amount of water fee per liter with 63 cents, 32 cents, and 51 cents payment reported by Oromia, Sidama and SNNP region HHs, respectively. However, these are the actual water use fees and not water tariff set as the survey was not designed to capture the later.

121 Various studies showed that if HHs pay more than 5.0% of their monthly income or expenditure for water the tariff is classified as unaffordable. Though it is challenging to get the HHs monthly income, majority (68.3%) of the HHs reported that the current water tariff is affordable. The water tariff affordability, however, slightly varies among regions as 83.9%, 70.8% and 63.8% of the HHs in Sidama, Oromia and SNNP, respectively reported that it is (Figure 9). Moreover, the survey has also tried to assess the HHs willingness to pay for water. Accordingly, HHs are willing to pay on average Birr 105.69 in general (overall), Birr 140.46 in Oromia region, Birr 91.89 in SNNP region and Birr 29.57 in Sidama region per year.

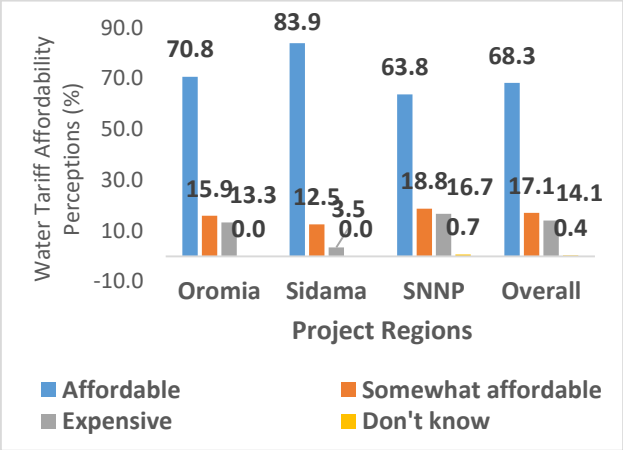


Figure 9: Perceptions of Households on Affordability of Water Tariff by Region (%)

122 The WASHCOs transparent communication on water tariff collection and management significantly affects their role as well as the expected duties and responsibilities of the HHs on sustaining the WASH facilities service delivery. Overall, only 23.5% of the HHs have knowledge about the amount of money collected by WASHCOs. However, about 81.0% of the HHs know the collected money is deposited in the Micro-finance Institution (MFI). More than 90.0% of the HHs replied that they are aware about the purpose of the tariff, and have also trust on WASHCO tariff management (Figure 10). It is vivid that knowing the amount of money collected by WASHCO will develop further trust and motivated them for other development initiatives.

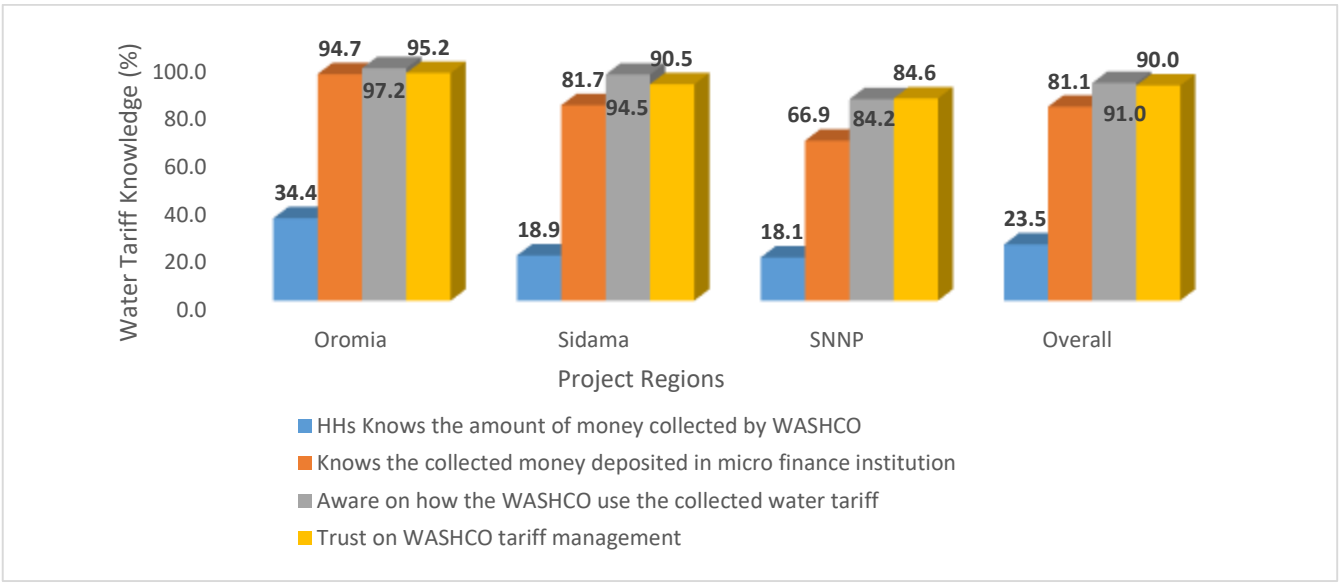


Figure 10: Household Knowledge about Water Tariff by Region (%)

3.2.3.4 Addressing Vulnerability through Inclusive Services

123 It is difficult to imagine meeting the SDG target 6 without extensive support and financing for reaching out and ensuring the special needs of vulnerable segments of the community. Sector actors and practitioners need to demonstrate human centered design and inclusive business in all development

endeavors. The HH survey captured the perceptions of rural HHs on key gender and disability related development challenges.

124 Accordingly, HHs were asked if women should not be allowed to participate in WASH related discussions. The overall finding showed that about 11.7% of the respondents have agreed and about 3.2% strongly agreed on the issue of women participation in WASH discussions. Similarly, about 6.8% and 1.8% of the HHs agreed and strongly agreed, respectively on the issue of "women and girls in menstruation should not touch water during menstruation".

125 The survey also tried to capture HHs attitude on persons with disabilities (PWDs) and extra support to very poor HHs in accessing WASH facilities or regarding their rights. The overall finding showed that about 9.4% and 1.5% of the HHs agree and strongly agree to the question "people with disabilities shouldn't use the same water point as everyone else", respectively. Moreover, regarding the response to the question "***very poor households should not be exempted from tariff payments***", about 10.0% and 2.2% of the HHs agreed with the idea.

126 However, relatively low percentage (less than 10.0%) of HHs agreed and strongly agreed on the key psychological question related to "persons with disabilities, menstruating women/girls, and women headed households" the program should further identify the community beliefs and misinformation and intervene on this gap with critical understanding of the social and cultural aspects of the target community in the surveyed regions.

3.2.4 Drinking Water Quality and Treatment

127 Adequate, safe, accessible, and reliable drinking water is essential for human health. The basic water quality characteristics are physical, chemical, and biological/bacteriological. Drinking water should be free from pathogenic (diseases causing) organisms, clear (aesthetic: turbidity & color); not saline (salty), free from offensive test or smell, free from chemical that may cause corrosion and other effects of the beneficiary population.

128 Regarding water quality assessment scope, this baseline survey has focused on the physical characteristics such as safe feeling, appearances, free from visible particles, color, odor, and salinity based on perceptions of the water users. Water quality measurement was not done in the survey. The whole water quality issue was collected based on perceptions of the respondents. The data collectors gathered these data through visual observation and to the extent possible they practically smell and taste the water. This information can give a good judgment or it serves as a proxy indicator for the existing water quality regardless of the chemical and bacteriological quality issues.

129 The households' perceptions on the overall safety of the drinking water sources shows that there is no substantial difference between the rainy and dry seasons. HHs rating of the water quality as "*very safe***"** during the rainy season ranges from 6.7% for RWH to 64.5% for piped water while during dry season the HHs similar perception ranges from 22.6% for RWH to 67.7% for piped water (Table 25).

Table 25: Drinking Water Quality during Rainy and Dry Seasons (%)

Drinking water sources	Proxy indicator	HHs perception/ observation	Rainy season	Dry season
			Overall	Overall
Pipe water	Safe to Drink	Very Safe	64.5	67.7
		Safe	27.2	25.2
Protected well	Safe to Drink	Very Safe	32.8	35.9
		Safe	59.1	55.8
protected spring	Safe to Drink	Very Safe	34.3	39.4
		Safe	52.6	52.2
Rainwater harvesting	Safe to Drink	Very Safe	6.7	22.6
		Safe	53.1	12.8

130 Perception on the safety of drinking water was also discussed with the WASHCOs of the visited community water supply schemes. Accordingly, out of the 91 schemes observed, 88 were deemed as safe for drinking.

131 No major water quality difference was observed in terms of the salinity of HH's drinking water during both rainy and dry season. About 81.9% to 95.8% of the HH survey respondents reported that the water they used for drinking was not saline. Likewise, in terms of drinking water odor, about 93.8% to 97.0% of respondents confirmed that water from piped water, protected well, and protected spring have ***no smell*** whereas, water obtained from rainwater harvesting was rated as having ***bad smell*** during rainy season (22.9%) and dry season (51.7%).

132 The HH survey has also captured respondents' opinion on their physical observation regarding the color of the drinking water obtained from their water sources. Respondents' rating of the water as ***colorless/clear*** varies between 55.0% for RWH to 91.9% for piped water during rainy season while it is recorded 35.5% for RWH to 94.2% for piped water during dry season. Appearance of drinking water was the other physical parameter the survey covered. Accordingly, HHs rating of drinking water as ***always clear*** ranges between 4.5% for RWH and 68.6% for piped water during rainy season and 22.6% for RWH and 70.9% for piped water during the dry season.

133 The WASH sector has been exercising different low-cost technology options to improve drinking water quality at HH level. The most common technology option, among others, includes boiling, solar disinfection, and filtration (graded sand, strain through a cloth). The findings of the HH survey showed that about 90.4% of the HHs didn't do anything to make it safer to drink. However, out of the 9.5% of the HHs that did something on the collected water to make it safer to drink, 13.3% practice boiling, 12.3% add disinfecting chemicals, and 60.6% strain it through piece of cloth. Majority of the HHs in Sidama and Oromia regions were having practices of adding disinfectant chemicals and straining through piece of cloth to improve the quality of water at household level (Table 26.

Table 26: Household Water Treatment Practices by Region (%)

Water Treatment Practices	Oromia	Sidama	SNNP	Overall
Add disinfecting chemicals	9.8	46.2	14.8	12.3
Boiling	6.2	27.1	34.0	13.3
Let it stand and settle	3.7	0.0	23.9	8.1
Strain through a cloth	74.7	15.0	22.4	60.6
Solar disinfection	0.0	0.0	0.0	0.0
Use water filter (Ceramic/sand)	4.7	11.7	4.8	5.0
Don't know	0.9	0.0	0.0	0.6
Other	0.0	0.0	0.0	0.0

134 As discussed in the above paragraphs, rainwater harvesting was rated as having the lowest perception on physical water quality examination, during both the rainy and the dry seasons. Comparing the existing HH water treatment practices and the observed physical drinking water quality examination, overall, 60.6% of the HHs were practicing straining the collected water through piece of cloth and this could not address the water quality issues rated to odor which might be associated with contamination from faecal matter and agriculture inputs. The HHs access to improved latrine/toilet and water sources immediate risk could justify the situation related to faecal matter contamination.

135 Regular water quality monitoring, using measurement devices rather than sensory evaluation, should become a standard practice to ensure the safety of drinking water in the regions. Sanitary surveillance should also be conducted on regular basis, to proactively prevent water sources from becoming contaminated.

3.2.5 Physical and Environmental Contexts

136 As defined by the UN, climate change refers to long-term shift in temperature and weather patterns. These shifts may be natural, but since the 1800s, human activities have been the main drivers of the climate change, primarily due to the burning of fossil fuel (like coal, oil, and gas), which produce heat-trapping gases[8]. The effects of climate change are, such as recurrent drought, flooding, rising sea levels due to melting glacier and warming oceans. These can directly affect the socio-economic, environment, health, and lives of living things.

137 According to WHO, 2021 climate change affects access and safety of drinking water, food production, land degradation due to erosion and flooding. Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhea, and heat stress.

138 Climate change is an emerging phenomenon in Ethiopia and communities are observing different situations that interprets its effect. Among others, flooding, uneven rainfall pattern and distribution, increased temperature / warm climate, drop in water sources yield (drying of gravity springs and hand dug wells, and lowering of shallow wells water level) are major consequences of climate changes.

[8] https://www.un.org>climate change

139 Water safety plan (WSP) is a comprehensive plan to be developed by multi-disciplinary team and with technical expertise to develop, implement, and monitor the plan. The WSP can be developed to all size of water supply systems and in any socio-economic condition-rural and urban. It helps to assess and manage risk from the catchment/ buffer zone of the water sources to consumer with aim of consistently ensuring the drinking water safety.

140 Cognizant with this, data collectors have observed the water sources/points buffer zone and evaluated any potential risk that could have been affecting, or possibly affecting them in the future, the functionality and water quality of the sources either due to existing human practices, natural flooding or climate change. In general, the effects due to climate change or natural flood effect on the water quality to the extent destroying the infrastructure, and eventually harming the health of the user community including school children. The survey found out that overall, 67.1% of the observed water points have immediate danger/ hazards due to flooding, nearby gully development (27.6%), and land slide (5.3%). The regional disparities showed that in Sidama and SNNP regions, water points flooding accounts for more than 70.0% of the immediate risks while in Oromia the risks were flooding (57.9%) followed by nearby gully development (34.2%) (Table 27).

Table 27: Observed Immediate Risks around the Water Point/Source Buffer Zone by Region (%)

Immediate risks	Oromia	Sidama	SNNPR	Overall
Risk of flooding	57.9	83.3	70.0	67.1
Nearby gully development	34.2	16.7	25.0	27.6
Landslide	7.9	0.0	5.0	5.3
Total	100.0	100.0	100.0	100.0

141 The WASHCOs were asked about WSP development and management. Accordingly, the survey finding shows that overall, out of the functional or temporarily non-functional water schemes (135) inspected, 112 schemes (about 83.0%) have no WSP. In addition, out of those schemes that have WSP (14 schemes), 78.6% of the schemes have implemented the plan. The situation by region shows that in SNNP region all of the water schemes do not have WSP while the highest percentage of the schemes that have WSP was reported in Oromia (22.0%) and 90.9% (10 out of 11) of the schemes had implemented the plan.

142 In order to assess the risk of missing the WSP and management, the survey included question about the practices of water quality test before commissioning. To this end, the finding shows that out of the 135 schemes (functional or temporarily non-functional), 91 schemes water quality test was conducted before commissioning the sites to the community. Moreover, out of the schemes that had conducted water quality examination before commissioning, the water from 88 schemes (96.7%) was reported to be safe for drinking.

143 The presence or establishment of climate resilient water safety planning team affects both the development and implementation of the WSP. To this end, the kebele level survey findings show that out of 95 surveyed kebeles, only 2 kebeles have established the WSP team. In addition, only 1 plan was developed and the same was implemented. Similar finding at woreda level shows that out of 33

surveyed woredas, only 12 have water safety planning team, and 9 of them have developed the WSP. Overall, 35 WSPs have been prepared in the surveyed regions and only 7 have been implemented.

144 The woreda and kebele level FGDs in Oromia region shows that flooding and landslide are becoming the major challenges that the community is facing in recent times due to climate changes. To the contrary, shortage of rain is also among the major challenges. In addition, most of the time soil erosion affects the implementation of WASH project. However, some woredas have been exerting efforts to minimize the damages by planting trees and forest protection via hiring guards.

145 Similarly, the woreda and kebele level FGDs in Sidama and SNNP regions disclosed environmental degradation due to climate change, as major threats that could affect the sustainability of WASH facilities, i.e., floods are occurring frequently and destroying water points, spring developments, household and public latrines in some woredas. COWASH facilities are also being flooded and damaged in some places. The project should, thus, advocate about climate change, mitigating environmental degradation, and developing climate resilient WASH infrastructures to sustain COWASH target projects.

3.3 Findings on Rural Household Sanitation and Hygiene Practices

3.3.1 Sanitation and Hygiene Situation

146 WHO/JMP 2021 Progress on household drinking water, sanitation and hygiene 2000-2020 report indicated that 3.6 billion people lacked safely managed sanitation services, including 1.9 billion people with basic services, and 92% of the population practicing open defecation lived in rural areas. Furthermore, in Sub-Saharan Africa only 21% of the population uses safely managed sanitation services, basic (12%), limited (19%) and OD (18%). Regarding handwashing, 2.3 billion people lacked basic handwashing services, including 670 million people with no handwashing facilities at all. The sanitation situation in rural Ethiopia was estimated that 5% of the people access at least basic sanitation service, limited services (3%) and practices open defecation (21%), while only 5% of the people access basic handwashing services, limited (52%), and 43% has no facility.

147 In Ethiopia, according to government routine data, overall, 20% of households use improved toilet facilities (42% in urban areas and 10% in rural areas). More than half (56%) of rural households use unimproved toilet facilities while more than one in four households (27%) in Ethiopia have no toilet facility (35% in rural areas and 10% in urban areas). (Ethiopian Public Health Institute (EPHI) [Ethiopia] and ICF. 2021 EDHS. 2019).

3.3.1.1 Rural Household Access to Improved Sanitation

148 The overall observed types of sanitation facilities in COWASH targeted surveyed regions were flush or pour flush toilet (0.3%), ventilated improved pit-VIP (0.4%), pit latrine with slab (8.6%), pit latrine without slab - open pit (67.6%), no facility /bush/field (23.1%), and others account for 0.1%. The proportion of latrine types by region didn't show much difference. Most HH toilets (sanitation facilities) fall under unimproved (67.6%) and open defection (23.1%) category in the SDG HHs sanitation service ladder (Table 28).

149 This finding confirms with the assumption laid under section 3.2.2 regarding drinking water quality, i.e., since majority of the HHs are using unimproved latrine as well as practicing open defecation, their drinking water sources have bad smell and the community faces the risk to be exposed for diarrhea and other water-borne diseases.

Table 28: Type of Household Toilet (Sanitation Facilities) by Region (%)

Type of sanitation Facility	Oromia	Sidama	SNNP	Overall
Flush or pour flush toilet	0.4	0.3	0.0	0.3
Ventilated improved pit (pit)	0.6	0.1	0.1	0.4
Pit latrine with slab	2.7	12.2	14.6	8.6
Pit latrine without slab (open pit)	61.6	64.5	76.3	67.6
Bucket toilet	0.0	0.0	0.0	0.0
No facility /bush/field	34.5	22.9	9.0	23.0
Other	0.2	0.0	0.0	0.1

150 The WASH sector recognizes that having sanitation facility and use of it is an issue of privacy and dignity for rural HHs, especially for women/girls. The survey found out that, overall, 83.6% of the HHs use their latrines but only about 45.6% of the latrines have doors. In addition, out of those latrines that have doors, it was observed that 63.6% of the latrines were with the doors that can't be properly closed or cover the entrance. The survey also assessed the location of the latrine vis-a-vis houses of the households. To this end, it was observed that 98.0% of the HHs latrines are located in their own yard/plot. The survey did not consider the relative distance between the latrine and the house since the farther the location the lesser the opportunity to use by all members of the HH.

151 HHs sometimes share latrines for various reasons such as to save cost of construction, lack of spaces, availability of construction material, etc. Overall, 88.5% of the HHs in the surveyed regions did not share their latrine with other HHs, and out of those HHs that share their latrine (11.5%), majority (68.6%) of them share with a maximum of two HHs. The percentage of HHs that share latrine is relatively high (18.5%) in Oromia region (Figure 11).

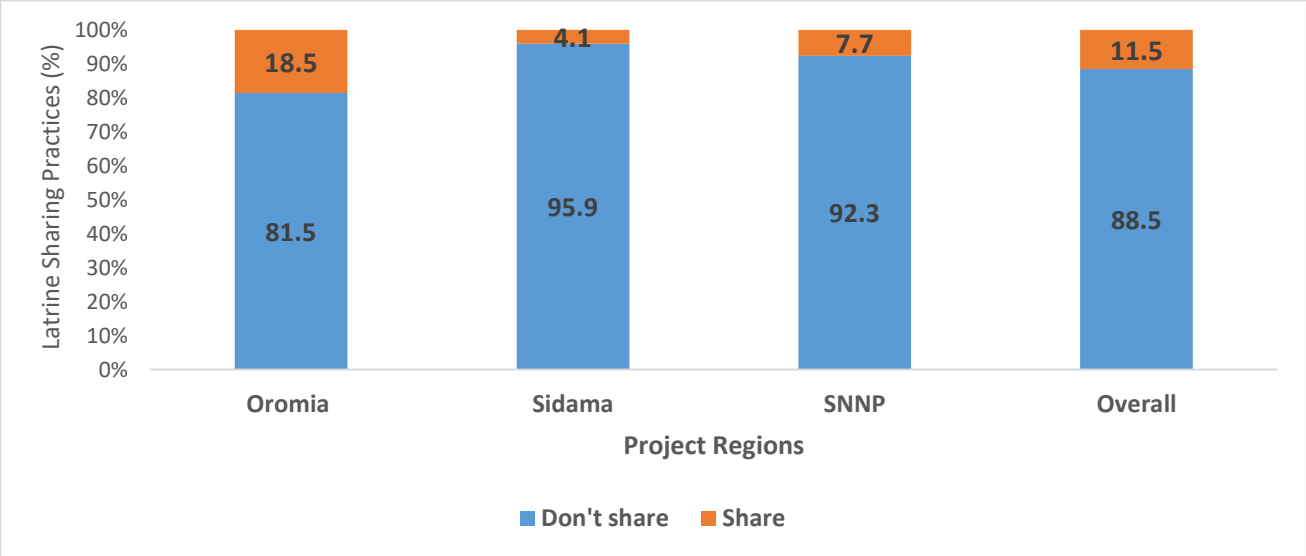


Figure 11: Household Latrine Sharing Practices by Region (%)

152 Hygienic use of latrine includes no faecal matter/or faeces observed on the latrine cover slab/floor and anal cleaning materials haphazardly dropped on the floor or not kept in a closable waste bin. The data collectors observed that overall, 44.9% of the latrines were not free from human faeces and more than 33.0% had never been cleaned at all. In SNNPR, it was reported that 53.1% of the HHs were hygienically using their latrine whereas in Oromia region 54.8% did not have latrine cleaning practice at all (Figure 12). In Sidama region, it was found that only 24.5% of the latrines were used hygienically, and no latrine cleaning practices at all reported by 38.5 % of the HHs.

