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WASH SUSTAINABILITY INDEX TOOL ASSESSMENT: ETHIOPIA

FINAL REPORT

JULY 2015

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Authors: Ryan Schweitzer, Aguaconsult; Richard Ward, Aguaconsult; Harold Lockwood, Aguaconsult

Data Collection: JaRco Consulting, Addis Ababa, Ethiopia

This report was prepared by:

Tetra Tech
159 Bank Street, Suite 300
Burlington, Vermont 05401 USA
Telephone: (802) 495-0282
Fax: (802) 658-4247
E-Mail: international.development@tetrattech.com

Tetra Tech Contacts:

Morris Israel, Project Manager
Tel: (802) 495-0282
Email: morris.israel@tetrattech.com

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
CHP	Community Handpump
CLTSH	Community-Led Total Sanitation and Hygiene
CoWASH	Community-Led Accelerated WASH in Ethiopia Project
CWA	Consolidated WASH Account
DFID	UK Department for International Development
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HDA	Health Development Army
HEW	Health Extension Worker
INS	Institutional Sanitation
JMP	Joint Monitoring Program
<i>Kebele</i>	Administrative area in Ethiopia equivalent to a community
<i>Kushet</i>	Administrative area in Ethiopia equivalent to a hamlet
KWT	<i>Kebele</i> WASH Team
MDG	Millennium Development Goal
MIS	Management Information System of the Ministry of Water, Irrigation, and Energy
MoE	Ministry of Education
MoEF	Ministry of Environment and Forestry
MoFED	Ministry of Finance and Economic Development
MoH	Ministry of Health
MoU	Memorandum of Understanding
MoWIE	Ministry of Water Irrigation and Energy (2013–present)
NCBU	National Capacity Building Unit
NGO	Nongovernmental Organization
ODF	Open Defecation Free
OWNP	One WASH National Program
SIT	Sustainability Index Tool
SNNPR	Southern Nations, Nationalities and Peoples' Region
SPO	Spring Water System
STC	Save the Children
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WASHCo	Water, Sanitation, and Hygiene Committee
WHH	Welthungerhilfe

WHO	World Health Organization
WIF	WASH Implementation Framework
WSP	Water Sanitation Programme
WTWG	Water Technical Working Group
WEO	<i>Woreda</i> Education Office
<i>Woreda</i>	Administrative area in Ethiopia equivalent to a district
YHYH	Your Health in Your Hands (USAID project)

EXECUTIVE SUMMARY

OVERVIEW

The Water, Sanitation, and Hygiene (WASH) Sustainability Index Tool (SIT) is designed to assess a range of quantitative and qualitative indicators grouped around five main factors that influence the sustainability of services. These are institutional, management, financial, technical, and environmental. The SIT utilizes data collected from multiple sources, recognizing that factors for sustainability include practices at the household and service provider levels, as well as the enabling environment at the sub-national and national levels.

The overall purpose of the WASH SIT assessment in Ethiopia is to inform the United States Agency for International Development (USAID) WASH programming, particularly about sustainability of interventions. It is also intended to inform broader sector dialogue and policy development in the country. While the SIT provides a sector-wide perspective, it does so through the lens of a specific project’s interventions. In Ethiopia, the entry point for the application of the SIT is the Your Health in Your Hands (YHYH) project implemented by Save the Children (STC) between 2009 and 2013.

This project worked in four regions of Ethiopia and in 46 *woredas*. Following consultations with both USAID and STC staff, the SIT was designed to focus on four intervention types: community-led total sanitation and hygiene (CLTSH); community handpumps (CHPs); institutional sanitation in schools (INS); and springs with on-spot distribution systems (SPO). Data collection for the SIT occurred in 12 of the 46 *woredas* across the four target regions (Amhara, Oromia, SNNPR, and Tigray) and focused on 75 unique interventions. It included 1,080 household surveys at the *kebele* level and 137 key informant interviews with service providers.