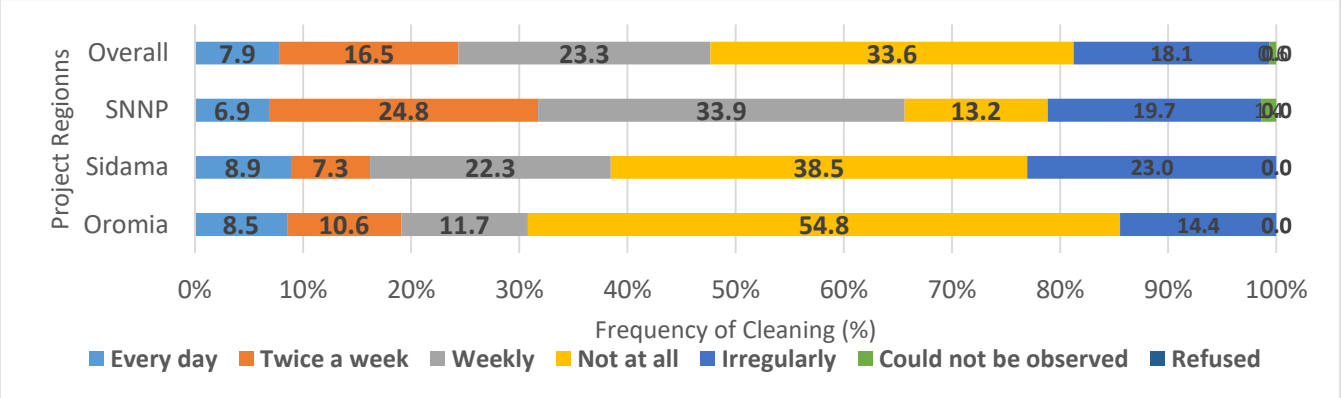


Figure 12: Frequency of HH Latrine Cleaning Practice by Region (%)

153 The government of Ethiopia has been adopting CLTS approach to increase latrine demand via creating shame, disgust and fear with the known process called community triggering. Practitioners in the WASH sector noted that the approach misses a key behavioral component that fully cut the disease transmission route. Thus, CLTS is modified into CLTSH in the Ethiopian WASH sector, "H" referring Hygiene mainly handwashing with soap and water after using or visiting latrine. The approach also promotes no subsidy or financing for HH latrine construction, i.e., the community should build latrine from locally available materials and knowledge and gradually improve it to the highest desired quality level with technical support of the local government offices (SDG environmentally safe latrine ladder), CLTSH implementation guideline 2012.

154 The survey found that, overall, 99.6% of the HHs who have toilets, built their latrine by themselves or without external financial support. However, about 50.0% of the HHs have no plan at all to improve the existing traditional toilet. Out of those HHs who have a plan to improve their latrine, all of them wanted to upgrade it to pit latrine with slab, which is the lowest improved latrine option as per the SDG sanitation service ladder.

155 HHs in Oromia region reported the highest percentage (75.5%) regarding having no plan to improve or upgrade their latrine whereas 58.6% of HHs in Sidama region want to upgrade it to pit latrine with slab. It was also revealed that, overall, 84.4% of the HHs have no practice of saving money for WASH investment particularly for improved toilet construction, be individually or in a group (Figure 13).

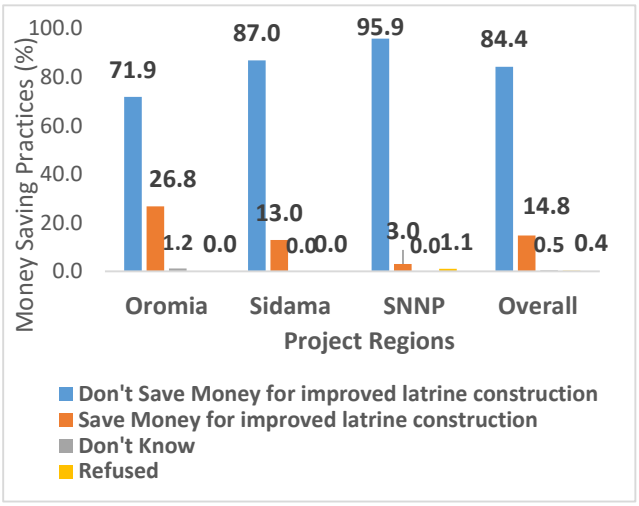


Figure 13: Household Practice of Money Saving for WASH Improvement by Region (%)

156 The JMP/WHO defined sanitation services level has five categories: safely managed, basic, limited, unimproved, and open defecation. The lowest improved latrine services level is limited, that means, HHs access improved latrine but shared it with other HH and the highest ladder is safely managed, i.e., HHs use of improved facilities that are not shared with other households and where excreta are safely disposed onsite or transported and treated offsite.

157 Accordingly, the project sanitation services level shows that majority of the HHs fall under the unimproved and open defection SDG sanitation service level. Overall, only 8.5% of the HHs latrines attain basic services ladder, that means the project needs to work hard on eliminating OD and promote the HHs at limited access to basic and beyond while unimproved and OD to limited and basic. The regional disparities show that OD was less in SNNPR and relatively highest percentage of HHs with access to basic sanitation (Figure 14).

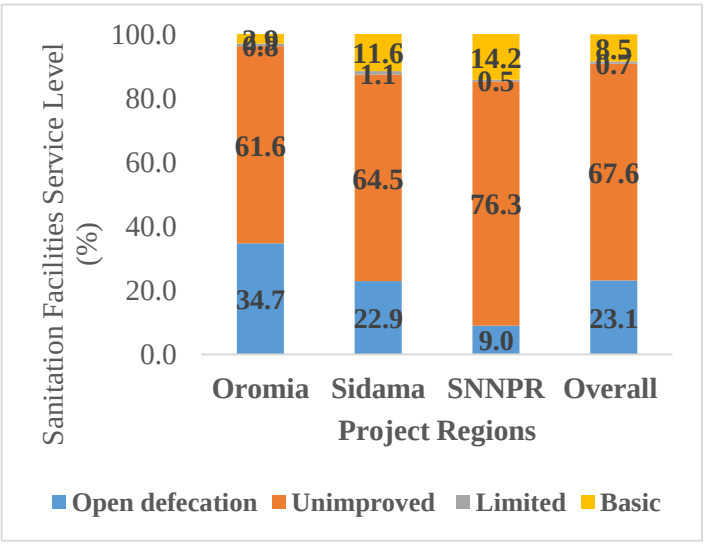


Figure 14: Household Sanitation Facilities Services Level (%)

3.3.1.2 Personal Hygiene

158 WASH programs mainly designed to enhance the living condition of human being via intervening on the socio-economical, health aspects.[9] Personal hygiene involves keeping all parts of the external body by washing with soap and safe water. It is vital for maintaining both physical and mental health. The practices, among others, include washing body, hands, cloth to combat some communicable and non-communicable diseases such as scabies, trachoma or any infection, diarrhea, infected by worms, etc.

[9] Personal hygiene in this survey focusses on external body and cloth washing

Poor personal hygiene has multiple implication such as social isolation (including working place) and loneliness.

159 The HH survey finding showed that the main sources of water for domestic purposes other than for drinking included piped water, protected well, unprotected well and spring, and rainwater harvesting. The finding didn't show difference in terms of sources of water for drinking and handwashing except the proportional uses for the different purposes. The overall survey found that about 50.1% of the HHs used unprotected well for cooking and handwashing. Relatively high percentage of households in Oromia region used unprotected well for cooking and handwashing whereas same usage was observed only with 36.6% of HHs in SNNP (Table 29).

Table 29: Main Sources of Water for Cooking and Handwashing by Region (%)

Main sources of water for cooking and handwashing	**Oromia**	**Sidama**	**SNNP**	Overall
Piped Water	12.8	16.2	36.6	22.6
Protected Well	15.1	8.2	16.8	14.8
Unprotected Well	61.7	45.8	38.2	50.1
Protected Spring	2.7	15.0	2.4	4.4
Unprotected Spring	5.2	4.0	4.9	4.9
Rainwater	0.4	0.0	0.2	0.3
Tanker	0.0	0.0	0.0	0.0
Other	2.0	10.8	0.5	2.7
Don't Know	0.2	0.0	0.2	0.2
Refused	0.0	0.0	0.1	0.0

160 Referring to access to drinking water, the overall finding showed that only 7.6% of the HHs used unprotected well for drinking during dry season whereas overall, 50.1% of the HHs used unprotected well for cooking and handwashing during dry season. This might be due to the fact that HHs might require larger volume of water for cooking and handwashing rather than for drinking and buying larger volume of water might be expensive. However, overall, 87.9% of the HHs use the same source of water for drinking (improved) and other domestic purposes such as cooking and handwashing, during dry season. About 92.7% of the HHs' sources of water for cooking and handwashing is located outside of their dwelling or yard/plot.

161 As can be seen from Table 30, the COWASH target project surveyed regions HHs have good personal hygiene in terms of handwashing i.e., about 88.2% of the HHs wash their hands twice or more per day. It is very important to learn that these habits are related to the five critical handwashing moments that have significant effect on prevention of feaco-oral disease transmission.

Table 30: Frequency of Personal Hygiene Practices (%)

Personal Hygiene Practices	Overall Frequency of Major Personal Hygiene				
	Once per day	Twice or more per day	Weekly	Once every week	Once every two weeks
Washing Hands	11.2	88.2			
Washing Face	42.4	57.4			
Washing Body			63.2		21.0
Washing Hair			48.7		34.8

162 Overall, menstrual hygiene management (MHM) has two components - the software and hardware. The hardware component encompasses access to infrastructure and availability of affordable sanitary pad while the soft component is about the knowledge and prevention of subsequent health risk of unsafe menstrual management. Studies show that in most rural parts of the country, menstruation is a taboo so there is no open discussion between families to the extent between a mother and adolescent girl.

163 The survey found out that about 26.4% of the HHs have daughter above 8 years of age and out of these 37.6% reported that when their daughter menstruating while at school, she will use pad or equivalent cloth, and 31.8% of them confirmed that she will go back home. As can be seen from Table 31, one can evaluate the number of school days or hours an adolescent girl misses per month due to absenteeism or returning back home because of poor access to MHM.

Table 31: HHs Reported their Daughter MHM Practices during School Days by Region (%)

MHM in school	Oromia	Sidama	SNNP	Overall
Use pad, cloth or equivalent	44.7	36.1	30.7	37.6
Wash herself at school or home	11.3	8.1	17.8	13.3
Go home	23.8	36.7	38.4	31.8
Absent from school	11.2	17.4	8.7	11.3
Do nothing	8.0	0.0	2.7	4.6
Don't know	1.0	1.7	1.6	1.4
Total	100.0	100.0	100.0	100.0

3.3.1.3 Solid Waste Management

164 The main objective of solid waste management is to reduce and eliminate adverse impact of the waste material on human health and the environment. Solid waste management comprises source reduction, onsite storage, recycling or composting, and finally safe disposal. However, the scope of solid waste management in this survey focuses on domestic or HH solid waste management practice.

165 The survey confirmed that composting (63.4%), open dumping (25.4%), open burning (9.8%) are the major solid waste management that HHs were practicing (Table 32).

Table 32: Solid Water Management Practice by Region (%)

Solid Waste Management Practices	Oromia	Sidama	SNNP	Overall
Open dumping	27.0	27.7	22.7	25.4
Someone collects the waste	0.9	0.2	2.2	1.3
Burning	8.5	9.1	11.6	9.8
Composting	63.6	62.9	63.4	63.4
Other	0.0	0.0	0.2	0.1
Don't know	0.0	0.0	0.0	0.0
Refused	0.0	0.0	0.0	0.0

166 HHs were also asked how often they were cleaning their house. Accordingly, 93.7% reported cleaning it daily. However, only 39.9% of them said that they clean their compound weekly. The survey did not cover the volume and type of waste HHs generate to evaluate the effect on the environment and health.

3.3.2 Status on Handwashing Practices

167 In Ethiopia, in 2020, only 8% of the rural people access basic handwashing services, limited (54%), and 38% have no facility. In addition, only 5% of the rural people access basic handwashing services, limited (52%), and 43% have no facility (WHO/JMP 2021 Progress on household drinking water, sanitation and hygiene 2000-2020 report).

168 The section below discusses the baseline status about availability of specifically designated places for handwashing, the practices of handwashing with water and soap, and the critical moments HHs wash their hands.

169 Data collectors observed that, overall, 88.1% of the HHs have a designated place for handwashing. The regional segregation shows that in Oromia (90.1%) and Sidama (98.6%) have specific location for handwashing. However, at those specific places, water is available at only 30.2% and about 88.8% doesn't have soap or detergent (bar, liquid, powder, paste).

170 Referring to status of Sanitation and Hygiene practices, it is noted that only 9.2% of the HHs have access to improved latrine. Observation was made on the availability of water and soap or other cleaning agent in the toilet or in the immediate vicinity of the toilet. Accordingly, the survey found that at 90.9% of the improved toilets, water and soap could not be found (Table 33).

Table 33: Availability of Water and Soap Next to HH Latrine by Region (%)

Availability of water and soap in /next to latrine	Oromia	Sidama	SNNP	Overall
Water and soap is available	5.3	2.7	4.5	4.6
Water and soap is not available	90.4	92.0	91.0	90.9
Water is available but soap	2.0	4.9	3.9	3.3
Soap is available but water	0.2	0.4	0.1	0.2
Could not be observed	2.1	0.0	0.5	1.1
Total	100.0	100.0	100.0	100.0

171 The JMP/WHO Report defined hygiene sevice ladder in three categories:, Basic, Limited, and No services. The lowest services ladder is no-services meaning the HH's handwashing station next to toile has no facility or no water or soap. Accordingly, the project handwashing services level shows that majority of the HHs fall under limited category. Overall, 83.7% of the HHs access limited hygiene service level, and HHs in Sidama region score the highest percentage (95.9%) (Figure 15).

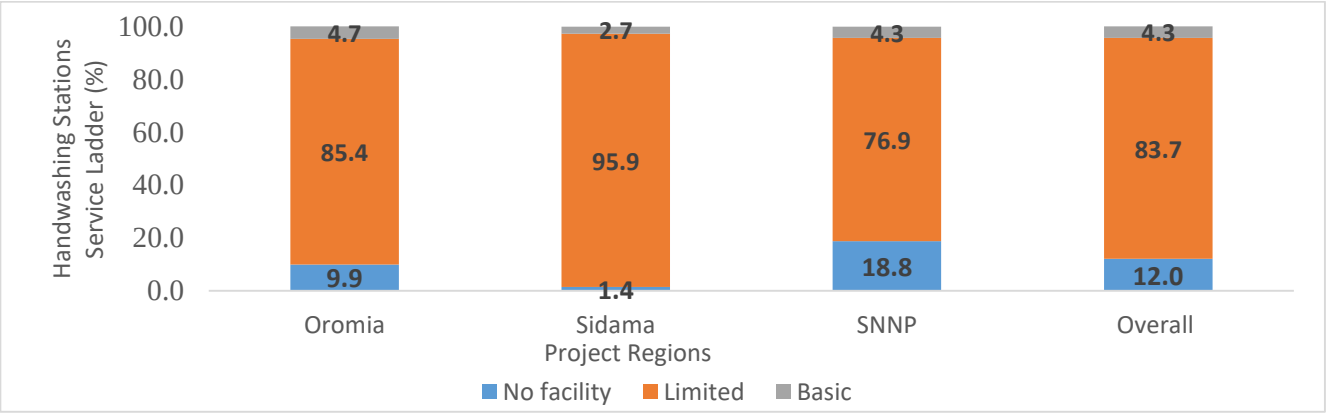


Figure 15: Handwashing Station Services Ladder by Region (%)

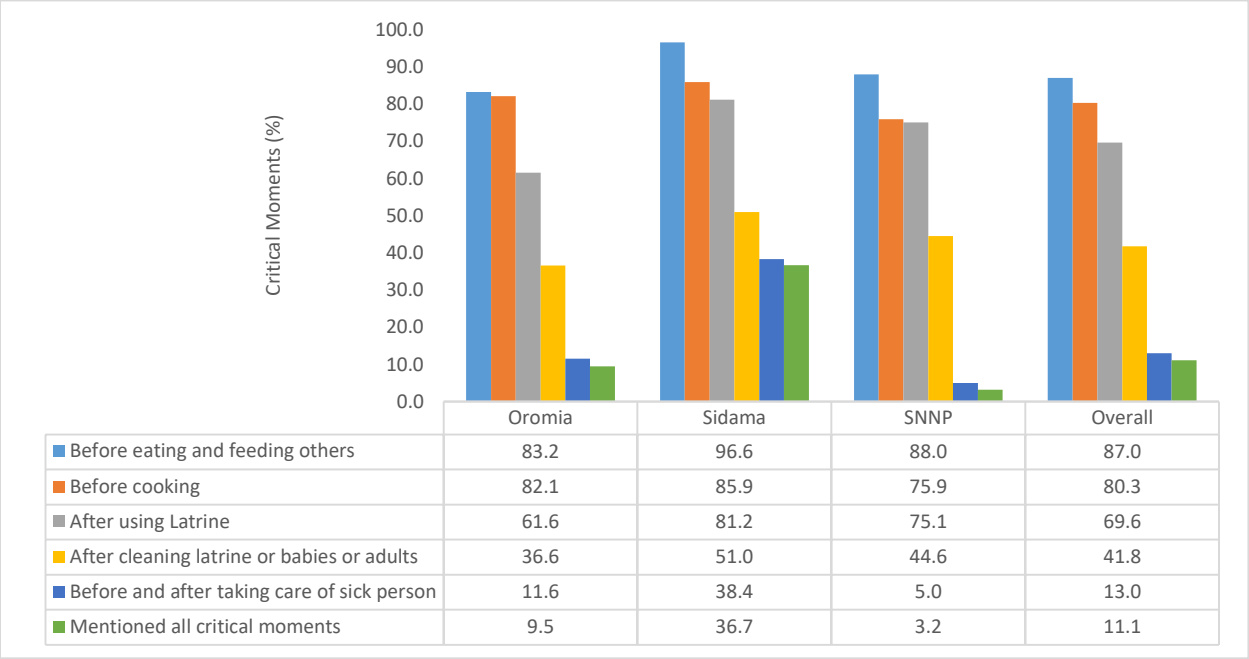
172 The survey also captured HHs handwashing practice and found that, overall, 57.3% of the HHs wash their hands with water only, however, out of them 77.9% advised their family members to wash their hands with water and soap. This shows that even though some people have the knowledge to wash their hands with water and soap, they might not practice it. So, intensive hygiene promotion supports to translate knowledge into attitude and then to practice considering the effect of handwashing on their health seems critical.

173 There are few factors to be examined to study why people do not wash their hands with water and soap. Some of these factors include **opportunity**, **ability** and **motivation**. In other words, do people have the **opportunity**? (Is soap available in the houses or easily available in the market?); do people have the **ability** (to buy or knowledge about risk due to not washing hands); and **motivation** to wash their hands. In order to assess these, the survey included a question about availability of soap in the house during the survey. Accordingly, observation revealed that 58.9% of the HHs had soap in their house while 26.0% had no soap at all. Since the majority (58.9%) of the HHs had access to soap, the key handwashing with soap challenge is somehow addressed. Thus, if the project intervenes on hygiene promotion with innovative messages, it could easily impact the handwashing practices at critical moments.

174 The survey finding on personal hygiene showed that overall, 88.2% of the respondents wash their hands twice or more per day. However, in terms of the health benefit, i.e., avoiding any faeco-oral contamination it is essential to know at least the five critical moments people should wash their hands with water and soap. In the WASH sector, the minimum critical moments of handwashing with soap are listed as **before food preparation or cooking, before eating, after visiting toilet, after cleaning children bottom, and before and after taking care of sick person**. The HH survey found that overall, 87.0% of mothers or adult women family members mentioned before eating or feeding others, 80.3% mentioned before cooking, 69.6% mentioned after using latrine, 41.8% mentioned after cleaning latrine or baby or adult bottom and 13.0% mentioned before and after taking care of sick persons (Figure 16). Overall, about 11.1% mentioned all of the five critical moments.

175 The knowledge of critical moments of handwashing before eating and feeding is the highest (96.6%) in SNNP whereas 5.0% and 11.6% of the HHs in Sidama and Oromia regions, respectively, reported before and after taking care of sick person.

176 Recent reports revealed that COVID-19 pandemic risk has globally reduced due to vaccination and since people met the minimum protocol to minimize the risk. In this regard, the overall findings of the survey showed that only 13.0% of the HHs have the knowledge of washing hands before and after taking care of sick person, which means that HHs are at risk to COVID-19 and other communicable diseases. The situation is the worst in Sidama region since only 5.0% of the HHs have the knowledge of handwashing with water and soap before and after taking care of sick person.



	Oromia	Sidama	SNNP	Overall
Before eating and feeding others	83.2	96.6	88.0	87.0
Before cooking	82.1	85.9	75.9	80.3
After using Latrine	61.6	81.2	75.1	69.6
After cleaning latrine or babies or adults	36.6	51.0	44.6	41.8
Before and after taking care of sick person	11.6	38.4	5.0	13.0
Mentioned all critical moments	9.5	36.7	3.2	11.1

Figure 16: Household Knowledge on Critical Moments of Handwashing by Region (%)

3.4 Findings on Rural Institutional WASH Situation

3.4.1 Institutional Drinking Water Supply Situation

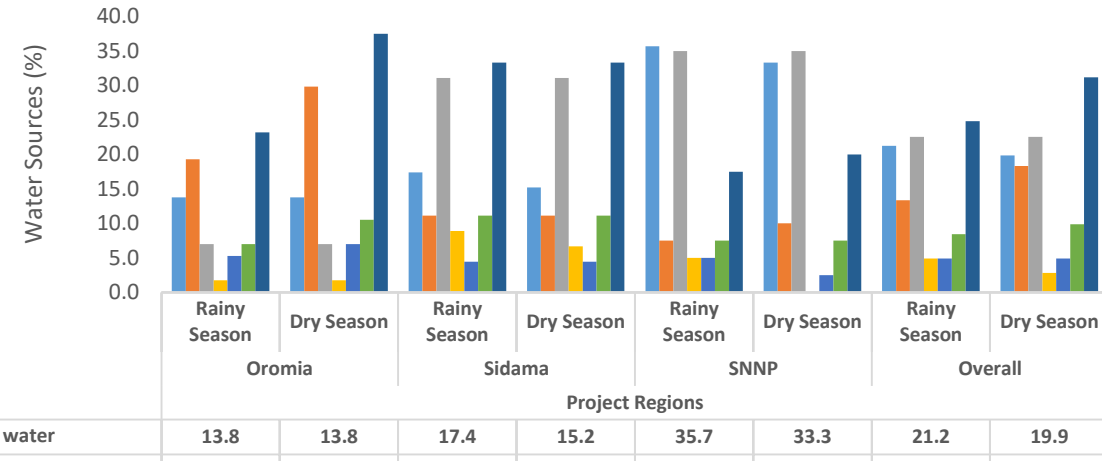
3.4.1.1 Access to Drinking Water Facilities & Services in Surveyed Schools

177 According to WHO/JMP Progress on drinking water, sanitation and hygiene in schools: 2000-2021 data update, worldwide 71%, 14% and 15% of schools had a basic, limited and unimproved or no services drinking water, respectively. In addition, 2 out of 3 primary schools (67%) and 3 out of 4 secondary schools (76%) had a basic drinking water service. Regarding coverage, basic drinking water services ranged from 46% in low income countries to 100% in high income countries. The same report reflects that in Ethiopia, 15%, 8%, and 76% of the schools access basic, limited and unimproved or no services drinking water, respectively. Nationally, 89.0% of the schools have access to water supply, and the functional water supply is 75.4%. Most of the schools (46.2%) have water available from 5 to 7 days per week, 79.0% of the schools reported that their water supply is easily accessible by students with special needs (MoE, 2020).

178 Overall, the major water sources, in the surveyed kebeles, during rainy and dry seasons did not show much difference. Considering the dry season as critical scenario, the most common water sources in the surveyed schools were found to be river/lake/pond/dam (31.2%), protected springs (22.5%), pipe water (19.9%) and protected well (18.3%). It was found that 31.5% of the schools visited had got access to improved water sources. Moreover, the school survey finding revealed that 54.1% of the surveyed schools had access to at least one improved source during the dry season.

179 The types of water sources for schools vary among the three surveyed kebeles of the regions. Accordingly, for SNNP region about 35.7% are piped water during the rainy season and about 35.0% are protected springs, whereas in Sidama region, river/lake/pond/dam are 33.3% during both seasons. In Oromia region, the major sources are river/lake/pond/dam during both the rainy (23.2%) and dry (37.5%) seasons.

180 The availability of water sources from unimproved sources (rivers/lake/pond/dam) is high across the surveyed schools. On the other hand, the survey found out that the percentage of availability of rainwater harvesting is low as compared to the other water sources. As a case in point, there is no practice of rainwater harvesting in the surveyed SNNP schools during the dry season (Figure 17).

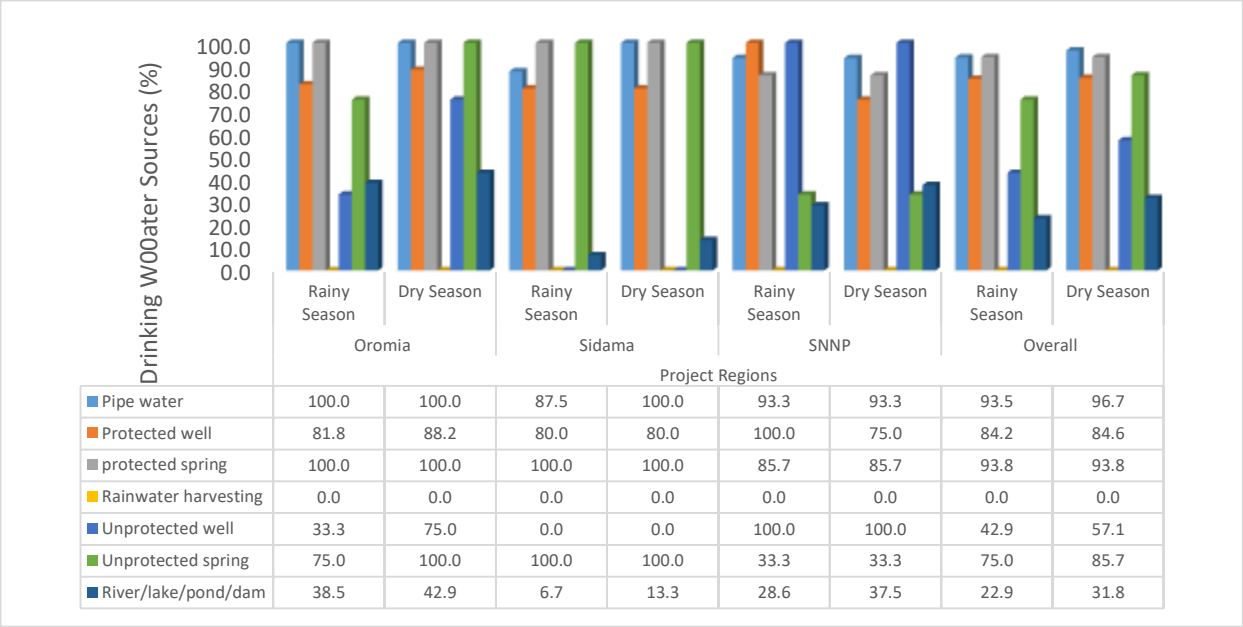


	Oromia		Sidama		SNNP		Overall	
	Rainy Season	Dry Season	Rainy Season	Dry Season	Rainy Season	Dry Season	Rainy Season	Dry Season
	Project Regions							
Pipe water	13.8	13.8	17.4	15.2	35.7	33.3	21.2	19.9
Protected well	19.3	29.8	11.1	11.1	7.5	10.0	13.4	18.3
Protected springs	7.0	7.0	31.1	31.1	35.0	35.0	22.5	22.5
Rainwater harvesting	1.8	1.8	8.9	6.7	5.0	0.0	4.9	2.8
Unprotected well	5.3	7.0	4.4	4.4	5.0	2.5	4.9	4.9
Unprotected spring	7.0	10.5	11.1	11.1	7.5	7.5	8.5	9.9
River/lake/pond/dam	23.2	37.5	33.3	33.3	17.5	20.0	24.8	31.2

Figure 17: Availability of Water Sources in Surveyed Schools by Season and Region (%)

181 The average number of female and male students in the surveyed schools were reported to be 360 and 344, respectively, while the average number of teachers and administrative staff was 25. Representatives of the surveyed schools were asked to list down their institution's drinking water sources. The finding of the survey showed that 96.7% of the schools were using piped water, 93.8% protected springs for drinking during both rainy and dry seasons while 84.6% used protected wells. There was no practice of using rainwater harvesting for drinking during both seasons.

182 Figure 18 shows the proportion of schools that had access to the specific water sources and which also used the source for drinking purpose. The types of drinking water sources did not show major difference by season. However, the use of unimproved and surface water sources for drinking is relatively high across the surveyed schools. This might be due to the fact that either schools did not have access to the nearby improved water sources or due to technical matters, or financing or schools are given less priority.



	Oromia		Sidama		SNNP		Overall	
	Rainy Season	Dry Season	Rainy Season	Dry Season	Rainy Season	Dry Season	Rainy Season	Dry Season
Pipe water	100.0	100.0	87.5	100.0	93.3	93.3	93.5	96.7
Protected well	81.8	88.2	80.0	80.0	100.0	75.0	84.2	84.6
protected spring	100.0	100.0	100.0	100.0	85.7	85.7	93.8	93.8
Rainwater harvesting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprotected well	33.3	75.0	0.0	0.0	100.0	100.0	42.9	57.1
Unprotected spring	75.0	100.0	100.0	100.0	33.3	33.3	75.0	85.7
River/lake/pond/dam	38.5	42.9	6.7	13.3	28.6	37.5	22.9	31.8

Figure 18: Usage of Drinking Water Sources in Surveyed Schools by Season and Region (%)

183 The time required to access improved drinking water sources significantly varies by type of school water sources. The school communities spend about four, 15 and 30 minutes to get drinking water from piped water, protected well, and protected spring excluding queuing time, respectively. The schools spend six, 24, and 71 minutes to get drinking water from piped water, protected well, and protected spring including queuing time, respectively. The time required to access drinking water by the target regions also shows major difference. For instance, in Sidama region, the surveyed schools communities spend one minute to access from piped water while 34 and 103 minutes excluding and including queuing time, respectively, are required to access drinking water from protected spring. On average, it required about 16 minutes excluding queuing and about 35 minutes including queuing to access improved water sources (Table 34). Overall, 55.2% and 9.1% of the schools had access to piped water and protected wells on premises, respectively, and none of the schools had access to protected springs on premises.

Table 34: Time (in minutes) Required for Schools to Access Drinking Water during Dry Season Excluding and Including Queuing by Region

Drinking Water Source	Oromia		Sidama		SNNPR		Total	
	Ex.queu	Inc.queu	Ex.queu	Inc.queu	Ex.queu	Inc.queu	Ex.queu	Inc.queu
Piped water	3	5	1	1	5	9	4	6
Protected well	15	19	5	15	28	60	15	24
Protected Springs	24	84	43	103	15	29	30	71
Rainwater harvesting	NA	NA	NA	NA	NA	NA	NA	NA
Average for Protected Sources	12.7	24.7	25.2	60.2	11.7	22.5	16.2	34.9
unprotected well	5	13	NA	NA	10	15	6	14
unprotected spring	29	62	37	73	0	0	30	61
River/lake/pond/dam	25	27	40	40	60	68	35	38

184 Regarding access to improved water sources, the finding of the survey (Figure 19) shows that 68.5% of the surveyed schools have no access to improved water sources. The access disparity by region shows that the highest percentage (81.0%) of the surveyed schools without access is reported in Oromia region followed by SNNP region (66.7%) and Sidama region (54.3%). It was found that 27.4% of the schools in

the surveyed areas have access to **both** improved water supply and latrine. This access coverage is relatively better in Sidama (39.1%) surveyed schools than those in SNNP (26.2%) and Oromia (19.0%).

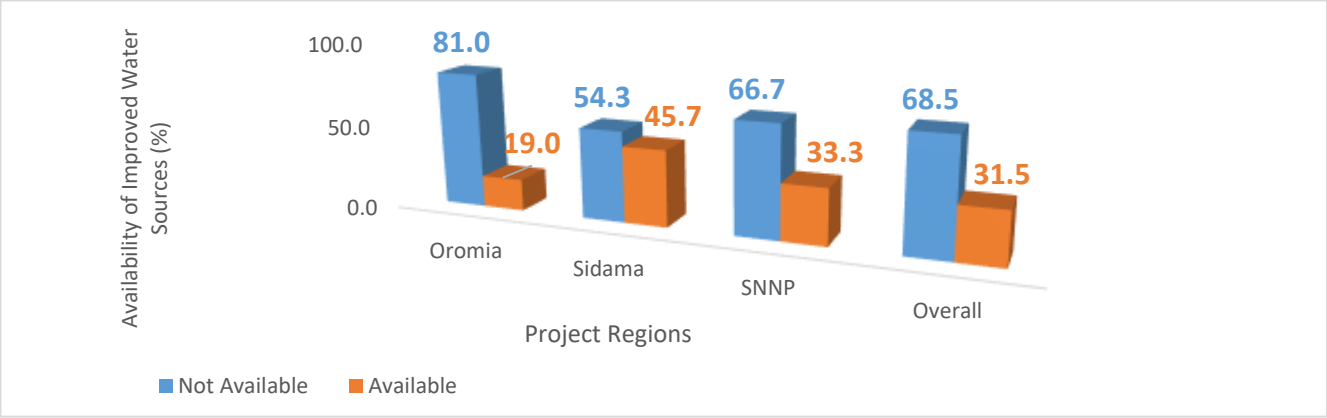


Figure 19: Availability of Improved Water Sources in Surveyed Schools by Region (%)

185 Usually, schools augment their drinking water deficiency by constructing various types of water storages. The most common types of water storages in schools are fiberglass, plastic, steel, and masonry water storages. Nevertheless, the survey found out that, overall, 73.1% of the schools surveyed did not have temporary water storage. Only 15.2% of the surveyed schools in Sidama region were observed having temporary water storages. This might be either the existing water sources are sufficient (no need for storage) to meet the demands or schools have financial limitations to expand and secure their demands. The survey also assessed the main purpose of schools' water sources and the finding revealed that 92.4% of the assessed schools confirmed that the main purpose of their water sources is for cleaning (Table 35).

Table 35: Purposes of Water Sources in Surveyed Schools by Region (%)

Purposes of water	**Oromia**	**Sidama**	**SNNP**	Overall
Drinking	49.1	67.4	73.2	61.8
Gardening	42.1	4.3	17.1	22.9
Cleaning	96.5	97.8	80.5	92.4
Don't know	1.8	0.0	12.2	4.2
Refused	0.0	2.2	0.0	0.7

186 The school communities were also asked about who they are sharing their water points. The finding revealed that 47.8% of the surveyed schools have shared their water point with nearby community, health and religious institutions. Water source sharing by region showed that majority of the schools experienced sharing with community and nearby health institution. However, the adequacy of water for the students and staff members during peak or critical times, like at the breaks, showed that 64.3% and 33.3% of the schools reported that water is adequate during rainy and dry seasons, respectively (Table 36). Thus, practices of sharing water points with other institutions will significantly affect the adequacy especially during dry season since about 47.8% of the surveyed schools share their water points.

Table 36: Adequacy of Water during Peak Time by Season and Region (%)

Adequacy of water	Oromia		Sidama		SNNP		Overall	
	Rainy season	Dry season	Rainy season	Dry season	Rainy season	Dry season	Rainy season	Dry season
More than adequate	33.3	44.4	0.0	0.0	8.3	0.0	9.5	9.5
Adequate	55.6	33.3	66.7	23.8	66.7	50.0	64.3	33.3
Somewhat inadequate	11.1	22.2	19.0	28.6	0.0	25.0	11.9	26.2
Inadequate	0.0	0.0	14.3	47.6	25.0	25.0	14.3	31.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

187 The surveyed schools were also asked to mention the causative factors for the inadequacy of the water at critical / peak time. Accordingly, 37.5% and 81.8% of the schools reported that inadequacy was due to insufficient number of water sources and limited number of taps during dry and rainy seasons, respectively.

188 The national school WASH guideline established the ratio of the minimum number of drinking water taps to the number of students for rural and urban centers. Accordingly, for rural centers, the ratio is 1:100 while it is 1:50 for big cities (MoE 2019).

189 The survey covered a total of 146 schools in 95 rural kebeles, with average of 360 female & 344 male students per school, and average of 25 teachers and administration staffs (Table 37).

Table 37: Number of Schools Surveyed and Average School Population by Region

School population	Oromia	Sidama	SNNP	Overall
No. of schools	58	46	42	146
Mean no. of female students	236	569	299	360
Mean no. of male students	249	505	297	344
Mean no. of teachers and admin. staff	15	41	22	25

190 The survey found out that the average number of drinking water tap or faucet per school was 3. Relatively, the surveyed schools in SNNP have the highest average number of drinking water taps (4 taps per school). Schools surveyed in Sidama region have only 2 taps on average. Based on the school population and the desired students per tap ratio discussed above, the overall required number of water taps per school is 7. Region wise, the surveyed schools in Sidama region have only 2 taps per school while the desired number is 11 (Figure 20). The finding showed that majority of the surveyed schools in this regard are below the MoE (2015) standards.

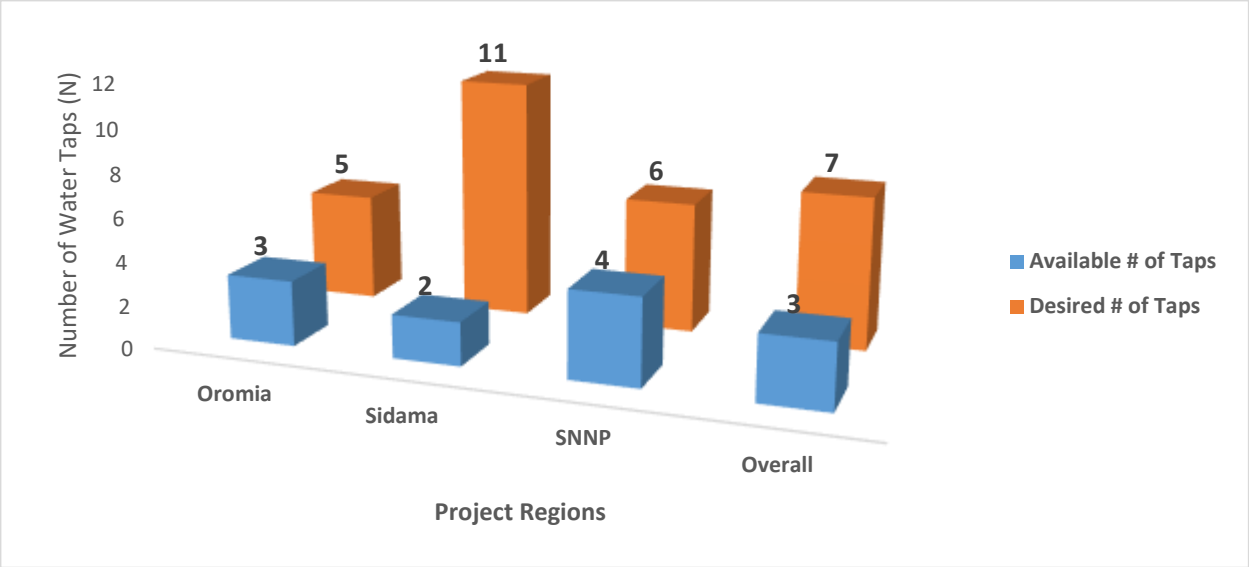


Figure 20: Available and Desired Number of Improved Water Taps in Surveyed Schools by Region

191 Thus, in terms of creating an enabling environment in schools and enhancing education and students' performance, the COWASH targeted regions schools need to install additional taps based on the total water demand and the national minimum standard of MoE.

3.4.1.2 Operation and Management of Surveyed Schools Water Supply Schemes

192 Functionality of the water sources/points in schools depend on how the school community is organized and manage their water sources/points including financing O & M fees, availability of spare parts, available internal and external capacity (trained tap attendants), local sectors coordination and collaboration, etc. It was observed that, overall, 91.3% of the drinking water sources of the surveyed schools were found to be functional during the survey. School water source functionality is 100.0% in Sidama region surveyed schools. Thus, it is very important to learn the reason for the highest functionality in the surveyed schools of Sidama region and scale-up in other project areas.

193 As discussed in the aforementioned paragraph, functionality of water sources depends on availability of accountable entity for O & M of the water sources. The survey captured that overall, half of the water sources (50.0%) O & M is mostly carried out by woreda sector offices while 39.1% is reported by parent and teachers' associations (PTA). The disaggregation by region showed that in Sidama region about 81.0% of the respondents indicated that the role is assumed by woreda sector offices while in Oromia 63.6% of the respondents reflected it to be PTA's responsibility (Figure 21).

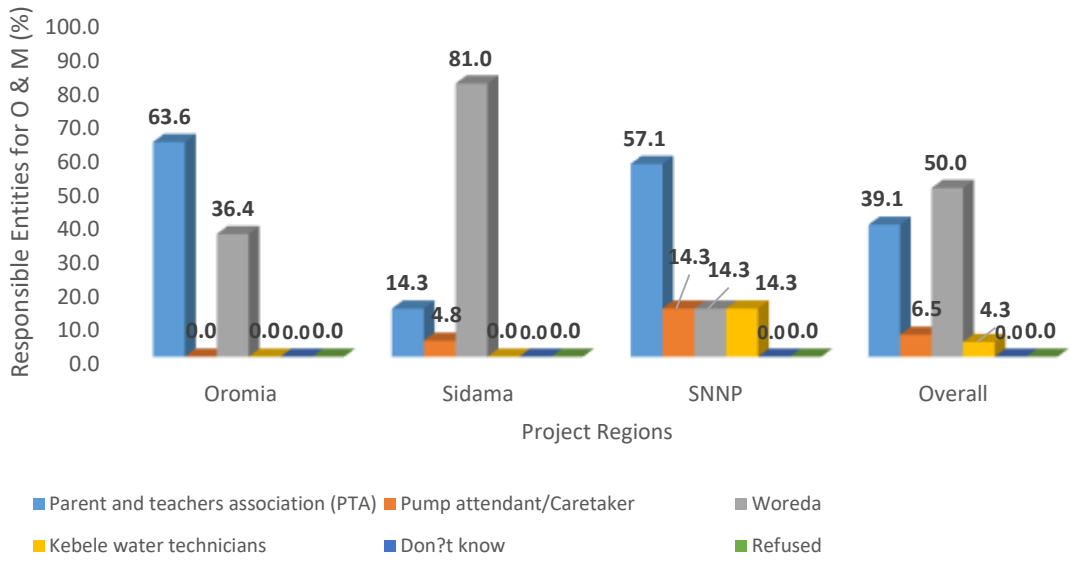


Figure 21: O & M Entities for Water Sources in Surveyed Schools by Region (%)

194 In terms of availability of spare parts, water schemes/points O & M, the WASHCOs revealed that overall, 52.2% reported unavailability of spare parts in their woreda. In Oromia region, however, only 2.0% of the WASHCOs reported that spare part availability in the woreda is more than adequate (Table 38).

Table 38: Availability of Spare Parts for Water Schemes Maintenance by Region (%)

Spare part availability	**Oromia**	**Sidama**	**SNNPS**	Overall
More than adequate	2.0	0.0	0.0	0.7
Adequate	8.2	14.3	22.2	14.2
Inadequate	22.4	10.2	44.4	23.9
No availability	67.3	53.1	30.6	52.2
Don't know	0.0	22.4	2.8	9.0
Refused	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0

195 In terms of availability of trained tap attendants/ caretakers, the survey found out that 89.1% of the surveyed schools' water points did not have pump attendants/caretakers. Please note that water source and water point are not always the same. Water sources such as on spot protected/developed spring, hand dug well fitted with hand pump and RWH are good examples of water sources as well as water point. The survey did not capture functionality of water points but water sources. That is why the 91.3% functionality of water sources mismatch with 89.1% of school water points who have no pump attendants/caretakers.

196 School representatives were also asked about if any O & M has been carried out until this survey was conducted. The survey finding revealed that 43.5% of the schools surveyed reported that their water point has been maintained twice, regardless of the time frame. In addition, half of of the respondents (50.0%) indicated that the maintenances were conducted by PTAs. The woreda (45.0%), pump attendants/caretakers (25.0%), and Kebele water technicians (25.0%) were reported providing the O & M services for the surveyed schools.

197 Financing for WASH facilities O & M is one of the major challenges in the WASH sector. In this regard, the survey found out that about 80.0% of the surveyed schools reported that the O & M cost of the school water supply points maintenance was secured from the school budget (internal revenue) while the school community also raised funds from the parents and other people (30.0%). The surveyed schools initiatives in Oromia region for local resources mobilization that contributed 60.0% of the total O & M budget practices could be scaled up to the other regions and would guarantee sustainable service delivery (Table 39).