STATUS OF WASH SERVICES

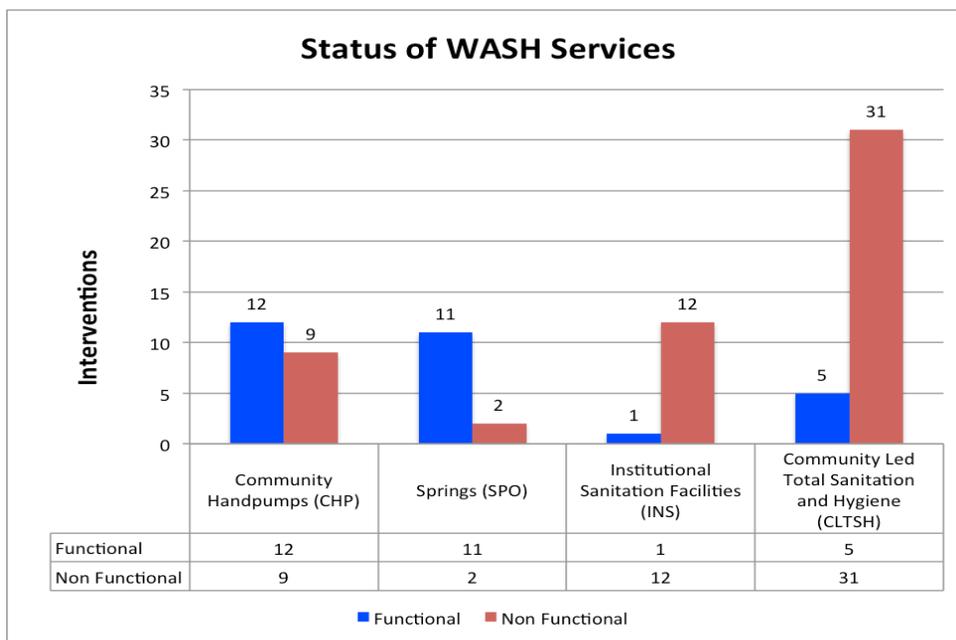


Figure 1. Status of WASH Services

As part of the SIT assessment, the overall functionality of the WASH services was considered in the binary sense (e.g., whether water could be extracted from a handpump or spring, or whether a latrine was used). In addition, service levels were assessed; summary results are shown in the graphic below and highlights are presented in the following paragraphs.

Community-led total sanitation and hygiene. Of the 36 enumeration areas of the study, only five had maintained open defecation free (ODF) status at the *kushet* level as designated by the relevant authorities (e.g., *Woreda* Ministry of Health [MoH] and WASH teams). Of the 11 communities that were confirmed ODF previously, only four were currently ODF (a slippage rate of 63%). ODF estimates compiled by the Joint Monitoring Program (JMP; 2015) show correspondingly high levels of ODF throughout the general rural population. Of the remaining 31 *kushets*, there were four for which open defecation was not directly observed in the communities, and one was “on the verge” of being declared ODF by the *Kebele*-level verification team. Twenty-four percent of the 1,080 households visited did not have a latrine, although this varied considerably by region, e.g., from a low of 7% in Amhara to a high of 80% in one enumeration area in Tigray. Of those household with latrines, only 12% had functioning handwashing stations located nearby. Approximately three-quarters of the households visited had soap available; in most communities, soap could be purchased and there was a generally high reported willingness to pay for soap (80%). When asked about their handwashing practices, most said that they washed their hands before eating, but fewer washed after defecating or before preparing food.

Institutional sanitation in schools. National guidelines developed by the Ministry of Education (MoE) and United Nations Children’s Fund (UNICEF) were used to assess functionality of sanitation facilities in schools. Of the 13 schools assessed, eight facilities were improperly sited and in most, the general sanitary condition was poor (i.e., did not meet basic requirements of no feces on the floor or walls, no cracks in the platform, few flies present, and containment of anal cleansing material). The physical condition of the facilities was only slightly better compared with the sanitary conditions. Only five of the schools had facilities with doors on each latrine that could be closed, locked, and did not have any holes or cracks to see through; sufficient privacy is an important condition for ensuring that girls use facilities. There was no significant difference in the sanitary condition of facilities for girls and boys.

Community handpumps. Twenty-one handpumps under the project were assessed, of which only 57% were functioning at the time of the visit. This sample size is relatively small; however, this failure rate (43%) is well above the national average. It is also well above the target set by the Ministry of Water for the Growth and Transformation Plan (GTP) Phase I, at 20%, or Phase II, which is more optimistic and hopes to achieve 15% non-functionality by 2020. Technical failure of the handpumps in this study was due to various problems, including vandalism, poor operation and maintenance, and poor construction.

Spring capture systems. Of 13 springs developed with spring boxes, two were completely out of service, nine had intermediate or high risk to the beneficiaries, and only two had a very low risk as classified by the World Health Organization (WHO) sanitary inspection scorecard, a method developed to assess functionality of the capture system protecting the water source.

SUSTAINABILITY OF WASH SERVICES

The status of WASH services at any one time is clearly important to the beneficiaries utilizing these services; however, a key assumption of the WASH SIT is that measuring functionality alone does not explicitly provide insight on how the services will perform in the future. Without the right financing and capacities in place at the household, community, and higher levels, and without sufficient long-term support and oversight, the status of services will almost certainly deteriorate over time. Therefore, it is necessary to assess both the status of the services and overall likelihood that these services will continue.

The overall sustainability of the interventions in the *kebeles* visited during the SIT application was mixed. Considering the factor scores by intervention type, the scores ranged between 41% and 93%. In general,

the institutional and technical sustainability of the interventions was higher than the financial, management, or environmental sustainability factors. This trend also has been observed in previous applications of the SIT in Kenya, Ghana, and the Dominican Republic, where institutional and technical scores were also higher than other factor scores. In Ethiopia, institutional scores were higher than for other factors for three of the four intervention types (Figure 2).