Table 39: Surveyed Schools Water Points O & M Budget Sources by Region (%)

O & M budget sources	Oromia	Sidama	SNNP	Overall
School budget/Revenue	80.0	50.0	100.0	80.0
Raising additional funds (e.g., from the parents or other people)	60.0	16.7	22.2	30.0
Private donation	0.0	0.0	0.0	0.0
Borrowing money	0.0	0.0	0.0	0.0
Woreda Water Office	0.0	50.0	22.2	25.0
NGO	20.0	16.7	11.1	15.0

198 Data collectors observed the school water sources' buffer zones and checked if there are potential risks that could have been affecting the functionality or the quality of the water sources of the institutions. The possible man-made or natural catastrophes observed or expected were flooding, human and animal excretes (faeces), large scale construction nearby the water sources, landslide, etc. The school survey finding showed that overall nearby farming land (33.3%), flooding (24.2%) and big eucalyptus trees (21.2%) were the major risks to the water supply sources. Human and animal faeces, land slide, and gully development were also mentioned (6.1% each) as potential risks. From the target regions perspectives, the finding showed that flooding in SNNP (28.6%), human and animal faeces in Oromia (100.0%), and farming land (40.0%), eucalyptus tree (24.0%) and flooding (24.0%) in Sidama region were mentioned as potential risks (Table 40).

Table 40: Observed Potential Risks Around the Surveyed Schools Water Sources by Region (%)

Immediate Risk of water point	Oromia	Sidama	SNNPR	Total
Risk of flooding	0.0	24.0	28.6	24.2
Nearby gully development	0.0	4.0	14.3	6.1
Landslide	0.0	4.0	14.3	6.1
Large scale construction near the water point	0.0	0.0	14.3	3.0
Nearby farming land	0.0	40.0	14.3	33.3
Big eucalyptus trees nearby	0.0	24.0	14.3	21.2
Feces around (human & animal)	100.0	4.0	0.0	6.1
Total	100.0	100.0	100.0	100.0

199 The existing human practices around the water sources buffer zone and the natural flooding would have effect on the water quality and eventually to the health of the user community including school children. Consequently, the school representatives were asked about the development of WSP and its implementation to learn the tasks that have been undertaken to mitigate risks that affect water quality and services delivery. The finding shows that overall, 13.0% of the respondents indicated that the WSP

is developed and out of the respondents who have confirmed the plan, 66.7% reported that the plan is implemented. Following this, the data collectors asked the school representatives about techniques to improve their water quality. Overall, most of the surveyed schools (81.4%) didn't exert any effort to improve their water quality. However, few schools have practices of adding disinfecting chemicals (13.1%) and boiling (5.5%). The water treatment practices by the target regions showed that about 26.2% of the surveyed schools in SNNP region applied disinfecting chemicals to improve their school water quality (Table 41).

200 In order to evaluate overall risk of drinking water quality the surveyed schools respondents were asked about the practices of water quality test before commissioning to the school community. The survey finding showed that out of the 46 schools 31 confirmed the water quality testing practices (67.4%) while 19.6% reported no testing and 13.0% didn't know about it. Moreover, 84.9% of the respondents reported that the water quality test before commissioning to schools shows it is safe for drinking. The surveyed regional data shows that 76.2% of the respondents from Sidama confirmed the testing and 95.2% reported the water is safe for drinking. The situation in the surveyed woredas of Oromia shows the least score that is about 45.5% of the respondents confirmed the water quality test before commissioning and 54.5% reported the water is safe for drinking.

Table 41: School Water Treatment Practices by Region (%)

Schools water treatment	Oromia	Sidama	SNNP	Overall
Boil	12.3	0.0	2.4	5.5
Add disinfecting chemicals	8.8	6.5	26.2	13.1
Strain through a cloth	8.8	4.3	0.0	4.8
Use water filter (ceramic/ sand)	0.0	2.2	0.0	0.7
Solar disinfection	0.0	0.0	0.0	0.0
Let it stand and settle	1.8	2.2	0.0	1.4
Other	0.0	4.3	0.0	1.4
Nothing is done	84.2	84.8	73.8	81.4
Refused	0.0	2.2	0.0	0.7

3.4.1.3 Hygiene Promotion in Surveyed Schools

201 Provision of safe and adequate WASH facilities and services in schools have multiple impacts on school children's health and their education performance. The survey found out that the mean project area school population by region are 500 in Oromia, 1,115 in Sidama and 618 in SNNP while the overall is 587.

202 Dropout rate is a measure, typically by grade, of those who have left formal schooling. In most cases, it is calculated as the remainder of students after subtracting those who have repeated and promoted to the next grade. As discovered in many countries, often students do not completely dropout, i.e., they may join education several years later, or seek out alternative education.

203 At national level, the female and male students in grades 1-8 dropout rate is 13.0% and 14.0%, respectively (MoE, 2020).

204 There are different methods of calculating school dropouts and dropout rates. Among others, Cohort Dropout Rate, Event Dropout Rate and Status Dropout Rate are the most common ones. In this survey, dropouts were calculated based on the total number of students enrolled and dropouts in the previous academic year. Consequently, the overall finding showed that 29 male (8.4% of the male students) and 48 female (13.3% of the female students) dropped out from school during the previous academic year. The number of dropout students by region showed that the highest was recorded in SNNP region surveyed schools where 71 female (23.7%) and 26 male (8.8%) students dropped out of school. In general, the number of female students dropped out from school was higher than the male (Table 42).

Table 42: Average Surveyed School Population and Dropout by Gender and Region

School population	**Oromia**		**Sidama**		**SNNP**		Overall		Dropout (%)
	Total	Drop out	Total	Drop out	Total	Drop out	Total	Drop out	
Female students	236	34	569	44	299	71	360	48	13.3
Male students	249	29	505	33	297	26	344	29	8.4
Teachers & Admin.	15		41		22		25		Not applicable
Female enrolled	213		522		380	71	361		Not applicable
Male enrolled	219		573		324	26	362		Not applicable

205 The survey also captured the reasons for female and male students' school dropout, and found out that the top five reasons were the following: i) students movement to urban areas for work, ii) financial problem, iii) child needed for farming activities, iv) no interest / no value to education, and (v) child is needed for household chores. Overall, the finding shows that the main reason for dropout among male students was movement to urban areas for work purpose (18.9%), financial problem (16.9%), child needed for farming activities (11.4%), no interest / no value to education (11.2%), and child is needed for household chores (7.0%). In addition, lack/poor quality of toilets (0.7%) and lack of water supply facilities (1.1%) were the least reported as the reason(s) for male students' school dropout.

206 From the target regions perspectives, the main causes reported in Oromia region were student's lack of interest / no value to education (17.9%) and to work in urban areas (11.6%) whereas in Sidama region (26.4%) and SNNP region (23.4%) reported that students' movement to urban center for work was the main reason (Table 43).

207 It is essential to identify the core reason for falling of the students' interest / no value to education in Oromia region and design an innovative program to motivate students to go to school. This might be beyond the scope of the WASH program but could be addressed via partnership which is one of the SDG goals, i.e., the success of school WASH program depends on the effort of multiple actors (including schools or education offices) at different levels and could pick the issue and address while implementing school WASH interventions.

Table 43: Reasons for Male Students School Dropout by Region (%)

Reasons for school dropout	Oromia	Sidama	SNNPR	Total
School too far away	2.9	9.1	1.6	4.2
Child is needed for household chores	8.7	7.4	3.9	7.0
Child needed for farming activities	11.1	9.9	13.3	11.4
Sickness/accident	6.8	.8	2.3	3.9
Financial problem	11.1	23.1	20.3	16.9
No interest/ No value to education	17.9	0.0	10.9	11.2
Lack of water supply facilities at the school	1.4	.8	.8	1.1
Lack/poor quality of toilets in the school	1.0	.8	0.0	0.7
Lack of food in the school	2.4	9.1	6.3	5.3
Recent relocation of the family	8.2	.8	2.3	4.6
Journey to school is unsafe	1.4	0.0	0.0	0.7
To leave the country	5.8	0.0	7.8	4.8
To work in urban areas	11.6	26.4	23.4	18.9
Loss of parents	3.4	5.0	1.6	3.3
Marriage	6.3	1.7	3.1	4.2
Other	0.0	5.0	2.3	2.0
Total	100.0	100.0	100.0	100.0

208 Similarly, the survey captured main reasons for female students' dropout and found out that due to marriage (17.9 %), child is needed for household chores (13.2%), to work in urban areas (12.1%), and financial problem (11.4%) are the reasons. In addition, abduction (0.4%), Journey to school is unsafe (0.9%), and lack /poor quality of toilet in the school (1.6%) were the least reasons reported for female students' school dropout. The survey finding in terms of reason for female students' school dropout needs further study as the expected WASH related reasons reported very low.

209 The regional findings showed differences regarding the main reason for female students' school dropout. In Oromia region, marriage (14.9%), no interest / no value to education (13.5%) and child is needed for household chores / financial problem (9.5%) while in SNNP region, due to marriage (19.4%), to work in urban areas (18.4%) and child is needed for household chores (17.3%) were reported as the reasons for female students' school dropout. Marriage (21.9%), financial problem (17.2%) and child is needed for household chores (16.4%) were the three main reasons for female students to dropout from schools in Sidama region (Table 44).

210 The survey also assessed Gender Based Violence (GBV) practices via the FGDs. Participants have indicated issues that contribute to the low percentage of reason for female students' school dropout related to WASH issues. FGDs in Oromia highlighted that GBV is not happening frequently but during the time when women and /or girls travel far to fetch water. Moreover, abduction happens when they go to school or to fetch water. The participants in Sidama region reported that there were no incidences of GBV in recent times but abduction is still taking place in some kebeles of the woredas. In the FGD facilitated in SNNP, participants reported that GBV is happening frequently when women and / or girls travel far to fetch water and sometimes abduction also occurs when they go to school or go to water points to fetch water.

211 Perhaps socio-economic conditions, easy access to education / school, efforts made to improve harmful traditional practices, improvement on access to WASH facilities and promotion, the country judicial action, and information via social media, etc. might have changed the stories related to female students' dropouts.

Table 44: Reasons for Female Students School Dropout by Region (%)

Reasons for dropout Female students	Oromia	Sidama	SNNPR	Total
School Too Far Away	3.6	8.6	1.0	4.5
Child is needed for household chores	9.5	16.4	17.3	13.2
Child needed for farming	4.1	1.6	1.0	2.7
Sickness/accident	6.8	.8	3.1	4.2
Menstruation- physical pain	3.6	1.6	1.0	2.5
Menstruation - social reasons such as lack of sanitary materials	5.0	2.3	1.0	3.3
Financial problem	9.5	17.2	8.2	11.4
No interest/ No value to education	13.5	2.3	11.2	9.8
Marriage	14.9	21.9	19.4	17.9
Lack of water supply facilities at the school	2.7	1.6	1.0	2.0
Lack/poor quality of toilets in the school	2.7	0.8	0.0	1.6
Lack of food in the school	4.1	6.3	2.0	4.2
Recent relocation of the family	4.5	.8	4.1	3.3
Journey to school is unsafe	.5	1.6	1.0	0.9
To leave the country	3.6	0.0	7.1	3.3
To work in urban areas	9.0	12.5	18.4	12.1
Loss of parents	2.3	1.6	1.0	1.8
Abduction	0.0	1.6	0.0	0.4
Other	.5	.8	2.0	0.9
Total	100.0	100.0	100.0	100.0

212 Overall, 68.5% of the school respondents reported that WASH promotion is conducted in their school, and teachers (93.0%), health extension workers (HEW) (46.0%), and school clubs (43.0%) are the main promoters (Table 45).

Table 45: WASH Promoters in Schools by Region (%)

WASH Promoters in schools	Oromia	Sidama	SNNP	Overall
Teachers	95.6	100.0	79.2	93.0
School clubs	44.4	32.3	54.2	43.0
Kebele (e.g., HEW)	51.1	58.1	20.8	46.0
Woreda	6.7	9.7	16.7	10.0
NGO	8.9	3.2	12.5	8.0
Other organization	2.2	0.0	0.0	1.0

213 The respondents were asked about the mode of WASH promotion that has been used by the above listed promoters. Accordingly, through integrating WASH issues discussion with the regular class (52.0%), other educational materials (31.0%), mini-media (24.0%), and practical demonstration (21.0%) were the modes of promotion used. The modes of promotion by region showed that the promoters in Sidama region surveyed schools used integrating WASH issues to their regular classes (80.6%), posters

(35.5%) and mini media (35.5%). In Oromia region, the modes of promotion were integrating WASH issues discussion with the regular class (46.7%), other educational materials (42.2%) and separate workshops and trainings (37.8). In SNNP region, demonstration (54.2%), mini media (33.3%) and integrating WASH issues discussion with the regular class (25.0%) were stated as the modes of promotion in use (Table 46).

Table 46: Modes of WASH Promotion in Surveyed Schools by Region (%)

WASH Modes of Promotion	Oromia	Sidama	SNNP	Overall
Demonstration	15.6	3.2	54.2	21.0
Live drama or role play	11.1	6.5	16.7	11.0
Posters	2.2	35.5	4.2	13.0
Mini-media	11.1	35.5	33.3	24.0
Other educational materials	42.2	25.8	16.7	31.0
Integration to the regular classes	46.7	80.6	25.0	52.0
Separate workshops and trainings	37.8	0.0	4.2	18.0
Don't Remember	2.2	0.0	0.0	1.0

214 Personal hygiene, MHM, environmental sanitation, solid waste management and water treatment were among the most common topics of WASH promotion in schools. Accordingly, handwashing (94.0%), personal cleanliness (83.0%), sanitation practices (55.0%), menstrual hygiene management (47.0%) were the topics of promotion. Even though majority of the respondents mentioned that the topic of the WASH promotion across the schools was about handwashing, water safety plan (WSP) was discussed only in Oromia. So, the WSP development exercise in Oromia region is somehow encouraging and the project could learn out of it (Table 47).

Table 47: WASH Promotion Topics in Surveyed Schools by Region (%).

Topics of WASH Promotion	Oromia	Sidama	SNNP	Overall
Handwashing	93.3	93.5	95.8	94.0
Menstrual hygiene management (MHM)	68.9	22.6	37.5	47.0
Good sanitation practices	66.7	45.2	45.8	55.0
Water treatment	42.2	3.2	12.5	23.0
Cleanliness	75.6	87.1	91.7	83.0
Solid waste management	51.1	25.8	41.7	41.0
WASH facility requirements	26.7	3.2	25.0	19.0
Other	0.0	3.2	0.0	1.0
Water safety plan	2.2	0.0	0.0	1.0

215 The survey also assessed the effectiveness of the WASH promotion through understanding the barriers to students' safe practices. The survey findings showed that 87.0% of the respondents reported lack of fund as main barrier. Poor facilities (water supply, sanitation facilities, soap) (80.8%) and lack of awareness (31.5%) were also reported. The barriers by region showed that in Oromia region, lack of fund (94.8%), poor facilities (water supply, sanitation facilities, soap) (82.8%) and low priority of hygiene and sanitation among students and teachers (36.2%) were the barriers reported. In Sidama region, lack

of fund (91.3%), poor facilities (water supply, sanitation facilities, soap) (80.4%) and lack of leadership (30.4%) were the barriers reported. In the SNNP region, poor facilities (water supply, sanitation facilities, soap) (78.6%), lack of fund (71.4%) and lack of awareness (35.7%) were among the barriers mentioned (Table 48).

Table 48: WASH Promotion Main Barriers to Improve Students' Practices in Surveyed Schools by Region (%)

Main barriers	Oromia	Sidama	SNNP	Overall
Poor facilities (water supply, sanitation facilities, soap etc.)	82.8	80.4	78.6	80.8
Low priority of hygiene & sanitation among students and teachers	36.2	4.3	19.0	21.2
Resistance to change	5.2	0.0	16.7	6.8
Lack of funds	94.8	91.3	71.4	87.0
Lack of awareness	32.8	26.1	35.7	31.5
Lack of leadership	29.3	30.4	21.4	27.4
Other	0.0	4.3	0.0	1.4

216 Discussions with school girls above age of 12 years: Considering the sensitivity of the discussion about menstruation and related discussions, female data collectors were assigned to gather data about MHM. Data collectors asked adolescent girls about the most important aspects of MHM in terms of toilet infrastructure. Accordingly, the respondents indicated that supply of sanitary materials for menstrual management as their top priority (73.3%) followed by ability to close the door (71.2%). Region wise, 83.3% of the respondents in SNNP region reported ability to close the door as their top priority. About 75.9% of the surveyed schools in Oromia region reported supply of materials for menstrual management while 80.4% in Sidama region mentioned supply of materials for menstrual management as their number one priority (Table 49).

Table 49: Main MHM Aspects in Terms of Sanitation Facilities for School Girls by Region (%)

Main MHM aspects in terms of toilet	Oromia	Sidama	SNNP	Overall
Ability to close the door	72.4	58.7	83.3	71.2
Water available inside the toilet for personal hygiene	74.1	60.9	73.8	69.9
Ability to safely dispose sanitary waste	65.5	26.1	54.8	50.0
Supply of materials for menstrual management	75.9	80.4	61.9	73.3
Other	10.3	4.3	14.3	9.6
Don't Know	1.7	0.0	0.0	0.7

217 Schools normally establish different clubs to create awareness among children about various social, health and economic agendas such as science and technology club, WASH, environment, sport, health, girls, innovation, art, etc. The survey tried to document the presence and functionality of the clubs. Consequently, the data collectors asked the presence of girls' club and found out that, overall, 82.7% of the schools have girls' clubs and 75.0% of the club members met at least once in a month.

218 In terms of the functionality of the clubs and other actors on MHM promotion, the data collectors asked the girls whether or not they have received information about MHM. Accordingly, overall, 84.4% of the school girl respondents have reported that they have received information about MHM, and the majority of them (37.7%) received the information from their family members. The MHM information

sources by region showed that adolescent girls in Sidama region surveyed schools received the messages from their teachers.

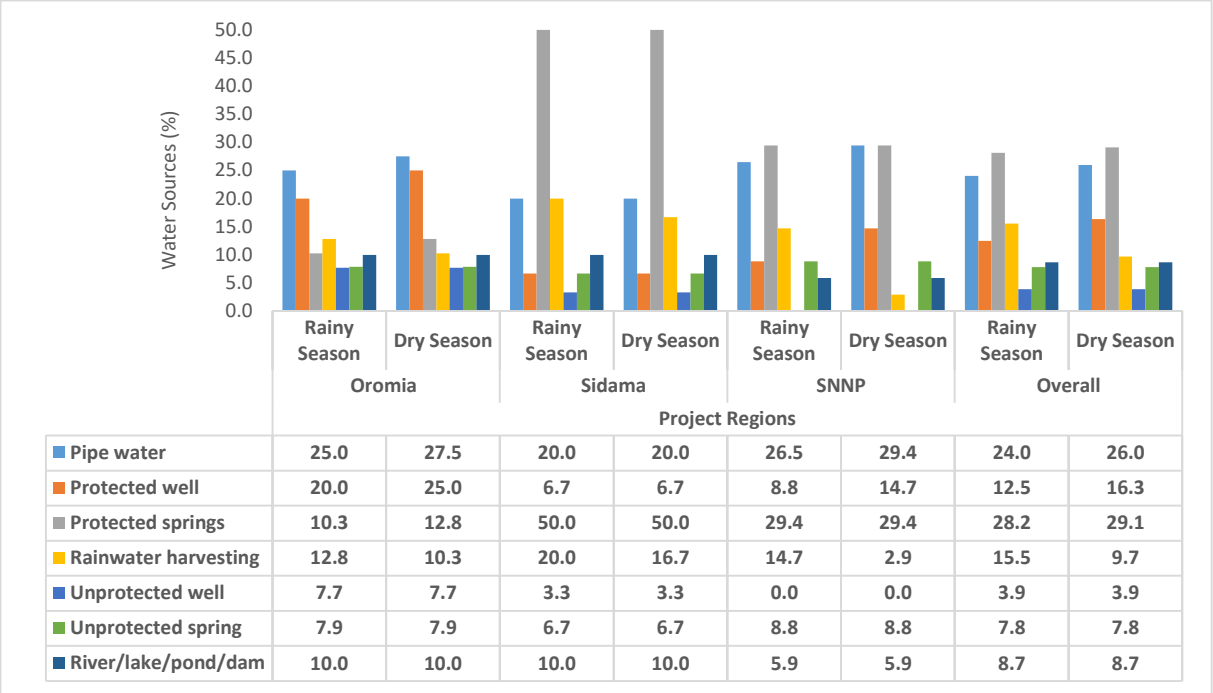
3.4.1.4 Access to Drinking Water Facilities & Services in Health Institutions

219 Lack of improved drinking water, sanitation and hygiene facilities in health centers, health posts, clinics and public hospitals are of particular concern. Absence or inadequate handwashing facilities before and after patient contact or after using the toilet leads to preventable infections in the healthcare environment.

220 In Ethiopia, there are 15,095 health posts, 2,660 health centers, 122 public hospitals and 4,000 private for-profit and not-for-profit clinics. The water, hygiene and sanitation situation in the health facilities is poor. It is estimated that as many as 80% of the health facilities are without adequate water and sanitation facilities and 97% are without handwashing facilities (OWNP 2018).

221 The survey found out that the types of water sources during rainy and dry seasons did not show much difference. Considering the dry season as critical scenario, the major water sources for surveyed health facilities are protected spring (29.10%), piped water (26.0%), protected well (16.3%), and rainwater harvesting (9.7%). It was found that improved water sources were the main improved water sources for 28.8% of the health institutions surveyed. The finding also revealed that 66.3% of the surveyed health facilities had access to at least one protected source during the dry season. Moreover, 46.2% and 7.7% of the health institutions visited had access to piped water and protected wells on premises, respectively, and none of the health institutions had access to protected springs on premises.

222 The types of water sources for the health facilities vary among the surveyed kebeles of the target regions. The water sources for the surveyed health facilities in Sidama region were protected springs (50.0%) for both seasons whereas for those in Oromia region, the sources are protected well (25.0%) during dry season and piped water (25.0%) during rainy season. For those in SNNP region, the sources were protected springs (29.4%) for both seasons. The availability of water sources from rivers/lake/pond/dam was high across the surveyed schools but this situation was significantly lower in the surveyed health facilities. The reason might be the relative location of the schools as compared to the health facilities, i.e., the health facilities are located in the middle of the residential areas and the schools in the periphery of the village, or difference in awareness levels (Figure 22).

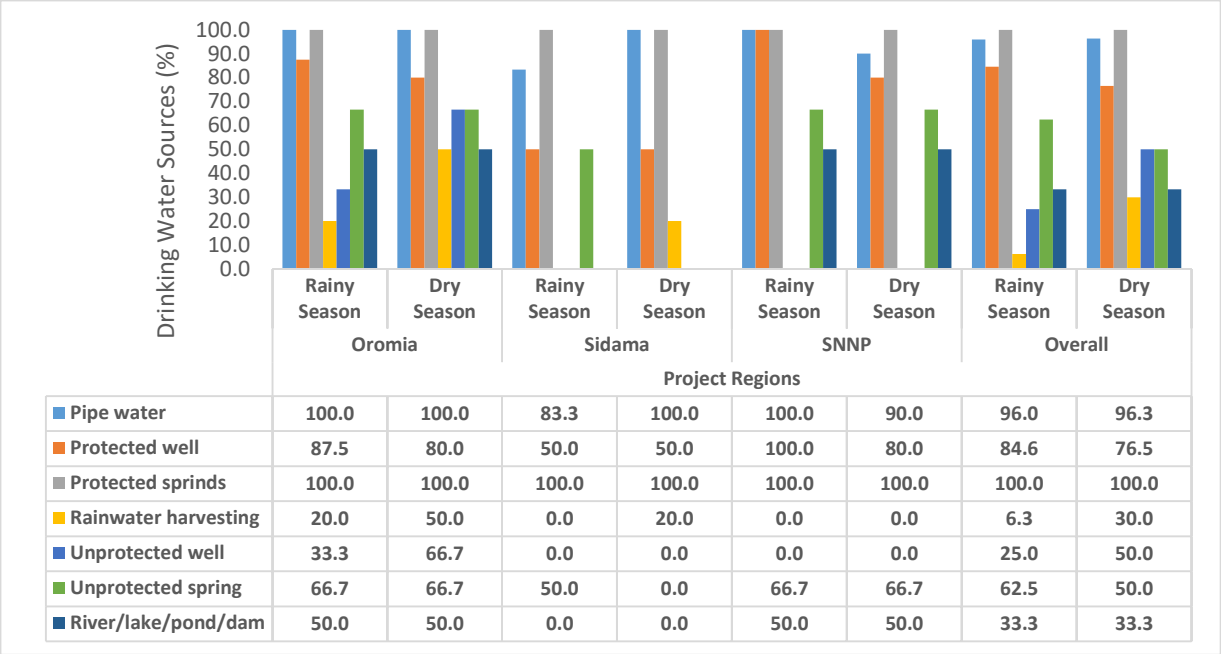


	Oromia		Sidama		SNNP		Overall	
	Rainy Season	Dry Season	Rainy Season	Dry Season	Rainy Season	Dry Season	Rainy Season	Dry Season
Pipe water	25.0	27.5	20.0	20.0	26.5	29.4	24.0	26.0
Protected well	20.0	25.0	6.7	6.7	8.8	14.7	12.5	16.3
Protected springs	10.3	12.8	50.0	50.0	29.4	29.4	28.2	29.1
Rainwater harvesting	12.8	10.3	20.0	16.7	14.7	2.9	15.5	9.7
Unprotected well	7.7	7.7	3.3	3.3	0.0	0.0	3.9	3.9
Unprotected spring	7.9	7.9	6.7	6.7	8.8	8.8	7.8	7.8
River/lake/pond/dam	10.0	10.0	10.0	10.0	5.9	5.9	8.7	8.7

Figure 22: Available Water Sources in Surveyed Health Facilities by Season and Region (%)

223 The surveyed health facility representatives were asked to list down drinking water sources for their institutions. Accordingly, the respondents prioritized four out of the seven drinking waters sources, namely, piped water, protected well, protected spring, and rainwater harvesting. The finding of the survey showed that, overall, more than 96.3% of the surveyed health facilities were using piped water for drinking during both the rainy and dry seasons while more than 76.5% were using protected wells. The practices of using rainwater harvesting for drinking was reported by 30.0% of the health institutions during dry seasons.

224 The types of health institutions drinking water sources by region showed that all (100%) of the health institutions used protected spring during both seasons. However, health facilities in Sidama region do not use unprotected and surface water for drinking whereas the health facilities surveyed in SNNP and Oromia used the same sources. This might require to further check the WASH promotion effectiveness in these regions (Figure 23).



	Oromia Rainy Season	Oromia Dry Season	Sidama Rainy Season	Sidama Dry Season	SNNP Rainy Season	SNNP Dry Season	Overall Rainy Season	Overall Dry Season
Pipe water	100.0	100.0	83.3	100.0	100.0	90.0	96.0	96.3
Protected well	87.5	80.0	50.0	50.0	100.0	80.0	84.6	76.5
Protected sprinds	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rainwater harvesting	20.0	50.0	0.0	20.0	0.0	0.0	6.3	30.0
Unprotected well	33.3	66.7	0.0	0.0	0.0	0.0	25.0	50.0
Unprotected spring	66.7	66.7	50.0	0.0	66.7	66.7	62.5	50.0
River/lake/pond/dam	50.0	50.0	0.0	0.0	50.0	50.0	33.3	33.3

Figure 23: Usage of Drinking Water Sources in Surveyed Health Facilities by Season and Region (%)

225 The surveyed health facilities overall time required to access improved drinking water significantly varies by type of water sources. The surveyed health facilities needed to devote, on average, 6, 23, and 24 minutes to get drinking water from pipe water, protected well, and protected spring, excluding queue, respectively. Whereas, they devote 18, 34, and 50 minutes to get drinking water from piped water, protected well, and protected spring, including queue, respectively. The time required to access drinking water by the target regions also showed major difference. For instance, in Sidama, the surveyed health institutions required 2 minutes to access drinking water from pipe water while 30 and 68 minutes from protected springs excluding and including queue, respectively (Table 50).

226 The JMP/WHO drinking water services level has three categories: “no service”, “limited”, and “basic”. No service for health facilities using unprotected sources or no water sources, limited access refers water from an improved source is available off the premises; or an improved source is on-site, but no water is available, and basic water from an improved source is available on premises. However, the survey data could not provide this information because the questioner doesn’t capture either the location of the water sources or availability of water (running water) at the time of the survey.

Table 50: Time required (in Minutes) to Access Drinking Water Sources in Surveyed Health Institutions (including and excluding Queuing) by Region (%)

Drinking water sources	Oromia		Sidama		SNNPR		Total	
	Ex.queu	Inc.queu	Ex.queu	Inc.queu	Ex.queu	Inc.queu	Ex.queu	Inc.queu
Pipe water	6	31	2	2	8	13	6	18
Protected well	26	32	10	60	21	31	23	34
Protected Spring	24	27	30	68	15	33	24	50
Rainwater Harvesting	15	15	0	0	NA	NA	10	10
Average for Protected Source	16.3	29.5	20.4	47.4	13.2	24.9	16.6	33.7
unprotected well	20	25	0	0	NA	NA	13	17
unprotected spring	35	55	NA	NA	20	24	28	40
River/lake/pond/dam	50	55	NA	NA	25	30	42	47

227 The finding of the survey showed that, overall, 71.2% of the health facilities have no access to improved water source. The access level by region showed that the highest percentage of the surveyed health facilities without access was reported in Oromia region (77.5 %) followed by SNNP region (76.5%) while that of Sidama region is relatively low (56.7%) (Figure 24).

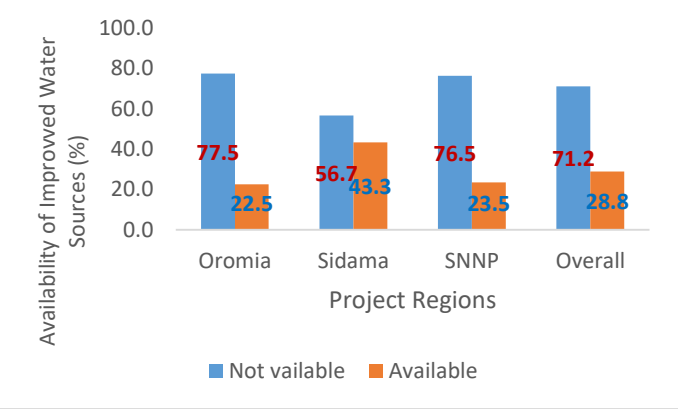


Figure 24: Availability of Improved Water Sources in Surveyed Health Facilities by Region (%)

228 Usually, health facilities augment their drinking water deficiency by constructing various types of water storages. The most common types of water storages in health institutions and schools are fiberglass, plastic, steel, and masonry water storage. Nevertheless, the survey found out that, overall, 68.3% of the surveyed health facilities did not have temporary water storages. Only 10% of the surveyed health facilities in Sidama region have temporary water storages. This might be either the existing water sources are sufficient (no need for storage) to meet all of the demand or the health institutions have financial limitation to expand and secure their demand.

229 The survey also assessed the main purposes of the health facilities water, and it was found out that, overall, cleaning (83.0%), drinking (66.0%), gardening (17.0%), and caring patients and ensuring the hygiene in the facility (14.0%) were reported as the main purposes (Table 51).

Table 51: Purposes of Improved Water Sources in Health Facilities by Region (%)

Purposes of improved water source	Oromia	Sidama	SNNP	Overall
Drinking	66.7	66.7	64.5	66.0
Cleaning	87.2	86.7	74.2	83.0
Gardening	28.2	6.7	12.9	17.0
Caring patients and ensuring the hygiene in the facility	12.8	3.3	25.8	14.0
Don't know	0.0	3.3	0.0	1.0

230 The survey found out that 37.5% of the surveyed health institutions share their water point with others. Consequently, out of the health facilities that are sharing their water points, overall, the respondents indicated that they share their water supply with the nearby community (97.4%), nearby schools (51.3%) and nearby gov't institutions (15.4%). Health institutions water sources sharing by region showed that majority of the health facilities were experiencing sharing with communities and nearby schools. In SNNP, about 70.0% of the health facilities shared their water sources with the nearby schools. However, the overall adequacy of water for staff and patients/clients during rainy and dry season was low. Overall, 24.0% and 36.0% of the health institutions surveyed reported that water was somewhat inadequate in rainy and dry seasons (Table 52). Thus, practices of sharing water point with other institutions will significantly affect the adequacy especially during dry season as 37.5% of the health facilities shared their water point.

Table 52: Opinion of Respondents about Adequacy of Water for the Health Facilities by Season and Region (%)

Adequacy of water	**Oromia**		**Sidama**		**SNNP**		Overall	
	Rainy season	Dry season	Rainy season	Dry season	Rainy season	Dry season	Rainy season	Dry season
More than adequate	0.0	0.0	7.7	7.7	14.3	14.3	8.0	8.0
Adequate	60.0	40.0	46.2	15.4	71.4	42.9	56.0	28.0
Somewhat inadequate	20.0	40.0	38.5	53.8	0.0	0.0	24.0	36.0
Inadequate	20.0	20.0	7.7	23.1	14.3	42.9	12.0	28.0
Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

231 The health facilities also reported some of the causative factors for the inadequacy of the water during the two seasons, and found out that, overall, 37.5% and 43.8% of the health facilities reported due to inadequacy of the sources and limited number of taps during dry season, respectively. During rainy season, about 40.0% of the respondents reported both limited number of taps and inadequate water sources. The finding by regions showed that the reasons for inadequacy of water in health facilities of SNNP and Oromia region were reported to be inadequacy of the sources during the dry and rainy seasons.

3.4.1.5 Operation and Management of Health Institutions Water Supply Schemes

232 It was observed that, 83.3% of the surveyed health institutions' drinking water sources were reported to be functional during the survey time. Water source functionality is 100.0% in Sidama region health institutions whereas the lowest percentage of functionality was observed in Oromia (55.6 %). Thus, it is very important to learn the reason for the highest functionality (100%) of the health institutions in Sidama region and scale-up the practices.

233 Functionality of institutional water sources is mainly affected by insufficient or missed budget allocation, lack of skilled or semi-skilled labour locally for O & M, and unavailability of accountable entity for O & M of the water sources/points. So, the woreda, health committee, and kebele water technicians are the main responsible entity for O & M of water facilities in the health facilities. It is reported that woreda (52.2%) and health committee (34.5%) were the main responsible bodies for O & M of the water schemes (Figure 25).

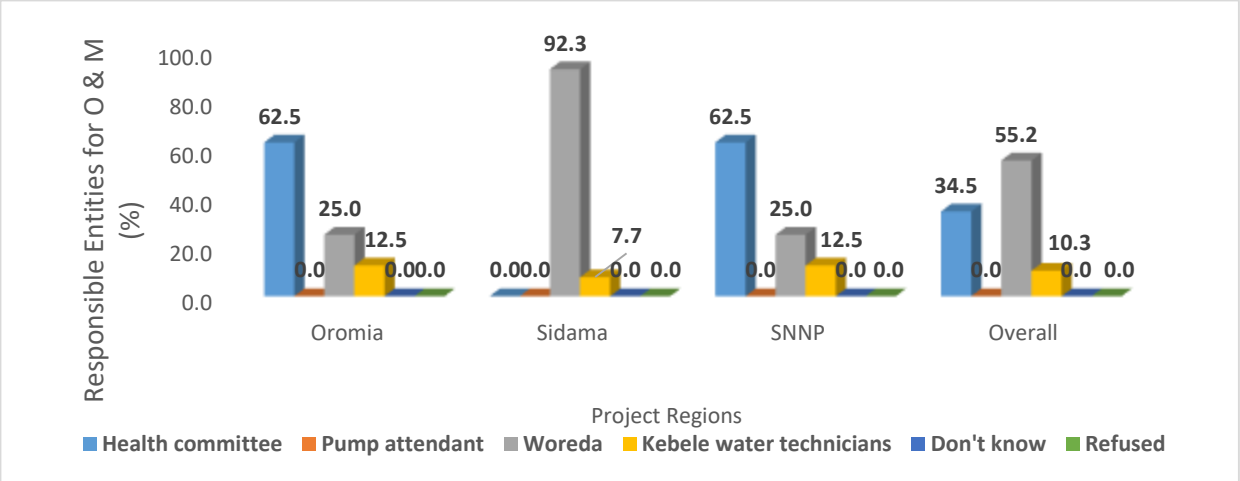


Figure 25: Responsible O & M Entities for Water Sources in Surveyed Health Facilities by Region (%)

234 In terms of availability of trained pump attendants/ caretakers, the survey found out that 80.0% of the health facilities water points did not have pump attendants/caretakers. The survey did not capture functionality of water point but water source. That is why the 83.3% functionality of water sources mismatched with 80.0% of health institutions water points have no pump attendants/caretakers. In addition, most health facilities have tap attendants rather than pump attendants since most of the time the water sources and the pumping units are located away from the institutions and this could be the reason for the high percentage of health institutions do not have pump attendants.

235 Representatives of health institutions were asked if any O & M of the health institutions has been carried out. The overall survey finding revealed that half of the surveyed health facilities reported their water point has been maintained twice, regardless of the frequency of maintenance. The respondents in Oromia reported (100%) that their water points got the opportunity to be maintained three times, SNNP (25%) reported six times, and Sidama (100%) reported twice.

236 The survey captured that, overall, 56% of the water sources' O & M were mostly carried out by woreda and health committee. In Oromia region, half f the respondents reported that the water facilities O & M was carried out by health committee and pump attendants/caretakers.

237 Financing for WASH facilities O & M is one of the major challenges in the sector. In this regard, the survey found out that about 77.8% and 22.2% of the O & M costs were secured from the health facilities and woreda water office budget, respectively. The health facilities also raised additional funds from nearby communities (11.1%). The SNNP health facilities resource mobilization (25.0%) practices for O & M could be up-scaled to the other regions and guarantee sustainable service deliveries (Table 53).

Table 53: Health Institutions Water Points O & M Budget Sources by Region (%)

O & M budget Sources	Oromia	Sidama	SNNP	Overall
Health facility budget	100.0	100.0	50.0	77.8
Raising additional funds (e.g., from the nearby community)	0.0	0.0	25.0	11.1
Private donation	50.0	0.0	0.0	11.1
Borrowing money	0.0	0.0	0.0	0.0
Woreda Water Office	50.0	0.0	25.0	22.2

238 Observation was made on the water points surrounding or buffer zone for any potential risks that could have been affecting or might affect in the future the functionality or the quality of the health institutions' water sources. As the case with schools, the possible man-made or natural catastrophes could be flooding, human and animal excretes (faeces), large-scale construction nearby the water sources, landslide etc. The data collectors observed that there were no potential immediate risks to the water sources/points of the surveyed health facilities. Consequently, the data collectors asked the health institutions representatives about the development of WSP and its implementation to learn the tasks that have been undertaken to mitigate the risks that affect water quality and services delivery. The finding shows that overall, two (6.7%) of the respondents indicated that the WSP is developed and also implemented.

239 Health facilities' representatives were asked about the practices of testing water quality before commissioning and found out that 67.4% of the respondents confirmed the existence of testing. Out of this, 90.0% of them assured the water was safe for drinking.

240 Following this, the health facility representatives were asked about techniques they have used to improve their water quality (if any). Overall, most of the health facilities (61.4%) didn't exert efforts to improve their drinking water quality. However, few health facilities practiced adding disinfecting chemicals (32.7%). The water treatment practices by region showed that about 23.7% of the health facilities in Oromia, 34.5% of those in Sidama and 41.2% of those in SNNP regions, respectively, add disinfecting chemicals to improve their water quality (Table 54).

Table 54: Health Facilities Water Treatment Practices by Region (%)

Health facilities water treatment	Oromia	Sidama	SNNP	Overall
Boil	5.3	0.0	0.0	2.0
Add disinfecting chemicals	23.7	34.5	41.2	32.7
Strain through a cloth	7.9	0.0	0.0	3.0
Use water filter (ceramic/ sand)	0.0	0.0	0.0	0.0
Solar disinfection	0.0	0.0	0.0	0.0
Let it stand and settle	2.6	0.0	2.9	2.0
Other	0.0	0.0	5.9	2.0
Nothing is done	68.4	65.5	50.0	61.4

3.4.1.6 Hygiene Promotion in Surveyed Health Institutions

241 Overall, 80.8% of the health facilities respondents reported that WASH promotion is conducted in their compound, and kebele (HEW), staff of the institutions, staff from other health institution (e.g., Hospital), Woreda, NGOs, etc. The survey found out that 71.8% of the WASH promoters were Kebele (HEW), internal staff (65.9%) and staff from other institutions (23.5%). The promoters by region showed that in Oromia region, majority (81.8%) of them were internal staff followed by kebele (e.g., HEW) (69.7%), in Sidama region, kebele (e.g., HEW) (65.2%) followed by internal staff (52.2%) while in SNNP region, kebele (e.g., HEW) (79.3%) followed by internal staff (58.6%) (Table 55).

Table 55: Health Facilities WASH Promoters by Region (%)

WASH promoters	Oromia	Sidama	SNNP	Overall
Staff	81.8	52.2	58.6	65.9
Staff from other health institution (hospital etc.)	33.3	13.0	20.7	23.5
Kebele (e.g., HEW)	69.7	65.2	79.3	71.8
Woreda	15.2	4.3	3.4	8.2
NGO	3.0	13.0	3.4	5.9
Other organization	0.0	4.3	0.0	1.2
Don't Remember	3.0	0.0	0.0	1.2

242 The survey collected data about the mode of WASH promotion that has been used by the above prioritized promoters. The finding showed that the top three mode of promotions were other education materials (52.4%), separate workshops and trainings (47.6%), and posters (42.9%). The mode of promotion by region showed that the promoters in Sidama region used other education materials (81.8%) and posters (77.3%). Those in Oromia region used other education materials (57.6%), separate workshops and trainings (57.6%) and posters (39.4%). In SNNP region, demonstration (75.9%), separate workshops and trainings (48.3%) and other education materials (24.1%) were used (Table 56).

Table 56: Modes of WASH Promotion in Surveyed Health Institutions by Region (%)

Mode of promotion	Oromia	Sidama	SNNP	Overall
Demonstration	18.2	27.3	75.9	40.5
Live drama or role play	0.0	0.0	3.4	1.2
Posters	39.4	77.3	20.7	42.9
Other educational materials	57.6	81.8	24.1	52.4
Separate workshops and trainings	57.6	31.8	48.3	47.6
Don't Remember	3.0	4.5	0.0	2.4

243 Overall, poor facilities (water supply, sanitation facilities, soap etc.), lack of fund, lack of awareness, low priority of hygiene and sanitation among staff and patients were reported to be the main barriers for WASH practices. The survey finding showed that poor facilities (water supply, sanitation facilities, soap) (82.7%) and lack of fund (77.9%) were reported as the major barriers. Analysis by region showed that 90.0% of the respondents in Oromia reported lack of fund and about 85.0% of them reported poor facilities (water supply, sanitation facilities, soap) as their major barriers (Table 57).

Table 57: WASH Promotion Main Barriers to Improve Patient and Client Practices by Region (%)

WASH promotion main barriers	Oromia	Sidama	SNNP	Overall
Poor facilities (water supply, sanitation facilities, soap etc.)	85.0	86.7	76.5	82.7
Low priority of hygiene and sanitation among staff and patients	50.0	10.0	35.3	33.7
Resistance to change	7.5	6.7	17.6	10.6
Lack of funds	90.0	86.7	55.9	77.9
Lack of awareness	40.0	33.3	38.2	37.5
Lack of leadership	30.0	16.7	26.5	25.0
Other	0.0	0.0	2.9	1.0

244 Selecting appropriate venue, specific group or target audience, and frequency or consistent support affects the quality of WASH promotion and the ultimate impact. In line with this, the survey found out, overall, the promotions facilitated in the health facilities (82.1%), in the house or house to house (69.0%), schools (44.0%), and CBOs (28.8%). In Oromia region other public areas (33.3%) have been used as promotion venues. Overall, 42.9% of the respondents reported the promotion is facilitated on monthly basis.

245 The survey also captured information on how solid wastes such as paper, garbage, plastic, food waste were being disposed at health facilities. It was reported that 86.5% practiced open burning. From regions perspectives, that about 11.8% of the health facilities in SNNP practiced composting (Table 58).

Table 58: Health Institutions Solid Waste Disposal Practices by Region (%)

Solid waste management	Oromia	Sidama	SNNP	Overall
Open dumping	17.5	10.0	14.7	14.4
Dust bin (waste collected outside the facility)	15.0	46.7	26.5	27.9
Open burning	95.0	86.7	76.5	86.5
Composting	5.0	0.0	11.8	5.8
Specific practices for hazardous waste if any	0.0	6.7	5.9	3.8

246 Information was also collected how medical wastes were disposed in the health facilities. The survey found out that overall 45.2% of the health facilities have practiced open burning, 32.7% of them sending the waste to higher health facility, and 26.0% buried them in placenta pits. The practices by region showed about 58.8% of the respondents in SNNP mainly practiced open burning, those Oromia mainly practiced placenta pi (40.0%) and those in Sidama mainly send it to the higher health facilities (56.7%) (Table 59).