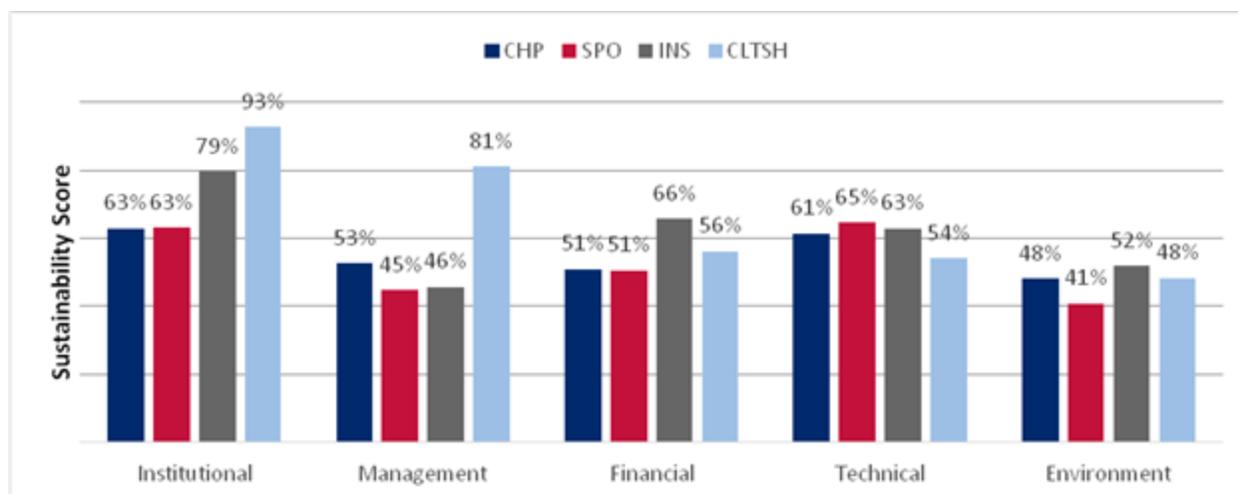


Figure 2. Sustainability of WASH Services

The overall sustainability scores for the water supply interventions were highest at the federal level and lowest at the service level. For the hygiene and sanitation interventions, scores were highest at the decentralized level (*zonal/woreda*), then at the federal and regional levels, and finally the service level. Although it is encouraging to see relatively good scores at the decentralized level, apparent weaknesses and low scores at the service level are a particular concern given that this represents the “front line” of WASH service delivery. Several critical **risks to sustainability** of services were identified:

1. **Very low capacity of service providers** was cited across all communities in the SIT. There were few *kushets* where the WASH Committee (WASHCo) was formed, active, *and* well-functioning. WASHCos were not present in 14 of out 36 enumeration areas, and where they do exist, the overall financial and administrative capacities—as viewed by members of the community—are low. Where WASHCos were in operation, the general community confidence in their capacity was mixed, with 58% of the household respondents being either unsatisfied or unsure whether the WASHCo members had carried out their duties in full.
2. **Cultural barriers to lasting behavior change**, such as the adoption of good hygiene behaviors and consistent use of latrines and practice of handwashing, are continual challenges. There is socio-cultural resistance to change from traditional practices to a modern system of latrine use. Many people expressed a preference for the most convenient option and location for defecation, even if that is open defecation.
3. **Knowledge of sanitation services**—even where there is a willingness to invest in improved sanitation facilities, most households (72%) stated that they were unaware of the existence of trained artisans/masons or sanitation entrepreneurs in their *kebeles*. It is possible that this was not only an issue of low prevalence of these service providers, but also an issue of a failure to successfully market the sanitation services that are available. (Similar studies done by WSP in the same regions revealed a misconception on the cost of sanitation services, with many households thinking that the services were significantly more costly.)

4. **Poor linkages between CLTSH and school WASH activities** and the low level of integration of sanitation and hygiene promotion between the schools and the broader community in which the school is located is a significant issue. In many areas, the school compound seems to be the designated spot for open defecation, while the broader community is ODF.
5. **Limited support from Woreda government** in the form of monitoring and backstopping to WASH service providers within the community. However, such support varied greatly among regions, with all of the Tigray-based informants responding that support from the *woreda* was adequate; while in the Southern Nations, Nationalities and Peoples' Region (SNNPR) and Amhara, only 50% said it was adequate; and only 33% in Oromia believed the support was adequate. Furthermore, very low levels of “additional” support (i.e., support that is specifically requested by the *kebeles* to deal with more complicated maintenance issues) from *woreda* sanitation staff were recorded across all regions, averaging 15% nationally.
6. **Low rates of payment by users for water supply services:** Seven of the 30 *kushets* don't have a set tariff, and in the remaining 23 *kushets*, 30% of the households using the systems were unaware that a tariff had been set. In no case was the tariff based on an estimation of the actual costs required to ensure long-term functionality. As with the limits on behavior change, the challenge to low tariff payment appears to be based as much on cultural assumptions (i.e., 68% of respondents stated that water should be a “free good”) than on a more objective basis, meaning that this will remain a significant threat to water supply facilities in the near-to-medium term.
7. **Weak water resource management;** although nine out of the 12 *woredas* visited in this assessment said they have a regularly updated and functional water supply development plan (E-N2a-ii), all of the *woreda*-level respondents stated that monitoring data is not regularly collected and that limited reporting is provided to the national level.
8. **Poor linkage between project and government systems for information management,** which was reflected by many *woreda* stakeholders who were unaware that the project had been operating in their jurisdiction. Almost all local government officials were unable to confirm the specific location of the project interventions. Furthermore, the central offices of the implementing organization were not able to provide detailed information on the interventions. This implies a weak level of coordination during implementation and also reflects high staff turnover in the implementing organization, which underwent a structural reorganization after the project—and probably in the *woreda* offices. Such staff turnover would undoubtedly impact knowledge management, especially when information management systems are limited or weak. Community participation in the design phase also appeared to be limited, with only 20% of households participating at the project outset in the siting of handpumps, for example. Furthermore, it was noted in at least three *woredas* that the implementing organization did not follow the accepted protocol for handover of the infrastructure to both *woreda* authorities and communities.