Table 59: Health Facilities Medical Wastes Disposal Practices by Region (%)

Medical waste	Oromia	Sidama	SNNP	Overall
Open dumping	10.0	6.7	14.7	10.6
Waste collected outside the facility	25.0	16.7	0.0	14.4
Open burning	37.5	40.0	58.8	45.2
Placenta pit	40.0	10.0	23.5	26.0
Composting	0.0	0.0	14.7	4.8
Medical waste incinerator	7.5	6.7	17.6	10.6
Specific liquid waste management practice	0.0	0.0	2.9	1.0
Burning in well with chimney	5.0	0.0	20.6	8.7
Send it to the higher health facility	22.5	56.7	23.5	32.7

3.4.2 Institutional Sanitation and Hygiene Situation

3.4.2.1 Sanitation and Hygiene Facilities and Services in Surveyed Schools

247 According to WHO/JMP Progress on drinking water, sanitation and hygiene in schools: 2000-2021 data update, globally 71% of schools had a basic sanitation service, 16% had a limited service, and 13% had no service or unimproved. In addition, 2 out of 3 primary schools (68%) and 3 out of 4 secondary schools (75%) had a basic sanitation service. The report revealed that in Ethiopia 40% of the schools had a basic

sanitation services, 20% limited and 39% had no services or used unimproved facility. The situation in Ethiopia primary schools showed that 39% had a basic sanitation services, 21% limited and 40% no services or used unimproved facility. The MoE statistical annual abstract report indicated that 72.3% of primary schools have functional toilets. At national level, majority of primary schools have traditional toilets, with 45% coverage and 29% are improved toilets. On the other hand, 29% of schools have toilets accessible to children with special needs, whereas 37% are accessible to young children. At regional level, Somali region has the lowest proportion of toilets accessible for students with special needs, and accessible for young children with 5% and 3%, respectively.

248 Nationally, 76.5% of secondary schools have access to functional toilets, with the majority being improved toilets (58.8%), followed by traditional toilets (31.4%). However, there are significant regional variations of schools regarding toilets. The majority of teachers' toilets are also reported as functional (71.6%) (Education Statistics Annual Abstract, September 2019 to March 2020, MoE 2020).

249 Overall, the survey found out, on average, there are a total of 2.2 toilet blocks; number of mixed blocks accounts for less than 1, 1 female block, and 1 male block. The overall observed major types of sanitation facilities[10] in the surveyed schools showed that 55.0% and 41.0% of the schools accessed pit latrine with slab and ventilated improved pit latrine, respectively. The access did not show much difference by sex of beneficiaries. However, in Oromia region, 72.7% of male students accessed pit latrine with slab whereas 9.1% of female students accessed flush or pour flush toilet. The highest percentage (62.5%) of female students that accessed VIP latrine was observed in Sidama region. Students in SNNP and Sidama regions did not have access to flush or pour flush toilet. The availability of flush or pour flush toilet in schools in Oromia region is encouraging and the experience should be scaled up to other areas (Table 60).

Table 60: Access to Sanitation Facilities by Sex and Region (%)

Observed Type of Toilet	**Oromia**		**Sidama**		**SNNP**		Overall	
	Female	Male	Female	Male	Female	Male	Female	Male
Flush or pour flush	9.1	4.5	0.0	0.0	0.0	0.0	3.1	1.6
VIP	27.3	22.7	62.5	60.9	31.6	38.9	41.5	41.3
Pit latrine with slab	63.6	72.7	37.5	30.4	68.4	61.1	55.4	54.0
Other	0.0	0.0	0.0	8.7	0.0	0.0	0.0	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

250 The national school WASH guideline established that the average distance for students' latrine from classrooms should not be more than 30 meters while the distance between the girls' and boys' latrines should not be less than 20 meters and to be located in opposite direction but at clearly visible site. In order to minimize the latrine load at peak time, urinal should be provided at boys' as well as girls' latrine blocks (MoE, 2019).

[10] Sanitation facility referred to Toilet/ Latrine, and Interchangeably used in this report

251 It was observed that majority of the [11]mixed toilet blocks (97.9%) and all of the separate toilet blocks for female and male students were functional. It was found that out of the observed mixed toilet blocks, 68.1% and 23.1% are pit latrine with slab and VIP toilet, respectively. Irrespective of type, 73.0% or more of the observed toilets were not clean or "not functional" during the survey.

252 Overall, the survey found out that 70.5% of the surveyed schools have access to improved latrine.,Schools in Sidama region have relatively better access to improved toilets (76.1%) (Figure 26).

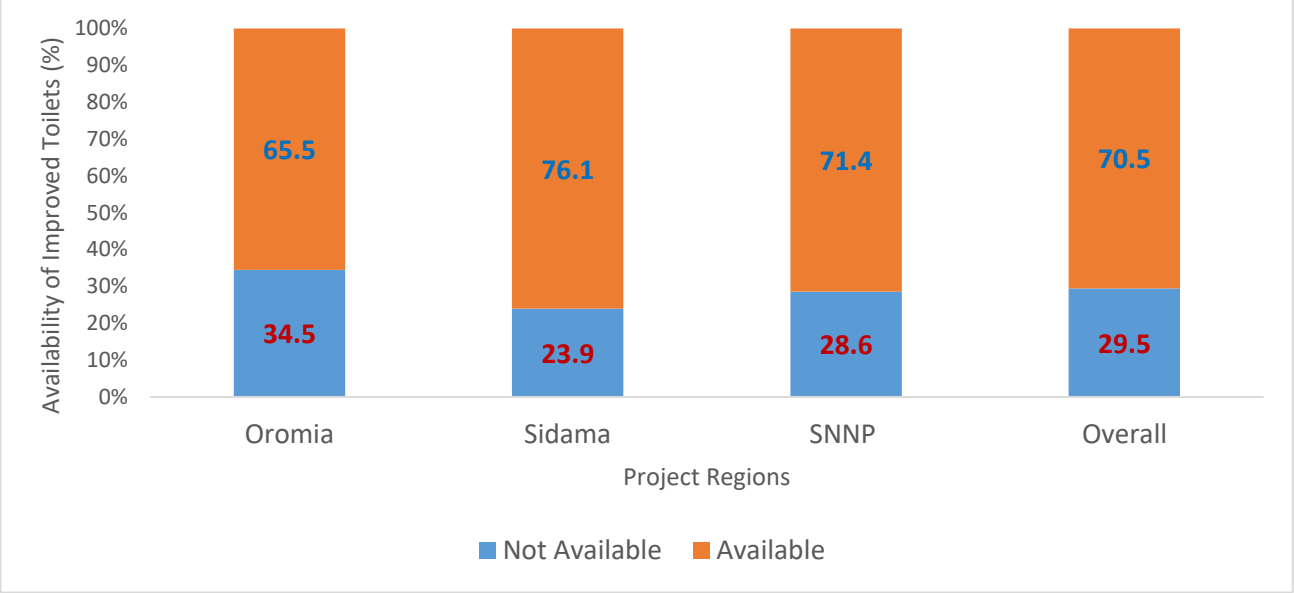


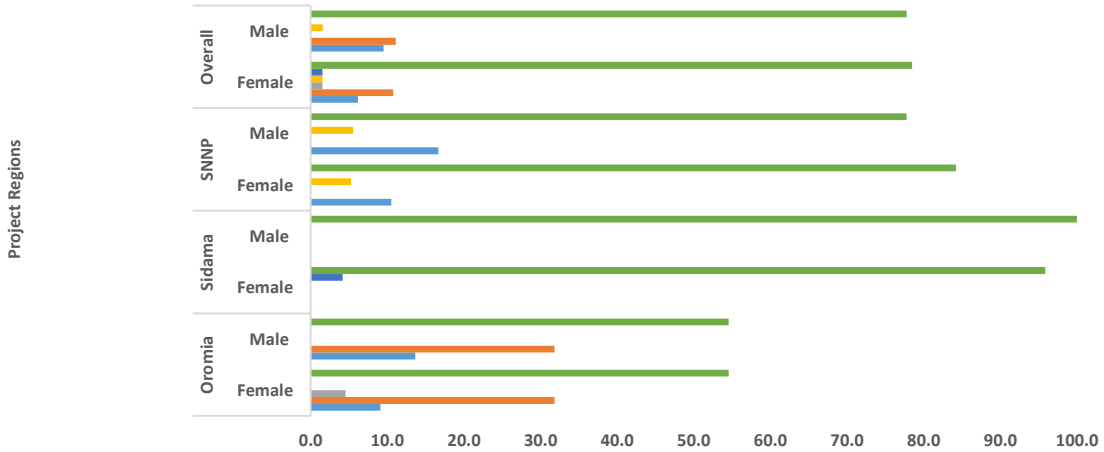
Figure 26: Availability of Improved Toilet/Latrine in the Surveyed Schools by Region (%)

253 In general, it was observed that provision of urinals at schools' latrine blocks is not a common practice in many of the surveyed schools. The findings showed that while only 13.0% of mixed toilet blocks have urinals, 23.1% and 20.6% of female and male toiles have these facilities, respectively. The finding by region showed that half of the female and male toilets blocks in Oromia region have urinals. Moreover, 33.0%, 35.3%, and 33.3% of the mixed, female, male latrine blocks were connected with piped water for cleaning purpose, respectively. In Oromia region's surveyed schools, 45.5% of both female and male urinals were found connected to piped water.

254 Availability of toilet blocks (mixed or separate) did not guarantee access to all of the school community. In practice latrines might not be accessible due to many reasons such as distances from classroom, latrine blocks or stalls locked, used for other purposes, blocks missing basic arrangements for PWDs. However, in this survey, accessibility is categorized as accessible, practical accessible, inaccessible (refers to toilet blocks with some of the doors are locked or space used for other purpose). The data collectors observed that 84.1% of mixed blocks and 91.7% and 100.0% of female and male latrine blocks were accessible, respectively. Whereas, 25.0% and 5.0% of the mixed toilet blocks in SNNP and Oromia regions surveyed schools, respectively, were found partially accessible.

[11] Mixed Toilet blocks refer to Toilet blocks shared by both gender but with different or same entrance

255 The accessibility of toilet blocks to PWDs was also observed and found that 78.0% of the female and male students latrines were not accessible for PWDs. In addition, only 6.2% and 9.5% of female and male toilets, respectively, have ramp. The results by region showed that 100.0% of male and 95.8% of female toilets in Sidama region surveyed schools were not accessible for PWDs (Figure 27). Observation of the schools toilets revealed that none of the males, females, and mixed toilets have all the necessary accessibility structures or features.



	Oromia		Sidama		SNNP		Overall	
	Female	Male	Female	Male	Female	Male	Female	Male
No toilet accessible with people with disabilities	54.5	54.5	95.8	100.0	84.2	77.8	78.5	77.8
There is water in plastic container or tap	0.0	0.0	4.2	0.0	0.0	0.0	1.5	0.0
Raised seat	0.0	0.0	0.0	0.0	5.3	5.6	1.5	1.6
Handles for support	4.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0
Widened door	31.8	31.8	0.0	0.0	0.0	0.0	10.8	11.1
Ramp	9.1	13.6	0.0	0.0	10.5	16.7	6.2	9.5

Figure 27: Availability of Toilet/Latrine Accessible for PWDs in Surveyed Schools by Region (%)

256 The other crucial aspect of latrine is its use[12], i.e., pupils may not use latrine due to various reasons. Among others, distance from classroom, cleanness (offensive odor), missing door, and relative distance between male and female toilet blocks are the major ones. It is revealed that overall, 98.5% of mixed and gender segregated toilet were in use. No latrine abandoned reported in Oromia and Sidama regions, but, in SNNP 5.3% of female latrines were abandoned.

257 The national school WASH guideline established standards for the number of students to seats/dropping hole/or squatting hole ration for rural and urban settings by gender. In rural areas, the ration stands 1:50 for female and 1:75 for male while for big cities /urban areas it was established to be 1:25 for female and 1:50 for male.

258 The finding of the survey showed that, on average, the overall number of seat/drop hole was found to be three for both male and female students. The average number of seat/drop hole by region showed that the highest was observed in Sidama region (4) and the lowest in Oromia region (2). In all the three regions the stalls were in use.

259 Based on the average number of students and desired (standard) number of students to toilet seats/ stalls ratio, the finding showed that all of the surveyed schools didn't meet the minimum number of

[12] Latrine use is evaluated by proxy indicators like path used, fresh faeces or urine, spider web at squatting hole

toilet seats by gender. The overall desired number of toilet seats are 7 and 5 for female and male students, respectively, whereas the available numbers are 3 for both male and female (or the ratio of number of students to stall is 1:120 for female students and 1:115 for male students). From regions perspectives, the finding shows that the number of students to stall ratio is the highest in Sidama region surveyed schools (1:167 for female students and 1:129 for male students. This finding showed only the number of toilet seats required by gender. So, it is required to provide additional stalls or rooms for female students shower and another one for MHM. Moreover, the stalls should be friendly for PWDs. Thus, the project needs to fill the gap considering all of the minimum standards set in the national school WASH guideline in order to create an enabling teaching and learning environment in the school for all (Figure 28).

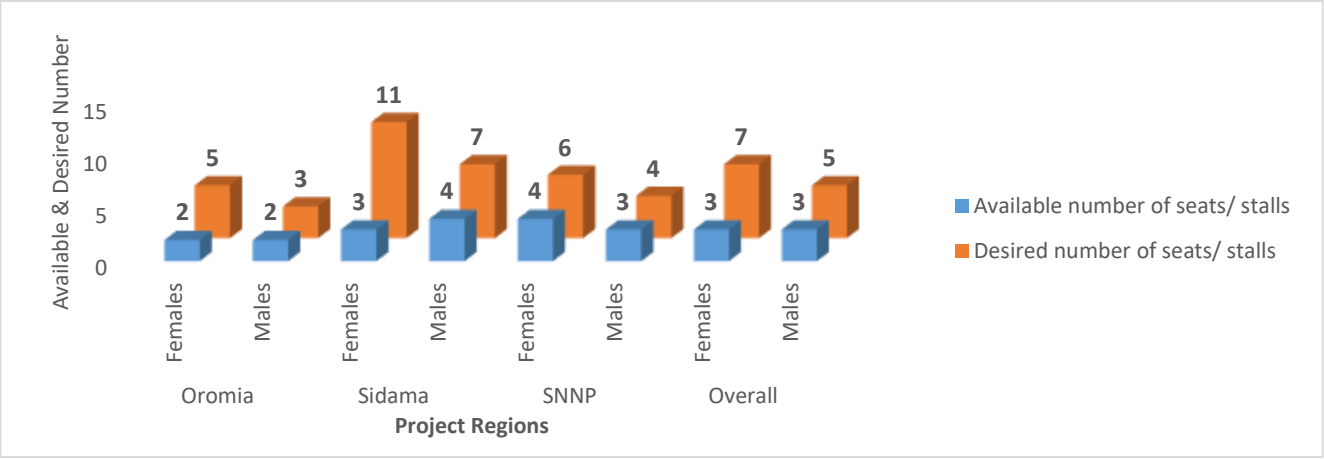


Figure 28: Available and Desired Number of Students Toilet Seats/Stalls by Gender and Region

260 The structural integrity and missing key components of students' latrines significantly affects the use due to the risk to fall into the pit and privacy. The finding of the survey showed that there were no major structural conditions and missing key components of the toilets by gender. Nevertheless, 95.7% of females' and 91.3% of males' toilets in Oromia region, 58.3% of females' and 60.9% of males' toilets in Sidama region, and 78.9% of females' and 77.8% of males' toilets in SNNP region were with missed doors in the surveyed schools (Table 61).

Table 61: Surveyed Schools Toilets Structural Integrity by Region (%)

Toilet structural condition	Oromia		Sidama		SNNP		Overall	
	Female	Male	Female	Male	Female	Male	Female	Male
Proper roof cover	100.0	100.0	100.0	100.0	89.5	94.4	96.9	98.4
Major cracking	40.9	40.9	8.3	13.0	10.5	11.1	20.0	22.2
Missing Door	95.7	91.3	58.3	60.9	78.9	77.8	77.3	76.6
Door cover partially or with major hole	68.2	61.9	71.4	66.7	62.5	68.8	67.3	65.4

261 It was observed that, overall, most of the students' latrines (about 74.0%) regardless of the type were dirty (with faeces, urine or used paper around). The situation was the worst in Oromia region, i.e, 92.9% of mixed toilets were observed to be dirty and 91.0% of females' and males' latrines in Sidama region were in the same condition. This might be due to the fact that the overall toilet cleaning frequency of

majority of the schools was low. With respect to cleaning, it was reported that the toilet cleaning frequency of the schools was weekly (57.3%) and twice per week (25.2%).

262 The survey found out that the role of toilet cleaning was assumed by students, WASH/environment clubs, janitors, guards, and temporarily hired persons. Accordingly, overall, 83.5% of the schools' toilet cleaning has been made by students and those schools whose toilets are being cleaned by janitors are 6.8%. So, the reason why latrines were dirty in the schools could be due to the fact that the role was somehow a burden for the students and the functionality of the WASH/environment clubs was in question.

263 The overall access to handwashing in the surveyed schools showed that 77.0% of the latrines (77.8% of the males and 76.9% of the females) have no handwashing station within the toilet or visible from the toilet entrance. Mixed latrines in Oromia region surveyed schools have the lowest (7.1%) access to handwashing station. The overall findings of the survey showed that only 31.5% of the schools have access to improved water sources and this can contribute to the high percentage of missing handwashing station next to latrine (Figure 29).

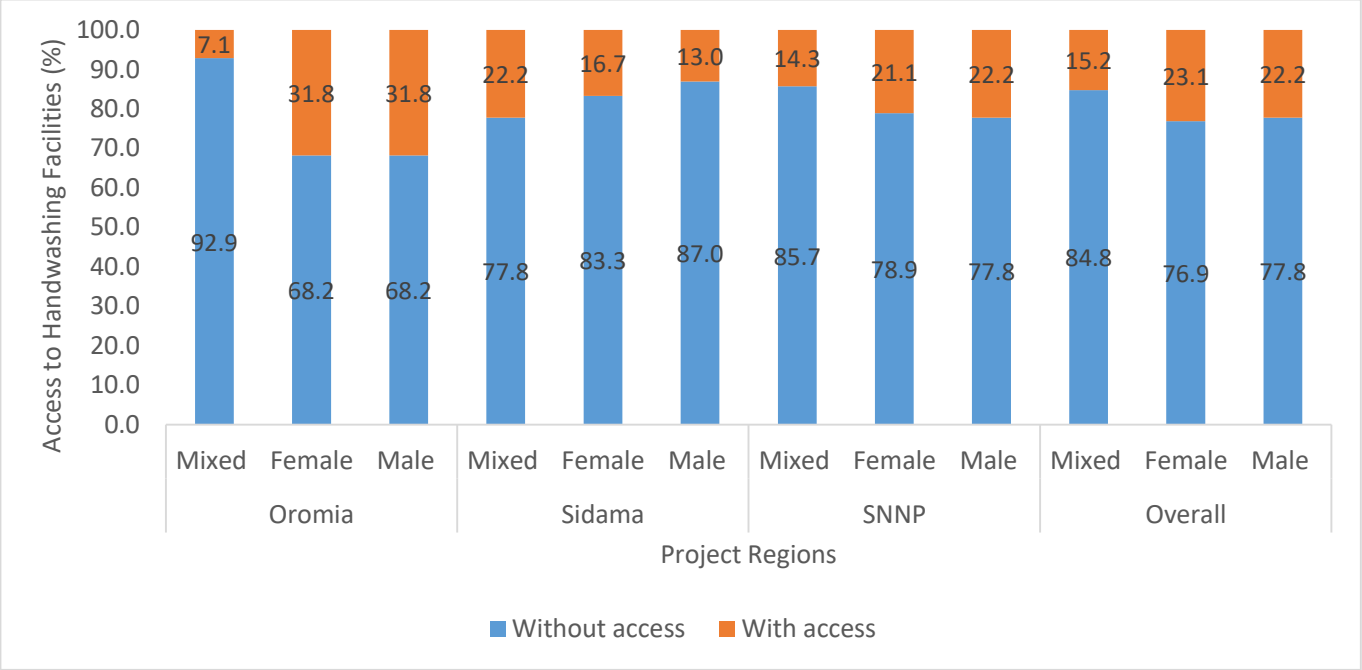


Figure 29: Surveyed Schools Access to Handwashing Facilities by Region (%)

264 In terms of presence of soap at the handwashing station within the toilet or visible from the toilet entrance, overall, 42.9% and 44.4% of female and male handwashing stations have soap. In addition to this, 47.1% of the observed handwashing stations at mixed latrines have soap.

265 Similarly, the survey assessed the availability of water at the handwashing station within the toilet or visible from the toilet entrance and the analysis found out that, overall, 50.0% and 37.5% of female and male handwashing facilities have water, respectively. The regional perspectives showed that 16.7% and 33.3% of the male and female handwashing stations in SNNP region surveyed schools, respectively, have soap. However, the surveyed schools in Oromia region are relatively the highest percentage (75.0% of female and 87.5% of male) of access to handwashing facilities with soap. The situation in the surveyed school of Sidama region is the worst. This is because all of the handwashing stations have no soap at all

even if 16.7% and 13.0% of the female and male students' latrines have handwashing station, respectively.

3.4.2.2 Sanitation and Hygiene Facilities & Services Access in Health Institutions

266 Globally, a quarter of all health care facilities have no basic water services, which means 712 million people have no access to water when they use healthcare facilities. Moreover, 10% of healthcare facilities have no sanitation services and one in three do not have adequate facilities to clean hands at the point of care. WASH services in health care facilities are especially deficient in least-developed countries (LDCs). In LDCs, half of health care facilities lack basic water services and 60% have no sanitation services (Global progress report on water, sanitation and hygiene in healthcare facilities, WHO/JMP 2021). Overall, the major types of sanitation facilities[13] observed in the surveyed health facilities are VIP and pit latrines with slab. The survey found out that more than two-third (66.7%) of the female toilets are VIP and the other female toilets (33.3%) are pit latrines with slab. Among all the male toilets observed, half of them (50%) were found to be VIP latrines and the remaining were pit latrines with slab (25%) and pit latrines without slab (25%). The type of latrines in the surveyed health institutions by region showed that all the latrines (100.0%) in SNNP region surveyed health institutions were VIP, i.e., both female and male staff access VIP latrines. In Oromia region, all of the male toilets (100.0%) were observed to be pit latrines without slab while that of the females were pit latrines with slab (87.5%). The proportion of VIP latrines for females in Sidama region is also high (66.7%). One of the main findings is that there were no flush or pour flush toilets in all the surveyed health institutions of the three Regions (Table 62). A little less than three-fourth (72.1%) of the health institutions in the surveyed rural kebeles had access to improved latrines and 25.0% had access to both improved latrine and improve water sources.

267 It was observed that more than half of the surveyed health institutions (54.0%) have mixed toilet blocks with VIP and the remaining health institutions (41.3%) have mixed toilet blocks with pit latrine with slab. The largest percentage (73.9%) of mixed VIP latrines were observed in Sidama region health facilities.

Table 62: Type of Toilets in Surveyed Health Facilities by Sex and Region (%)

Types of Toilets	Oromia		Sidama		SNNP		Overall	
	Female	Male	Female	Male	Female	Male	Female	Male
Flush or pour flush	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VIP	12.5	0.0	66.7	50.0	100.0	100.0	33.3	50.0
Pit latrine with slab	87.5	0.00	33.3	50.0	0.0	0.0	66.7	25.0
Pit latrine without slab	0.00	100.0	0.0	0.0	0.0	0.0	0.0	25.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Total	100.0%	100.0	100.0	100.0	100.0	100.0	100.0	100.0

268 WHO standard on water and sanitation facilities for health institution recommended separate latrine for staff and male & female patients (inpatients and outpatients). The aim of separate WASH facilities for staff and patients is to prevent staff from communicable diseases. Accordingly, the standard

[13] Sanitation facility refers to Toilet/ Latrine, and interchangeably used in this report

established 1:20 toilet stalls for inpatients and 4 stalls for outpatient settings (1 each for staff, female patient, male patient and child patient) (WHO, 2008).

269 The MoH and MoWE design and construction manual for WASH for health institution recommended short and long term sanitation facilities standard. It is indicated that for short term stall ratio as 1:20 for inpatients and 1:50 for outpatient while for long term 1:20 for both inpatients and outpatients (MoH and MoWE). The survey tool can't support to evaluate the existing conditions due to missing separate sanitation facility data for outpatients and inpatients.

270 The health institutions survey found out that, overall, 72.1% of the surveyed health institutions have improved latrine. The percentage of health institutions with improved latrines is relatively high (83.3%) in Sidama region and the least (58.8%) in SNNP region (Figure 30).

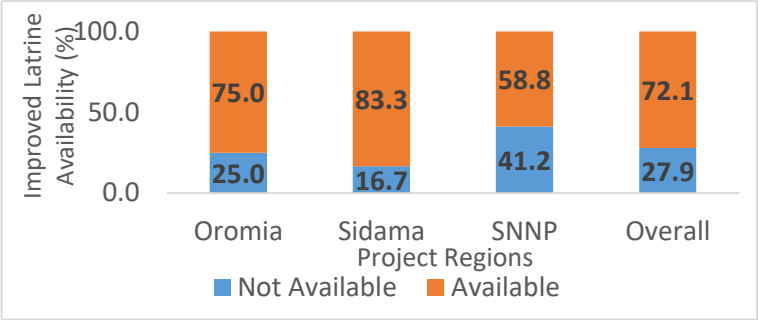


Figure 30: Surveyed Health Institutions Improved Latrine Availability by Region (%)

271 The survey has also addressed the availability and condition of urinals in health institutions. The findings showed that 15.9.0% of mixed toilet blocks have urinals while about 58.3% and 25.0% of female and male toiles have urinals, respectively. The availability of urinal by region showed that all of the surveyed health institutions (100.0%) in Oromia and SNNP regions have no urinal in all the male, female and mixed toilets. Moreover, only 14.3% of the health institutions' mixed toilets were connected to water supply, mainly with piped water. The gender segregated latrine blocks showed that 88.9% and 50.0% of female and male staff toilets, respectively, were connected to piped water for cleaning purpose. All of the urinals (100.0%) were connected to piped water in Oromia region surveyed health facilities.

272 However, in this survey accessibility is categorized as "accessible", "practical accessible", "inaccessible". Data collectors observed that, overall, 87.0% of mixed blocks and majority (94.0%) of the female and male latrine blocks were found to be accessible. In SNNP region, 7.1% of the mixed toilets were found to be inaccessible while all of the female toilet blocks in Oromia region were accessible.

273 The accessibility of health institution's toilet blocks to people with some kinds of disabilities (PWDs) was also checked in terms of design and arrangements such as availability of ramp, installed handrails, raised toilet seat, widen and opened to the outside door to rotate wheelchairs etc. Accordingly, the survey found out, overall, a quarter of the health institutions' toilets (25.0%) were not accessible to PWDs. Moreover, half of the health institutions' females' toilets and more than three-fourth (78.0%) of the institutions' males' toilets were not accessible for PWDs. The availability of ramp, widened doors and door opening outwards in one of the toilet rooms, handles or handrails, and raised seats, and ample space around the toilet with widened doors for movement of users with wheelchair users were the main things that were given emphasis during the observation of the health institutions. Ramp is the most common type of arrangement for PWDs to access latrine. These accessibility conditions were relatively better in females' toilets than in mixed and males' toilets. The accessibility by region showed that all of the SNNP region surveyed health institutions' toilets were found inaccessible for PWDs whereas in

Oromia region all of the health institutions have ramps in their toilets. The observation showed that all health institutions' toilets (mixed, males' and females') were in use (Figure 31).

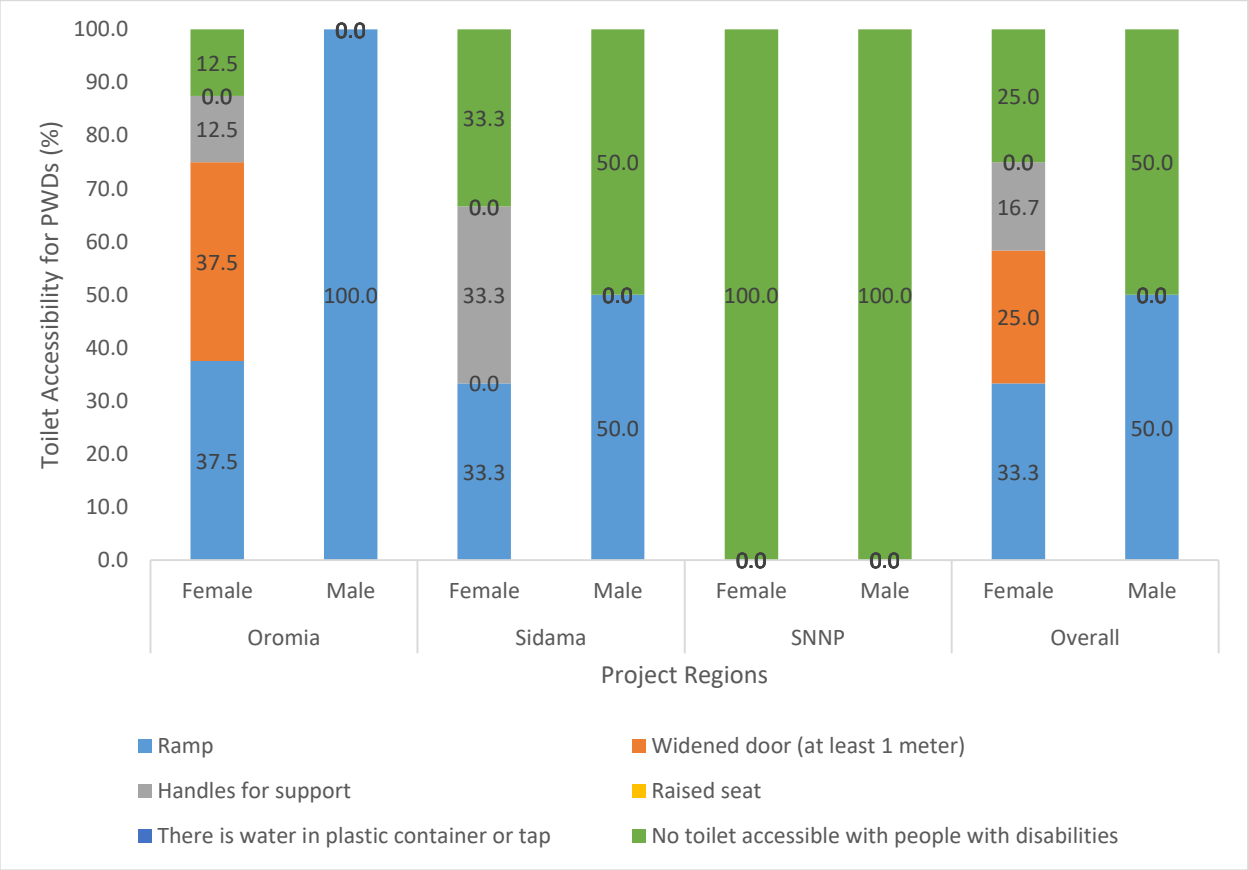


Figure 31: Health Institutions Toilet Accessibility for PWDs by Region (%)

274 The findings of the survey showed that, on average, the overall total number of seat/drop hole was found to be three for females' toilets. The average number of toilets seat/ drop hole by gender was one 1. The average number of seat/drop hole by region showed the highest record in SNNP region surveyed health institutions. Mixed toilets were found to have 3 stalls. In all the three regions, toilet, regardless of the type, was observed to have been in use.

275 The finding of the survey showed that, overall, half of the surveyed health institutions (50.0%) toilets have no door and a quarter of the health institutions (25.0%) toiles have cracks. Most of the surveyed health facilities latrines in Oromia region were observed to have both structural and missing key components. Specifically, all of the male staff toilets have no roof, with major cracks, and missed doors. In SNNP region, all the health institution toilets have missing doors or no door at all (Table 63).

Table 63: Health Institution Toilet Structural Condition by Region (%)

Toilet structural condition	Oromia		Sidama		SNNP		Overall	
	Female	Male	Female	Male	Female	Male	Female	Male
Proper roof cover	75.0	100.0	66.7	100.0	100.0	100.0	75.0	100.0
Major cracking	75.0	100.0	0.0	0.0	0.0	0.0	50.0	25.0
Missing Door	87.5	100.0	33.3	0.0	100.0	100.0	75.0	50.0
Door cover partially or with major hole	0.0	0.0	50.0	0.0	0.0	0.0	33.3	0.0

276 It was observed that overall, half of the surveyed health institutions (nearly 50.0%) latrines were found to be not clean or dirty (with faeces, urine or used paper around). The situation was observed to be the worst in Sidama region health institutions toilets. The lack of cleanness was similar for the males and females' toilets of Sidama health institutions. On the contrary, all of the toilets of the SNNP region surveyed health facilities were relatively clean. This might be due to the fact that toilet cleaning frequency in health institutions was reported weekly (56.0%) in Sidama region and daily (55.0%) in SNNP region.

277 The survey found out that the role of health institutions toilet cleaning was assumed by health staff, janitors, guards, and temporarily hired person. Accordingly, overall, in more than half of the surveyed health institutions (56.0%), toilet cleaning was the responsibility of the health institutions' staff while that of janitors is 18.7% of the health institutions surveyed.

278 Observation was also made on handwashing situation of the health institutions. The finding showed that, overall, three-fourth (75.0%) of the health institutions have no handwashing stations within or around the entrance of their toilets. The handwashing station availability by region showed that all (100.0%) of the latrines in SNNP region have no handwashing stations whereas three-fourth (75%) and all of the institutions' females and males toilets, respectively, in Oromia surveyed health institutions' toilets have their own handwashing stations (Figure 32).

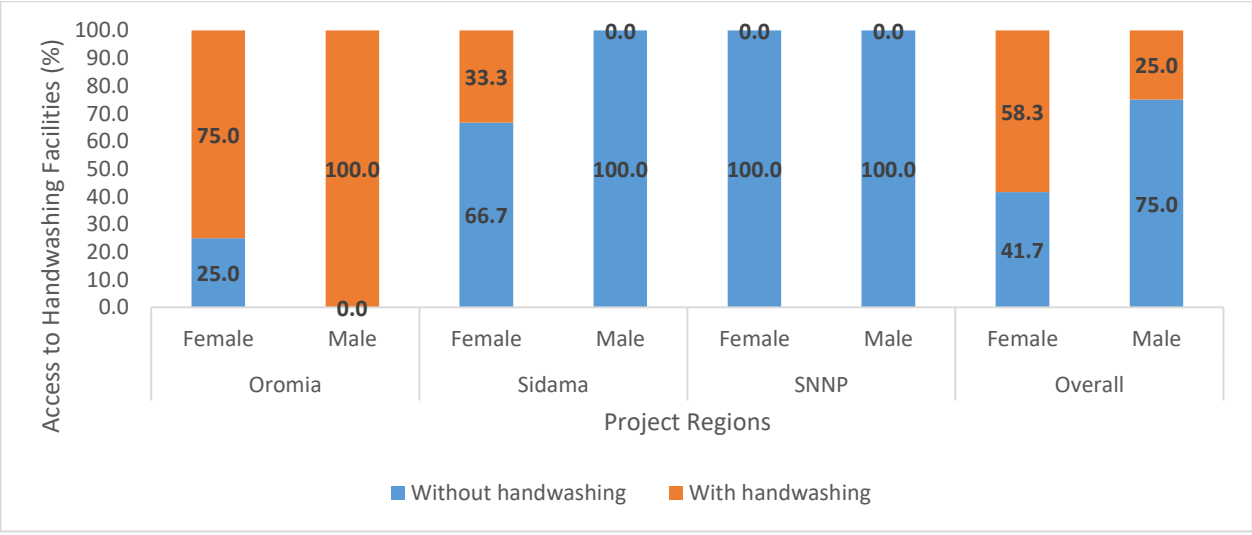
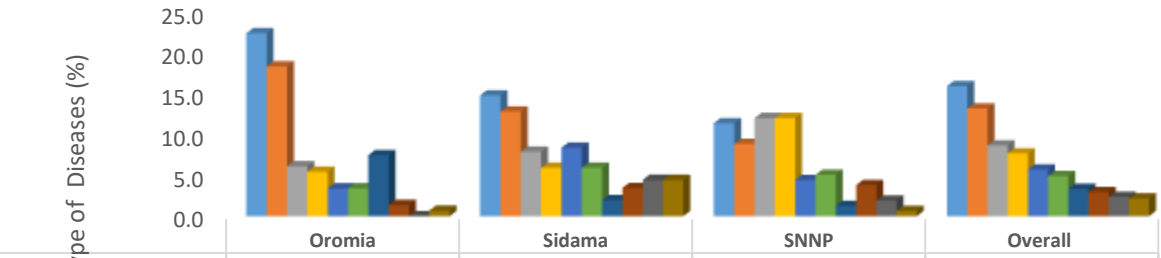


Figure 32: Health Institutions Access to Handwashing Facilities by Region (%)

279 The presence of soap or other cleaning agent at the handwashing station within the toilet or visible from the toilet entrance was one of the focus of observation in the health institutions. Overall, the

observation showed that all (100.0%) of female and male handwashing stations have soap or other cleaning agents while only 21.4% of the observed handwashing stations at mixed latrines have soap or other cleaning agents. Similarly, the survey assessed the availability of water at the handwashing station within the toilet or visible from the toilet entrance. In total, 87.5% and 100.0% of the female and male handwashing facilities were observed to have water, respectively, while only 50.0% of the observed handwashing stations at mixed latrines have water. The regional perspectives showed that health facilities handwashing stations in SNNP region did not have soap and water within the toilet or visible from the toilet entrance for both male and female toilets.

280 The survey gathered secondary data about the top 10 diseases from the surveyed health institutions. The top five diseases reported can be mitigated through implementation of "full WASH package" intervention. Overall, the top five diseases reported were diarrhea (15.9%), pneumonia (13.1%), typhoid (8.6%), malaria (7.6%), and typhus (5.7%). The regional situation showed that, in Oromia region, diarrhea was reported as the first top (22.3%), followed by pneumonia (18.2%) while in SNNP region typhoid and malaria were reported at 11.9% each (Figure 33).



	Oromia	Sidama	SNNP	Overall
Diarrhea	22.3	14.7	11.3	15.9
Pneumonia	18.2	12.7	8.8	13.1
Typhoid	6.1	7.8	11.9	8.6
Malaria	5.4	5.9	11.9	7.6
Typhus	3.4	8.3	4.4	5.7
Tuberculosis	3.4	5.9	5.0	4.9
Fever	7.4	2.0	1.3	3.3
Urinary tract infection	1.4	3.4	3.8	2.9
Helementiasis	0.0	4.4	1.9	2.3
Hypertension	0.7	4.4	0.6	2.2

Figure 33: Top Ten Diseases Reported by Surveyed Health Institutions by Region (%)

4. Conclusions

281 Based on the findings of the baseline survey, conclusions are drawn as follows.

4.1 Basic Demographic Characteristics and Health Status of Family Members

282 Among the important information that could be linked to the water and sanitation status of rural households are family size and highest level of education completed. To this end, the overall average family size of the target households was found to be 4.8. More than half of the household heads (50.6%) and 37.3% of the household members didn't have completed any formal education. About 22.5% of the household members had suffered from some kind of health problems during the last 2 weeks preceding the survey out of which 21.1% were suffering from diarrhea.

283 Children under 5 years of age are the most affected by unsafe water and inadequate sanitation. In this regard, the result of this baseline survey revealed that nearly 4.7% of the under 5 years old household members had suffered from diarrhea during the last two weeks before the survey out of which 27.9% had blood in their stools while 72.1%% had no. The case was relatively high in Sidama than the other two study regions. Overall, the under 5 mortality was found to be 12.17 deaths per 1000 live births

4.2 Rural Household WASH

4.2.1 Access to Community WASH Facilities and Services

284 Regarding community water supply, the top three water sources during the dry season were protected spring (46.3%), river/lake/pond/dam (29.4%) and unprotected spring (27.0%) while 75.8% were using at least one protected source during the survey time. The survey further revealed that the main improved source for drinking water was functional during the survey period (76.5%). About 56.8% and 24.3% of the HHs were using protected spring and pipe water for drinking water, respectively. The practices of using rainwater was minimal. About 97.1% of the drinking water sources were reported functional during the survey time. The average per person/or capital water consumption was 12.39 liters per day, and it required to travel about 23 and 88 minutes excluding and including the queuing time, respectively, to fetch water (round trip/person). Moreover, 43.9% of the HHs perceived that the collected water was adequate for the HHs. HHs rated the water quality as very safe during rainy season while during dry season the perception “very safe” ranges from 22.6 for RWH to 67.7% for piped water.

285 About 47.1% of the HHs reported that community is the owner of the water point. It was also found that 97.8% of the WASHCO chairperson were males or dominated by males. The WASHCOs member gender composition in Sidama region was much better than the other two target regions, i.e., there were two female WASHCO members. Out of the 145 water points inspected, only 19.3% had trained pump attendants/caretakers. Relatively, water points in Sidama and SNNP regions had good number of pump attendants, i.e., about 22.0% of the water points had pump attendants. Most of the HHs report to WASHCO (38.8%) and Kebele (30.7%) whenever their water sources are not working. The survey finding showed that about 67.8% of the HHs reported that water tariff was not yet established. For the water schemes where water tariff collection was started, the most common mode of payment was in cash (45.8%).

286 In the surveyed woredas, flooding was reported as a major risk for water sources or water points buffer zone, i.e., about 67.1% of the observed schemes had the risk of damage due to flooding. In terms of organizing and implementing WSP, about 17.0% of the observed schemes had developed it and 78.6% of them reported the plan was implemented. From the surveyed regions point of view, both the development and implementation of the WSP is encouraging in Oromia while in SNNPR, community level interviews revealed that WSP plan development was not practiced at all.

4.2.2 Access to Sanitation and Hygiene Facilities and Services

287 Overall, the main types of sanitation facilities were flush or pour flash toilets (0.8%), pit latrine without slab-open pit (67.6%) and pit latrine with slab (8.6%) while about 23.0% practice open defecation. Only 9.6% of the HHs had access to improved latrine and 83.6% use their latrine even if 63.6% of their latrines can’t be properly closed or cover the entrance. OD practice was relatively high with HHs in Oromia region

followed by Sidama region. About 88.5% of the HHs did not share their latrine with other HHs and out of those who had shared their latrine (11.5%), the majority (68.6%) did it with two HHs. About 44.9% of the observed latrines were not free from human faeces and more than 33.3% had never been cleaned. Most HHs (99.6%) built their latrines by themselves or without any external financial support, and 50.0% had a plan to improve their latrine to pit latrine with slab (86.8%). The survey found out that when the girls are menstruating while at school they use pad or equivalent cloth or go back home.

288 The most common solid waste management practices were composting (63.4%), open dumping (25.4%) and open burning (9.8%).

289 In terms of personal hygiene, about 88.1% of the HHs had a designated place for handwashing but water was available only at 30.2% of the HHs and soap or detergent (bar, liquid, powder, paste) at 11.2%. However, 58.9% of the HHs had soap in their house but soap was not available at 26.0% of the observed toilets. Moreover, 57.3% of the HHs wash their hands with water only. The percentage is high in Sidama and SNNP regions, i.e., about 60.0% of the HHs reported that they wash their hands with water only. Regarding the knowledge about the critical moments of handwashing, the respondents mentioned before eating or feeding others (88.7%), before cooking (80.3%), after using latrine (69.6%), after cleaning latrine or baby or adult bottom (41.8%) and before and after taking care of sick persons (13.0%) while 11.1% mentioned all of the five critical moments.

4.3 Institutional WASH

4.3.1 Health Institutions WASH

4.3.1.1 Health Facilities Access to Drinking Water

290 The health facilities survey found out that the types of water sources during rainy and dry seasons did not show much difference. Considering the dry season as critical scenario, the major water sources for surveyed health facilities were protected spring (29.10%), pipe water (26.0%), protected well (16.3%), and rainwater harvesting (9.7%). The health facilities survey finding also revealed that 66.3% of the surveyed health facilities had access to at least one protected source during the dry season.

291 The finding of the health institutions survey also revealed that more than 96.0% of the surveyed health facilities were using pipe water for drinking during both the rainy and dry seasons and more than 76.5% were using protected wells. The practices of using rainwater harvesting for drinking was reported by 30.0% of the surveyed health institutions during dry season.

292 The surveyed health facilities overall time required to access improved drinking water sources significantly varies by type of water sources. Accordingly, the surveyed health facilities needed to devote, on average, 6, 23, and 24 minutes to get drinking water from pipe water, protected well, and protected spring, excluding queuing, respectively, whereas, they devote 18, 34, and 50 minutes to get drinking water from pipe water, protected well, and protected spring, including queuing, respectively.

293 The finding of the survey showed that, overall, 71.2% of the health facilities had no access to improved water sources. Usually, health facilities augment their drinking water deficiency by constructing various types of water storages. Nevertheless, the survey found out that, overall, 68.3% of the surveyed health facilities did not have temporary water storages.

294 The survey also assessed the main purposes of the health facilities water, and it was found out that, overall, cleaning (83.0%), drinking (66.0%), gardening (17.0%), and caring patients and ensuring the hygiene in the facility (14.0%) were reported as the main purposes.

295 Regarding sharing of water points, the survey found out that 37.5% of the surveyed health institutions share their water points with others including the nearby community (97.4%), nearby schools (51.3%) and nearby gov't institutions (15.4%). On the other hand, the overall adequacy of water for staff and patients/clients during rainy and dry season was low as 24.0% and 36.0% of the health institutions surveyed reported that water was somewhat inadequate in rainy and dry seasons. Thus, practices of sharing water point with other institutions significantly affects the adequacy especially during the dry season.

296 The health facilities also reported some of the causative factors for the inadequacy of water during the two seasons, and found out that 37.5% and 43.8% of the health facilities reported inadequacy of the sources and limited number of taps during dry season, respectively, while about 40.0% of the respondents reported both limited number of taps and inadequate water sources during the rainy season.