Positive **drivers of sustainability** identified through the analysis should be considered in conjunction with the risks identified previously and seen as areas of good practice to be built on where possible. Aside from the national policy environment, which scored consistently well, the majority of the drivers identified at the individual *kebele* levels fall into the management and technical categories and reflected the “working end” of service provision.

1. **Accountability and community participation** was noted across regions, with the highest household awareness of WASHCo activities observed in Tigray and SNNPR. In Tigray, there was a trend toward well-run and accountable WASHCos in charge of CHP and SPO interventions, as well as a corresponding beneficiary population that was more aware of WASHCo roles and responsibilities and generally more satisfied by their performance. Financial reporting, a key element for accountability and trust, was carried out more frequently in Tigray,

where 40% of households reported that records were shared on a monthly basis, and in Amhara (44%).

2. **Evidence of theoretical knowledge of handwashing and hygiene promotion** was observed. Despite significant challenges to establishing lasting behavior change, there are a number of positive aspects that were identified during this assessment. For instance, across all regions, 85% of households responded that the head did encourage family members to practice handwashing and improved hygiene. In general, there was awareness about the importance of washing hands after using the toilet and before eating. Gaps do exist, but few respondents stated that they never washed their hands or had no knowledge of critical handwashing times.
3. **Coordination between actors at the *woreda* and *kebele* levels** does occur, despite many challenges, which resulted in improved likelihood of sustainability. For example, where health extension workers (HEWs), *kebele* WASH team (KWT) representatives, and members of the Health Development Army were present and active, the impact on sustainability scores was noticeable. The positive reinforcement of hygiene and sanitation behaviors both at home (CLTSH at the community level) and at school cannot be underestimated. Even though outcomes were not uniform across all *kebeles*, 27 of the 36 service providers interviewed stated that they had implemented an approved CLTSH action plan. Repetition and reinforcement is a key factor in lasting behavior change, and coordination among those individuals and institutions is important for sustained change.
4. **Leadership at the community level** through traditional community structures emerged as another key driver, even in cases where WASHCoS were not performing all of their roles and responsibilities in an ideal fashion. Village leaders were involved in a majority of CLTSH activities in standout communities. For example, in those communities that are currently seen as ODF, 62% of households stated that village leaders participated in CLTSH activities, including visiting households to attempt to maintain ODF. However, it is unclear if this involvement of village leaders was linked to any incentives. As with the success (or lack success) of community health workers, much depends on the energy and commitment of key influential members of a community for groups and committees to maintain momentum and cohesion. Identifying and then supporting such potential champions for social change and positive management is the key challenge.
5. **Adherence to national-level standards and guidelines:** National-level construction standards and guidelines are well developed, and implementation guidelines are broadly disseminated via the One WASH National Program (OWNP). However, in some of the communities, these standards were not followed, which was likely to be a contributory factor in the premature failure of the infrastructure. While it may appear to be common sense, this driver cannot be over-emphasized given the negative impact poor construction can have on school attendance and willingness to pay. In addition, within the private sector, quality control of products and services is a key element to effective sanitation marketing. Even for CLTSH, which encourages “locally appropriate” building materials, it is important to provide training and guidance on what simple design aspects can be integrated to make traditional latrines safer and more attractive to users.

RECOMMENDATIONS

Recommendations are divided into those targeting the **operational-level** (i.e., primarily *woreda* staff responsible for supporting WASH services and implementing agencies considering new programs) and those relevant at the **strategic level** (i.e., for USAID as a funding partner and for federal and state governments to improve the design of investments and a further strengthening of the enabling environment).

OPERATIONAL RECOMMENDATIONS

COMMUNITY HANDPUMPS AND SPRINGS

Some of the key sustainability issues identified in this report was the capacity of the WASHCoS and financial management, together with transparent accounting, which is strongly linked to the willingness of users to contribute tariffs. Therefore, it is important that any future projects or programs work to professionalize service providers by:

- **Leveraging existing resources:** Nongovernmental organization (NGO)-implementing organizations should follow the guidelines that have been established in collaboration with the Ministry of Water, Irrigation, and Energy (MoWIE) under the Community-Led Accelerated WASH in Ethiopia Project (CoWASH). These include technical operation and maintenance requirements, management roles and responsibilities, water supply safety plans, spare parts management plans, and implementation guidelines.
- **Ensuring that projects commit to follow up** with local authorities beyond the life of the project. Under an ideal situation, implementing partners would work with local authorities to strengthen their capacity to fulfill their mandate to monitor and support service providers, which may require a commitment to work with the service authorities beyond the conclusion of the project. At the absolute minimum, implementing organizations have the duty to follow the formal and accepted handover procedures. This should include supplying local service authorities with all the relevant data about project interventions, including: the type of intervention, details on design, technical specifications, construction, spare parts inventory, specific location, etc.
- **Ensuring sufficient training of WASHCoS in terms of both overall time and duration:** Ideally, training should be a total of at least five days and include sufficient opportunities for developing technical skills (both mechanical and financial) through hands-on experience.
- **Ensuring opportunities to reinforce training are sufficient,** because training needs to be reinforced with practice. Sufficient opportunities should be created to ensure that WASHCoS have confidence in their skills.

COMMUNITY-LED TOTAL SANITATION AND HYGIENE

- **Adopt a holistic approach** to CLTSH that includes schools and institutions and more meaningfully engages WASHCoS and other community-based organizations, such as HEWs. Promoting good hygiene behaviors in communities where the institutions (e.g. schools, clinics, public buildings) do not have appropriate sanitation facilities and where hygiene practices are not promoted is missing a strategic opportunity to reinforce positive behaviors during school hours. There is growing evidence that targeting behavior change messages to school-aged children has increased impact. Furthermore, it is critical that any intervention in schools has the appropriate software training and hygiene promotion. At least one study has shown that efforts to increase usage of school latrines by constructing new facilities may pose a risk to children in the absence of sufficient hygiene behavior change, daily provision of soap and water, and anal-cleansing materials (Greene et al., 2011).
- **Focus training** on fewer individuals but provide more in-depth and longer duration training, with more opportunities for follow-up and support.
- **Leverage local leadership** by spending time and adopting methods to identify and engage with key local leaders who can become role models and champions for CLTSH.
- **Empower and educate open defecators** by providing information on the real costs of building toilets to combat misperceptions about the financial barriers. Sanitation marketing—which includes low-cost technologies and access to finance where appropriate and necessary—is an effective way to overcome common barriers facing households that want to invest in sanitation.

- **At the local level, target those who have unimproved sanitation with sanitation marketing and microfinance** to improve the availability of both sanitation products and the money to pay for them.

INSTITUTIONAL SANITATION

- **Leverage community-level hygiene and sanitation promotion activities.** School hygiene promotion and sanitation behavior change activities should be linked as closely as possible to broader behavior change activities in the community to maximize the impact of both.
- **Ensure that all sanitation facilities meet design guidelines.** Require that all school sanitation (and water) facilities meet the guidelines developed by the MoE and UNICEF, including sufficient facilities for menstrual hygiene, washing, privacy, and safety, as well as meeting the criteria for disabled students and younger users.
- **Work with schools to improve financial planning and management.** Help schools to calculate and understand what the long-term costs of operating, maintaining, and upgrading sanitation facilities will be. It will also be necessary to engage parents and parent groups to establish tariffs/student fees for purchasing consumables.

STRATEGIC RECOMMENDATIONS

One of the clear and common trends identified by the SIT is that the national and state levels score consistently higher, which is a reflection of the good progress made under the OWNPN movement. However, unless these gains can be “pushed down” to zonal and (especially) *woreda* levels, it is doubtful that the benefits of a strengthened enabling environment will result in improved WASH services. Hence, the majority of the strategic recommendations are aimed at filling the critical gap, essential for providing long-term support to communities, schools, and households as they manage their facilities. Specific strategic recommendations include the following:

STRENGTHEN CAPACITY AND DIRECT SUPPORT FUNCTIONS AT ZONAL AND WOREDA LEVELS

- **Ensure a full complement of *woreda* staffing.** There should be a WASH team formed in each *kebele*. However, this was found in only 15 out of the 36 *kebeles* in the SIT. The government of Ethiopia should take the lead in this with the support of all development partners.
- **Advocate for the professionalization of key WASH positions in local government.** It has been reported that regional and zonal health bureau salary levels are not high enough to obtain and retain highly skilled individuals. Turnover in government positions is recognized as high, despite claims by the Ministry of Finance and Economic Development (MoFED) that salaries are sufficient, so employee retention strategies should be explored.
- **Support coordination platforms at the *woreda* level.** Arrangements for governance, oversight, management, and program coordination need to be strengthened at lower levels. Donors and WASH stakeholders should work together to facilitate the rollout of improved institutional arrangements at zonal, *woreda*, and *kebele* administrative levels and across all geographic areas.
- **Ensure zonal and *woreda* staff have proper training and support.** Many of the service authorities at the zone and *woreda* levels said that the training they have received has been through one-day seminars; however, it is clear that yearly refresher training and support is required to ensure that government officials have both the motivation to continue their support work for communities and the technical skills.
- **Help the *woreda* government implement basic asset management practices** to better understand the life cycle costs of water services. Basic asset management is important for understanding how to finance and plan for long-term costs.

- **Help the *woreda* governments develop a water safety plan** as part of the risk assessment process. The CoWASH project has developed detailed guidelines on how this process should be implemented (see Part G of the Operation and Maintenance Manual).

IMPROVED DONOR–IMPLEMENTING PARTNER COORDINATION

- **Mandate that all implementing agencies work through the protocols** established by *woreda*, zonal, and regional governments. Require that implementing organizations respect political protocols and permissions, and collect data according to the established guidelines of local government with regard to the content (i.e., indicators) as well as in terms of frequency of reporting and chain of communication. Handover procedures for transferring ownership to the appropriate service authority should be followed, including the organization and transfer of all documents, records, and pertinent data.
- **Ensure greater coordination, integration, and communication about (donor-funded) NGO programs.** It is important that all development partners, including USAID, work within the OOWNP structures and that donor/implementer activities not channeled through the consolidated wash account (CWA) are implemented in a coordinated fashion and aligned with the planning frameworks, both strategic and annual, established under OOWNP. All WASH stakeholders should participate in coordination activities and share program activities effectively. It should be noted that the YHYH project was initiated before the OOWNP was launched.
- **Ensure that development partners are actively participating in stakeholder groups**, such as, WASH Sector Working Groups, and MoWIE “FLOWS” seminars. To be effective, all donors and implementing NGOs should regularly attend the multi-stakeholder fora.