297 It was observed that 83.3% of the surveyed health institutions' drinking water sources were functional during the survey time. Functionality of institutional water sources is mainly affected by insufficient or missed budget allocation, lack of skilled or semi-skilled labour locally for O & M, and unavailability of accountable entity for O & M of the water sources/points. In this regard, it is reported that woreda (52.2%) and health committees (34.5%) were the main responsible bodies for O & M of the water schemes. In terms of availability of trained pump attendants/ caretakers, the survey found out that 80.0% of the health facilities water points did not have pump attendants/caretakers. The overall survey finding revealed that half of the surveyed health facilities reported their water point has been maintained twice regardless of the frequency of maintenance.

298 The survey captured that overall, 56.0% of the water sources' O & M were mostly carried out by woreda and health committee. Financing for WASH facilities O & M is one of the major challenges in the sector. In this regard, the survey found out that about 77.8% and 22.2% of the O & M costs were secured from the health facilities and woreda water office budget, respectively. The health facilities also raised additional funds from nearby communities (11.1%).

299 The data collectors made observation about the water points surrounding or buffer zone for any potential risks that could have been affecting or might affect in the future the functionality or the quality of the health institutions' water sources. The data collectors observed that there were no potential immediate risks to the water sources/points of the surveyed health facilities. Consequently, the data collectors asked the health institutions representatives about the development of WSP and its implementation to learn the tasks that have been undertaken to mitigate the risks that affect water quality and services delivery.

300 The health facilities survey included about the practices of testing water quality before commissioning and found out that 67.4% of the respondents confirmed the existence of testing. Out of this, 90.0% of them assured the water was safe for drinking. Overall, most of the health facilities (61.4%) didn't exert

efforts to improve their drinking water quality but few health facilities practiced adding disinfecting chemicals (32.7%).

301 Overall, 80.8% of the health facilities respondents reported that WASH promotion was conducted by Kebele (HEW) (71.8%), internal staff (65.9%) and staff from other institutions (23.5%) through education materials (52.4%), separate workshops and trainings (47.6%), and posters (42.9%). Overall, poor facilities (water supply, sanitation facilities, soap etc.), lack of fund, lack of awareness, low priority of hygiene and sanitation among staff and patients were reported to be the main barriers for WASH practices. The survey finding showed that poor facilities (water supply, sanitation facilities, soap) (82.7%) and lack of fund (77.9%) were reported as the major barriers. The promotions had been facilitated in the health facilities (82.1%), in the house or house to house (69.0%), schools (44.0%), and CBOs (28.8%) mostly on monthly basis (42.9%).

302 Regarding solid waste disposal, it was reported that 86.5% practiced open burning. Regarding disposal of medical wastes, 45.2% of the health facilities practiced open burning, 32.7% of them sent the waste to higher health facilities, and 26.0% buried in placenta pits.

4.3.1.2 Health Facilities Access to Sanitation and Hygiene Facilities and Services

303 Overall, the major types of sanitation facilities observed in the surveyed health facilities were VIP and pit latrines with slab. More than two-third of the female toilets were VIP and the remaining one-third were pit latrines with slab. Regarding the male toilets, half of them were VIP latrines and the remaining were pit latrines with slab (25%) and pit latrines without slab (25%). There were no flush or pour flush toilets in all the surveyed health institutions. About 54.0% of the surveyed health institutions had mixed toilet blocks with VIP and 41.3% had mixed toilet blocks with pit latrine with slab. The health institutions survey found out that, overall, 72.1% of the surveyed health institutions had access to improved latrines while 25.0% had access to both improved latrine and improved water supply.

304 The survey had also addressed the availability and condition of urinals in health institutions. The finding showed that 15.9.0% of mixed toilet blocks had urinals while about 58.3% and 25.0% of female and male toiles had urinals, respectively. Moreover, only 14.3% of the health institutions' mixed toilets were connected to water supply, mainly with pipe water. The gender segregated latrine blocks showed that 88.9% and 50.0% of female and male staff toilets, respectively, were connected to pipe water for cleaning purpose.

305 The accessibility of health institution's toilet blocks to people with some kinds of disabilities was also checked in terms of design and arrangements such as availability of ramp, installed handrails, raised toilet seat, widen and opened to the outside door to rotate wheelchairs etc. In terms of partial accessibility, the survey found out that, overall, a quarter of the health institutions' toilets were not accessible to PWDs. Moreover, half of the health institutions' females' toilets and more than three-fourth (78.0%) of the institutions' males' toilets were not accessible for PWDs. Ramp is the most common type of arrangement for PWDs to access latrine and was relatively better in females' toilets than in mixed and males' toilets.

306 The findings of the survey showed that, the overall total number of seat/drop hole was found to be three for females' toilets. The average number of toilets seat/ drop hole by gender was one. Mixed

toilets were found to have 3 stalls while half of the surveyed health institutions toilets had no door and a quarter of the health institutions toilets had cracks.

307 It was observed that overall, half of the surveyed health institutions latrines were found to be not clean or dirty (with faeces, urine or used paper around). The survey found out that the role of health institutions toilet cleaning was assumed by health staff, janitors, guards, and temporarily hired person. Accordingly, overall, in more than half of the surveyed health institutions (56.0%), toilet cleaning was the responsibility of the health institutions' staff while that of janitors was 18.7%.

308 Observation was also made on handwashing situation of the health institutions. The finding showed that, overall, three-fourth of the health institutions had no handwashing stations within or around the entrance of their toilets. The presence of soap or other cleaning agent at the handwashing station within the toilet or visible from the toilet entrance was one of the focus of observation in the health institutions. Overall, the observation showed that all of female and male handwashing stations had soap or other cleaning agents while only 21.4% of the observed handwashing stations at mixed latrines had soap or other cleaning agents. Similarly, the survey assessed the availability of water at the handwashing stations within the toilet or visible from the toilet entrance. In total, 87.5% and 100.0% of the female and male handwashing facilities were observed to have water, respectively, while only 50.0% of the observed handwashing stations at mixed latrines had water.

309 Among the key issues of the survey was gathering data about the major diseases from the surveyed health institutions and overall, the top five diseases reported were diarrhea (15.9%), pneumonia (13.1%), typhoid (8.6%), malaria (7.6%) and typhus (5.7%).

4.3.2 School WASH

4.3.2.1 Access to Drinking Water

310 Considering the dry season as critical scenario, the most common water sources in the surveyed schools were found to be river/lake/pond/dam (31.2%), protected spring (22.5%), pipe water (19.9%) and protected well (18.3%) and the availability of rainwater harvesting is low as compared to the other sources while 54.1% of the surveyed schools had access to at least one improved source during the dry season. Regarding drinking water sources for the surveyed schools, the finding of the survey showed that more than 93.0% of the surveyed schools were using pipe water and protected springs for drinking during both rainy and dry seasons while more than 84.0% used protected wells. There was no practice of using rainwater harvesting for drinking during both seasons. Furthermore, the types of drinking water sources did not show major difference by season but the use of unimproved and surface water sources for drinking was relatively high across the surveyed schools. Regarding access to improved water sources, the finding of the survey showed that about 68.5% of the surveyed schools had no access to improved water source.

311 The finding also revealed that the surveyed school communities spend about four, 15 and 30 minutes to get drinking water from pipe water, protected well, and protected spring excluding queuing time, respectively, and six, 24, and 71 minutes to get drinking water from pipe water, protected well, and protected spring including queuing time, respectively. On average, it required about 16 minutes excluding queuing and about 35 minutes including queuing to access improved water sources.

312 Usually, schools augment their drinking water deficiency by constructing various types of water storages. Nevertheless, the survey found out that overall 73.1% of the surveyed schools did not have temporary water storage. The survey also assessed the main purpose of schools' water sources and the finding revealed that 92.4% of the assessed schools confirmed that the main purpose of their water sources was for cleaning.

313 In terms of sharing water points, the finding revealed that 47.8% of the surveyed schools had shared their water point with nearby community, health and religious institutions. Water source sharing by region showed that majority of the schools experienced sharing with community and nearby health institution. However, water was reported inadequate during rainy season (35.7%) and dry season (66.7%) and thus practices of sharing water points with other institutions significantly affects the adequacy especially during dry season. The causative factors for the inadequacy of water at critical time/ peak time were found to be due to insufficient number of water sources (37.5%) and limited number of taps (81.8%) during dry and rainy seasons, respectively.

314 The survey found out that the average number of drinking water tap or faucet per school was 3 while the required number of water taps per school are 7 and hence majority of the surveyed schools in this regard are below the standard. Thus, in terms of creating an enabling environment in schools and enhancing education and students' performance, the COWASH targeted regions schools need to install additional taps based on the total water demand and the national minimum standard.

315 The data collectors observed that overall, 91.3% of the drinking water sources of the surveyed schools were found to be functional during the survey. The survey captured that overall, half of the water sources (50.0%) O & M was mostly carried out by woreda sector offices while 39.1% was reported by parent and teachers' associations (PTA). In terms of availability of trained tap attendants/ caretakers, the survey found out that 89.1% of the surveyed schools' water points did not have pump attendants/caretakers.

316 The survey finding revealed that 43.5% of the schools surveyed reported that their water point had been maintained twice, regardless of the time frame. In addition, 50.0% of the respondents indicated that the maintenances were conducted by PTAs. The woreda sector offices (45.0%), pump attendants/caretakers (25.0%), and Kebele water technicians (25.0%) were reported providing the O & M services for the surveyed schools. With regard to financing for WASH facilities O & M, the survey found out that about 80.0% of the surveyed schools reported that the O & M budget of the school water supply points maintenance was secured from the school budget (internal revenue) while the school community also raised funds from the parents and others (30.0%).

317 The school survey finding showed that overall nearby farming land (33.3%), flooding (24.2%) and big eucalyptus trees (21.2%) were the major risks to the water supply sources. Human and animal faeces, land slide, and gully development were also mentioned (6.1% each) as potential risks. The finding showed that overall, 13.0% of the respondents indicated that the WSP was developed and out of the respondents who had confirmed the plan, 66.7% reported that the plan was implemented.

318 Overall, most of the surveyed schools (81.4%) didn't exert any effort to improve their water quality. In order to evaluate overall drinking water quality risk the surveyed schools respondents were asked about the practices of water quality test before commissioning to the school community. The survey finding

showed that 84.9% of the respondents reported that the water quality test before commissioning to schools was safe for drinking.

319 Overall, 68.5% of the school respondents reported that WASH promotion was conducted in their school, and teachers (93.0%), health extension workers (HEW) (46.0%), and school clubs (43.0%) were the main promoters through integrating WASH issues discussion with the regular class (52.0%), other educational materials (31.0%), mini-media (24.0%), and practical demonstration (21.0%).

320 Personal hygiene, MHM, environmental sanitation, solid waste management and water treatment were among the most common topics of WASH promotion in schools. Accordingly, handwashing (94.0%), personal cleanliness (83.0%), sanitation practices (55.0%), menstrual hygiene management (47.0%) were the topics of the promotions. Even though majority of the respondents mentioned that the topic of the WASH promotion across the schools was about handwashing, WSP was discussed only in Oromia. So, the WSP development exercise in Oromia region is somehow encouraging and the project could learn out of it.

321 The survey also assessed the effectiveness of the WASH promotion through understanding the barriers to students' safe practices. The survey findings showed that 87.0% of the respondents reported lack of fund as main barrier. Poor facilities (water supply, sanitation facilities, soap) (80.8%) and lack of awareness (31.5%) were also reported.

322 Discussions were also made with school girls above age of 12 years about the most important aspects of MHM in terms of toilet infrastructure. Accordingly, the respondents indicated that supply of sanitary materials for menstrual management as their top priority (73.3%) followed by ability to close the toilet door (71.2%).

323 The survey tried to document the presence and functionality of the school clubs. Consequently, the data collectors asked the presence of girls' club and found out that, overall, 82.7% of the schools had girls clubs and 75.0% of the club members met at least once in a month. In terms of the functionality of the clubs and other actors on MHM promotion, overall, 84.4% of the school girl respondents reported that they had received information about MHM, and the majority of them (37.7%) received the information from their family members.

4.3.2.2 Schools Access to Sanitation and Hygiene Facilities and Services

324 The result of sanitation facilities observation in the surveyed schools showed that 54.0% and 41.0% of the schools had access to pit latrine with slab and ventilated improved pit latrine, respectively. The access did not show much difference by sex of beneficiaries. It was also observed that 97.9% of the mixed toilet blocks and 100% of separate toilet blocks for female and male students were functional. Out of the observed mixed toilet blocks, 68.1% and 23.1% were pit latrine with slab and VIP toilets, respectively. Overall, the survey found out that 70.5% of the surveyed schools had access to improved latrine.

325 The provision of urinals at schools' latrine blocks was not a common practice in the surveyed schools as only 13.0% of mixed toilet blocks had urinals, 23.1% and 20.6% of female and male toiles had these

facilities, respectively. Moreover, 33.0%, 35.3%, and 33.3% of the mixed, female and male latrine blocks were connected with pipe water for cleaning purpose, respectively.

326 In terms of accessibility, it was observed that 84.1% of mixed blocks and 91.7% and 100.0% of female and male latrine blocks were accessible, respectively. The accessibility of toilet blocks to PWDs was also observed and 78.0% of the latrines were not accessible for both female and male students. In addition, only 6.2% and 9.5% of female and male toilets, respectively, had ramp.

327 The other crucial aspect of latrine is its use and the finding revealed that overall, 98.5% of mixed and gender segregated toilets were in use and the overall number of seat/drop hole was found to be three for both male and female students. Based on the average number of students and desired (standard) number of students to toilet seats/ stalls ratio, the finding showed that all of the surveyed schools didn't meet the minimum number of toilet seats by gender.

328 It was observed that most of the students' latrines (about 74.0%) regardless of the type were dirty (with faeces, urine or used paper around). With respect to cleaning, it was reported that the toilet cleaning frequency of the schools was weekly (57.3%) and twice per week (25.2%) mainly by students (83.5%). So, the reason why latrines were dirty in the schools could be due to the fact that the role was somehow a burden for the students.

329 The overall access to handwashing in the surveyed schools showed that 77.0% of the latrines had no handwashing station within the toilet or visible from the toilet entrance and only 31.5% of the schools had access to improved water sources. In terms of presence of soap at the handwashing station within the toilet or visible from the toilet entrance, overall, 42.9% and 44.4% of female and male handwashing stations had soap. In addition to this, 47.1% of the observed handwashing stations at mixed latrines had soap. Similarly, the survey assessed the availability of water at the handwashing station within the toilet or visible from the toilet entrance and found out that, overall, 50.0% and 37.5% of female and male handwashing facilities had water, respectively.

330 About 27.4% of the schools in the surveyed areas had access to both improved water supply and latrine services.

5. Recommendations

5.1 Rural Household WASH

331 Rural household drinking water supply dissatisfaction was mainly due to limited budget. It is therefore vital to improve the proportionality (infrastructure vs training) of budget allocation, timely release of budget, and coordination between sectors since these all affect the project's performance.

332 Finding of the survey revealed that most of the project HHs collect less than 50.0% of the national standard (GTP II set 25 lpd for rural community) water demand for their domestic uses. Thus, the amount of water collected per day per person (7 to 15 lpd) should be improved, otherwise the HHs are at risk of communicable diseases due to insufficient amount of water consumption for drinking, cooking, personal hygiene and sanitation. Particularly, Sidama region HHs collect the least amount of water per day (about 37 litres per HH or 7.4 lpd).

333 It requires a lot of advocacy works on how and for what purpose the time saved from water collection be utilized and maximize personal development and asset building. This is because most of women respondents reported they want to use the time saved for additional HH chores (collecting firewood and washing cloths).

334 Most of the project members of WASHCO community is 5, but in most cases, female members are 1. So, it is required to balance the gender composition and support women to assume leadership positions in the committee representing the water user community. For instance, no woman assumed the role of chairperson and secretary positions in Oromia and SNNP regions surveyed areas.

335 Most of the visited community water points (109 of the 145 water points) do not have pump attendants or perhaps previously trained attendants have stopped providing the services and the community did not know to whom they should report when their water points are not working. For instance, in Oromia, it was found that 14.0% of the WASHCOs do not report to anyone. Thus, it is essential to train more local water facilities attendants/caretakers in order to sustain the services.

336 Collecting and managing water tariff contributes to sustainability of drinking water system. In this regard, the survey finding shows that 56.0% to 76.0% of the HHs reported water tariff has not been established and this could affect functionality of the system. Thus, the project should investigate why the tariff is not yet established and assist the community to do so.

337 It is wise to somehow clearly indicate or aware the community on whose role is water tariff collection and the information gap will affect the role of the community contribution to sustainability of the schemes.

338 Analyzing the existing HH water treatment practices, overall, 60.0% of the HHs were practicing straining the collected water through pieces of cloth and the outcome of the physical drinking water quality examination (bad smell), high percentage of HHs practicing OD, and water sources buffer zone contamination from human and animal faeces and agricultural inputs. It is essential to properly develop and realize the implementation of WSP. This will also address the observed environmental degradations, for instance, the survey found out that 82.3% of the observed water points had immediate danger/ hazards due to flooding, nearby gully development (33.9%), and land slide (6.5%).

339 It requires extensive promotions on MHM because the overall finding shows wrong attitudes on menstruation. It was found that 6.8% and 1.8% of the HHs agreed and strongly agreed on that women and girls in menstruation should not touch water, respectively.

340 Both access to handwashing facility with water and soap and knowledge about the critical moments need strong and innovative hygiene and sanitation promotions.

341 It was found out that overall access to improved water sources is low and most of the surveyed schools (about 73.0%) did not have water storage. So, it is essential to build climate-resilient water facilities and the same sources could be shared with institutions to cut down the per capita cost.

342 The project should support the community on awareness creation in various development agendas, among others, include engaging women in WASH management and accessibility of the WASH facilities for PWDs. This is because less than 50.0% of the HHs were aware about WASH, only 59.4% of the HHs

were aware on the advantage of engaging women in WASH management, and about 40.0% of the HHs had never received information about the need to make WASH facilities accessible for PWDs.

5.2 Institutional WASH

343 Promotion and implementation of rainwater harvesting technology will augment the gap on access to drinking water in schools, and efficiently managing the abundant safe water sources.

344 It is important to evaluate the main purpose of school water sources since more than 92.4% of the surveyed schools reported that the main purposes of the water is for cleaning. However, since 31.5% of the schools have access to improved water, the use of water for cleaning controvert with the access. So, it needs to investigate the main purposes of the water for efficient uses in the schools.

345 It is noted that handwashing promotion is the most common topic in school WASH services but the knowledge and access in the community is low. So, it requires to check the communication channels, modes of communication, and innovativeness of the existing practices.

346 Water sources/ water points sharing is a common practice between institutions and community. Therefore, it is wise to promote efficient water management practices at all levels, especially during the dry season as the adequacy of water drops significantly.

347 In order to create an enabling environment in schools and enhance education performance, the project needs to provide additional WASH facilities (increase taps, toilet seats, MHM system, etc.) based on the national standard.

348 It is very important to learn from the system for the highest functionality of water sources in schools of Sidama region and scale-up the practices in the project areas and beyond.

349 The Oromia region schools initiatives on local resources mobilization (60.0%) practices for O & M could be scaled up to the other regions and guarantee sustainable services delivery as a model.

350 GBV is happening during the time when women and / or girls travel far to fetch water and sometimes abduction occurs when they go to school or go to water points to fetch water. Thus, the project should promote and safeguard the human right including the possibility of coordinating school WASH promotion with other stakeholders.

351 The accessibility of toilet blocks for all is in question in schools because 78.0% of the latrines were not accessible for PWDs as only 6.2% and 9.5% of female and male toilets had ramps. In addition, 1.5% to 1.6%, 0.0% to 1.5%, and 10.8% to 11.1% of female and male toiles had raised toilet seats, handles and widened toilet door, respectively. So, the schools sanitation facilities design and construction should follow the minimum standard set in the national school WASH guideline.

352 Most school toilets were observed to be dirty and the role of cleaning was assumed by students. So, it is better to deploy sufficient number of janitors to keep the environment clean.

353 Medical waste disposal in the health institutions requires special attention since most facilities dump it in open areas.

5.3 Priority Intervention Areas

354 It is essential to identify the core reasons for falling of the students' interest / no value to education in Oromia region and design an innovative program to motivate students to go to school.

355 Increase the number of local artisans for O & M of the water schemes as most of the schemes do not have tap attendants / caretakers.

356 The community needs to be sensitized on ownership of the water sources since the finding shows that HHs give the ownership to government and /or committee / WASHCO. This has a significant effect on the sustainability of the water sources and limit the expected role of the community in managing their water schemes.

357 The project needs to develop and implement WSP to all schemes, and should monitor the effectiveness of WSP in addressing risks related to climate change and variability, environmental degradation, pollution from different sources, operation and maintenance related risks. This is because during the survey, it was observed that there were risks related to flooding, shortage of water due to drought, pollution (from human and animal excreta (faeces), chemicals), land sliding, big gully around the water points, etc. Thus, the project should advocate about climate change, environmental degradation mitigation, and develop climate-resilient WASH infrastructures to sustain the access and services delivery. The risk management should start during the site selection and design and continue throughout the project life. For this activity to be effective, region, zone and woreda WASH sector offices should work together in providing technical support and resources to the community in risk analysis and management. None-WASH actors such agriculture and environment sectors should provide technical support and resources in the management of these risks. The climate change and environmental degradation related risk management should be mainstreamed in the WASH planning, design, construction, operation and management. Climate change and environmental degradation related risk management should be part of the regular WASH plan supported with sufficient budget, risk management performance monitored and reported as part of the WASH performance reporting. For this, the top management of WASH sectors at all level should ensure the mainstreaming of climate change and environmental degradation related risks management into the WASH programming. The project should provide technical and financial support for the implementation of climate change and environmental degradation related risks to the WASH so as to ensure sustained, safe climate resilience WASH service delivery and at the same time to prevent investment loss and protect the public health.

358 Most HHs use unimproved latrine (pit latrine without slab-open pit) and practice OD. In practice, the open defection as human excreta has direct contact with disease transmitting agents like fly and rodents. So, the project should promote HHs to upgrade and construct their latrines, otherwise, the health situation of the community is at risk. While promoting HHs to upgrade and construct their latrines, it is good to encourage households having family member with disability to construct disability inclusive latrine.

359 A small survey targeting school girls revealed that 31.8% of female students return home at the moment when menstruating while at school. So, one can evaluate the number of school days or hours an adolescent girl misses classes per month. Thus, the project needs to support adolescent girls in terms of

building their capacity to prepare their own sanitary pads and access to sanitary pads, separate rooms in the toilet blocks with water, and organize backup system for missed school sessions.

360 The project needs to promote handwashing with soap and water before and after taking care of sick persons to mitigate COVID-19 pandemic risk. The present observed negligence in terms of practicing COVID-19 protocols and availing human hands direct contacting handwashing systems need to resume.

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Annexes