SUPPORT INCREASED PRIVATE SECTOR CAPACITY

- **Identify ways to develop the private sector.** In addition to professionalizing service providers at the community level, there is added value in improving the private sector capacity to meet the specific WASH needs at the *woreda* and even zonal levels. This includes facilitating sanitation entrepreneurs (*kebele* level), spare parts vendors (*woreda* level), and groundwater development companies (zonal/regional level).

IMPROVE ENVIRONMENTAL MANAGEMENT WITHIN THE (DOMESTIC) WASH SECTOR

- **Encourage increased engagement with the Ministry of Environment and Forestry (MoEF) in the OOWNP** and increased attention to environmental issues at the *woreda* level. This could include helping the government place environmental health workers within each *woreda*.

1.0 BACKGROUND

1.1 WASH SUSTAINABILITY ASSESSMENT TOOL

Aguaconsult developed the WASH Sustainability Index Tool (SIT) as a prototype under the Rotary International-USAID partnership (International H2O Alliance). The tool covers a range of quantitative and qualitative indicators grouped under five main factors that influence the sustainability of services: **institutional, management, financial, technical, and environmental**. The SIT utilizes data collected from multiple sources. It recognizes that factors for sustainability include practices and policies at the household and service-provider levels, as well as the enabling environment at the district and national levels. More information on the WASH SIT—including an overview of the methodology, which was modified for application in Ethiopia—can be found at www.washplus.org/rotary-usaid.

The overall purpose of the WASH SIT assessment in Ethiopia is to inform USAID WASH programming under the agency's water and development strategy, particularly with respect to sustainability of interventions. Outputs of the SIT will contribute to the development of planned sector investments and inform dialogue with the relevant Government of Ethiopia (GoE) ministries, other development partners, and sector stakeholders. While the SIT provides a sector-wide perspective, it does so through the lens of the interventions of a specific project. In Ethiopia, the entry point for the application of the SIT is the Your Health in Your Hands (YHYH) project, implemented by Save the Children (STC).

1.2 YOUR HEALTH IN YOUR HANDS, SAVE THE CHILDREN

YHYH was implemented by Save the Children between October 2009 and March 2013, and reached a total of 930,233 beneficiaries. The project's overall objective was to improve the use of safe water, sanitation, and hygiene services and practices at the household, school, and health facility levels. The strategic objective was achieved through five expected results: 1) improved access to sustainable, safe, and adequate water supply; 2) increased access to improved sanitation; 3) increased health and hygiene promotion; 4) increased community and government capacity to manage WASH activities; and 5) systematic program learning to inform policy and program implementation.

The YHYH project worked in four regions of Ethiopia and in 46 *woredas* in four regions: Amhara (18 *woredas*), Oromia (15 *woredas*), SNNPR (8 *woredas*), and Tigray (5 *woredas*). Within these *woredas*, the project had interventions in 212 *kebeles* (32 in SNNPR, 90 in Amhara, 20 in Tigray, and 70 in Oromia). Based on discussions with USAID and STC staff and on consideration of the many different YHYH project interventions, the SIT was designed to focus on the following four intervention types:

- Community-led total sanitation and hygiene (CLTSH)
- Community handpumps (CHP)
- Institutional sanitation (schools) (INS)
- Water springs with on-spot distribution system (SPO)

One assessment framework was developed for each of the four intervention types listed above. These frameworks consist of indicator and sub-indicator questions that relate to the key issues effecting sustainability; these issues are grouped into the five sustainability categories. These sub-indicator questions are asked to various stakeholders who represent a comprehensive range of viewpoints, from the federal, region, zone, *woreda*, *kebele*, and *kushet* levels (also referred to as the enumeration area). Responses to the sub-indicator questions are given a score based on whether the response is linked to a

positive contribution to sustainability or not. These sub-indicator scores are analyzed and aggregated to the indicator and factor level and can be presented by *kushet*, *kebele*, and *woreda*, or by intervention and factor.

The four assessment frameworks developed were contextualized so that they are appropriate to the Ethiopian context, a process which included adding Ethiopian benchmarks, standards, guidelines, and norms. These Ethiopian-specific frameworks were subsequently used to create the data-collection tools for each of the key stakeholders identified during contextualization. For a complete list of the types of stakeholders engaged at each level, see Annex A1. The four frameworks and all the data collection tools are available upon request.

1.3 LIMITATIONS OF SIT APPLICATION

There were a number of factors that limited the results of the SIT assessment in the case of the YHYH program in Ethiopia:

STAKEHOLDER AVAILABILITY

For all of the service authority surveys, appointments were requested with representatives of the relevant offices, including at the federal, regional, zonal, *woreda* and *kebele* levels. In a number of cases the individuals who were contacted were unwilling to meet with the data collection team because they were unaware of the YHYH project and said that there was no record of this project in their files. In other cases, the individuals with whom meetings were scheduled had been canceled because of election campaign activities. This was particularly the case during the two weeks preceding the elections in May.

In general, at the zonal and regional level, it was very difficult to identify and engage with appropriate individuals who had any knowledge of the project. Although to some degree it was expected that some individuals would not have intimate knowledge of the project, given its relatively limited scope, it was problematic that in these instances the offices could not find any record of the project having been executed. The process of “cascading permission letters” is well known, and therefore it was expected that a paper trail of the YHYH project would have existed. The lack of knowledge of YHYH is taken as one indicator or lesson from the SIT that points either to lack of communication and integration during the execution of the program and/or to high turnover of staff, both within the *woreda* government and also within the implementing organization, whereby key information about externally funded projects is not being recorded by local government.

INFORMANT RELIABILITY

During the contextualization and pilot process, efforts were made not to include leading questions at the household level and to triangulate as many answers as possible to capture potentially contrasting viewpoints (e.g., between community and *woreda*). The SIT, as with any data collection methodology, has to assume, however, that respondents answer questions honestly and willingly and that responses are generally reliable.

SAMPLE SIZE

Another potential limitation with the SIT is that the number of enumeration areas is relatively small compared with other surveys that only collect information from one “level” (e.g., the household). Due to data collection taking place at many levels and locations beyond the community or household, complexity of approach is a limiting factor to scaling up beyond a certain number of regions (for example, by including all regions in Ethiopia and all governmental levels within them). This is largely due to the cost of doing so while maintaining the survey approach. In addition, due to strict statistical calculation methods that govern the comparative validity of variables between sample groups, the total number of enumeration areas (36) is too small to speak with statistical significance beyond these specific areas. As

such, even though the results are strongly indicative of likely trends, caution is needed with respect to any statistically supported extrapolation.

Within the community 30 households per enumeration area were randomly selected and the heads of household were interviewed. Given the small size and general homogeneity of the enumeration areas (e.g., *kushets*, which range from 100 to 200 households), the household sample size is statistically significant to draw conclusions for individual enumeration areas. Nonetheless, the perspectives captured through the key informant interviews at the *kebele*, *woreda*, zonal, regional, and national levels are also important and speak broadly to the challenges of the individuals interviewed at those levels as well.

FOCUS AND PRESENTATION OF RESULTS

The SIT collects data from a diverse range of informants for inclusion in a single set of frameworks, which are designed to present a snapshot of a sector in an easily digestible format. As such, it is inevitable and necessary that some detail and focus are sacrificed for the demands of a concise analysis and presentation of results. The data “behind” the results can be further analyzed and interpreted according to the perspective of the reader or researcher. One of the major motivations behind undertaking the SIT is that the data which results can be utilized for these additional analyses by interested stakeholders.

CODING

To improve the uniformity of the coding process and to generate a more detailed picture of the reasons behind indicator scores, the frameworks were further developed to include multiple-choice lists of variables that could qualify answers. This reduces the chance of subjective scoring, and the amount of data that the SIT collects increases significantly. For more details on the data collected and the minor deviations between the initial data collection plan and final data collection, see the Annexes.

2.0 ETHIOPIAN WASH SECTOR CONTEXT

Ethiopia has made significant progress toward the Millennium Development Goal (MDG) targets for access to and use of water from improved sources. The latest figures from the JMP estimated access to improved water sources to be 57% (WHO/UNICEF, 2015). The Ministry of Water, Irrigation, and Energy (MoWIE) cites a similar figure of 52% in 2013. The MoWIE figure is based upon the National WASH Inventory, which uses a different methodological approach and definitions for improved sources, and which incorporates data from different sources (Butterworth et al., 2013).

Although there has been clear progress in overall coverage, there are still large inequalities throughout the country. Ethiopia is one of the least urbanized countries in the world, with 83% of the population living in rural areas where access to public services is considerably lower than in urban areas. Although 56% of the overall population requires more than 30 minutes round-trip to obtain drinking water (DHS, 2011), according to JMP figures, less than one percent of the population in rural areas accesses water through piped schemes with household connections (WHO/UNICEF, 2013). Ensuring sustainability of services that continue to meet users' needs in terms of quantity, quality, ease of access, and reliability is an ongoing challenge in Ethiopia.

The One WASH National Program (OWNP) is a government-driven sector-wide approach that addresses the needs of rural, urban, and pastoralist communities, as well as schools and health posts, in a more integrated manner. It also seeks to reduce the institutional fragmentation of WASH service delivery (GoE, 2013). Launched in September 2013, the OOWNP operationalizes a revised memorandum of understanding (MoU) between the MoWIE, MoH, MoE, and the MoFED (signed in November 2012) and the WASH Implementation Framework (WIF). The program is the GoE's primary instrument for achieving the targets set out in the Growth and Transformation Plan (GTP).¹ The OOWNP seeks to address disparities in WASH coverage within regions and urban areas, improve aid effectiveness, and promote institutional reforms, with a particular focus on capacity development at all levels.

The donors currently supporting the OOWNP through the CWA are the World Bank, the UK Department for International Development (DFID; the largest bilateral supporter), the African Development Bank (AfDB), and UNICEF, which is also implementing significant DFID-funded programs. To support a pooled funding approach, these four donors have together contributed some \$431 million (actual and pledged) under a CWA over the next five years. This fund is channeled through government, but with fiduciary oversight provided by the World Bank. Under the CWA mechanism, funds flow directly to regional governments and to the Ministries of Education and Health, which receive 13% and 17%, respectively. Other partners (NGOs, charities, other bilaterals, etc.) are expected to work within the OOWNP or at least align their programming to it even when they do not contribute directly via the CWA.

¹ These targets for Phase II include, for example, rural potable water supply coverage within 1.5 km in Afar and Somali Regions reaching 100% by end of 2017; 85% coverage of the rural population receiving at least 25 liters/capita/day within 1 km radius by the end of 2020; 70% of the urban population achieving ambitious service standards, e.g., 100 liters/capita/day (lcd) for level 1 cities, 80 liters/capita/day for level 2 cities, 60 lcd for level 3, 40 lcdy for level 4, and 30 lcd for level 5 cities.

Currently, the WASH sector in Ethiopia is characterized by a set of strong policy and institutional frameworks and relatively well-coordinated sector players. GoE ministries and departments are taking a leading role, but with significant support from a number of key development partners. The enabling environment for further reform and WASH sector investment is therefore positive, with much of the groundwork existing under the OWP. This positive progress must be tempered by the significant challenges that remain in terms of poor functionality of existing services, unequal access for marginalized populations, and the ambitious targets established for Phase II of the GTP. Significant areas of the country still face absolute water resource scarcity and enormous challenges in providing access to different population groups (i.e., women and girls, nomadic or semi-nomadic groups). Poor capacity at the decentralized levels, high turnover of staff, and limited budgets for supporting long-term service provision are also key bottlenecks.

3.0 OVERVIEW OF DATA COLLECTION

Data collection for the SIT occurred in 12 of the YHYH 46 *woredas*—three each in Amhara, Oromia, Tigray, and SNNPR. The SIT assessment team visited 36 *kebeles*. Within each *kebele*, a specific enumeration area was identified based on the YHYH interventions. This enumeration area corresponded in general to the administrative level recognized by the GoE as a *kushet*. Table 1 shows the distribution of the sample enumeration areas by intervention type. Additional detail on the sampling methodology is provided in Annex A2.

	Overall YHYH Project				Sample SIT			
	CHP	SPO	INS	CLTSH*	CHP	SPO	INS	CLTSH*
Amhara	29	9	3	88*	9	2	3	9
Oromia	19	7	0	71*	4	3	0	9
SNNPR	0	5	2	32*	0	4	2	9
Tigray	13	2	11	21*	5	2	5	9
Total	61	23	16	212*	18	11	10	36

* In each enumeration area, CLTSH surveys were captured.

Table 1. Overview of the sample for the SIT assessment in Ethiopia

Within the 36 enumeration areas (one per *kebele*), data were collected through key informant interviews and structured questionnaires. Within each enumeration area, the service providers associated with each of the four intervention types was interviewed. At the *kebele* level, a total of 1,080 household surveys were completed, and 137 key informant interviews with service providers were conducted.

Data collection took place April 6–May 15. Data collection at the *kebele* level was carried out by four teams, each of which were composed of one research assistant, one supervisor, and five enumerators. Two WASH experts collected the regional-, zonal-, and *woreda*-level data, and an international WASH expert completed the national-level surveys through a desk review that was complemented with interviews with national stakeholders. For a description of the data collection teams, see Annex A3.

Data analysis was performed in two phases. During the first phase, the qualitative notes from the research assistants and WASH experts were analyzed at an internal workshop that took place May 6–8. At this point, “drivers” and “risks” to sustainability at the *kebele* level were collated from the qualitative reports and discussed, with trends identified between *woredas*. See Annex A5 for further information. During the second phase, all survey data was digitized and analyzed using the frameworks provided in Annex A3. All sub-indicator questions were coded into yes/no responses, and the percent of “yes” answers were calculated for each level. For each enumeration area, the sub-indicator questions were aggregated to the indicator through averaging the scores (i.e., percent of “yes” answers from the sub-indicator questions). Similarly, for each enumeration area, the factor scores were obtained by taking an average of all the sub-indicator questions within that factor. For the analysis presented in this report, no weighting factors were applied (i.e., each sub-indicator question maintains equal weight). It is the author’s recommendation that any weighting factors would be applied as part of a validation process that would be facilitated by USAID, implementing partners, and relevant stakeholders from the sector.

4.0 STATUS OF WASH SERVICES

As part of the SIT assessment, the overall functionality of WASH services within the enumeration areas was assessed. Functionality was considered in the binary sense (e.g., whether water could be extracted from a handpump or spring, or whether a latrine was being used), but the condition of the interventions with regard to service levels was also gauged. The following sections present the findings on both the status and service levels of each WASH intervention considered: CHP, SPO, INS, and CLTSH.

4.1 COMMUNITY HANDPUMPS

The YHYH did not construct any handpumps in SNNPR. Therefore, the assessment for CHP was limited to the 28 *kebeles* in Amhara, Oromia, and Tigray. Within these three regions, 18 *kushets* were visited, and 21 handpumps² were assessed. Of these 21 handpumps, only 57% ($n = 12$) were functioning at the time of the visit.

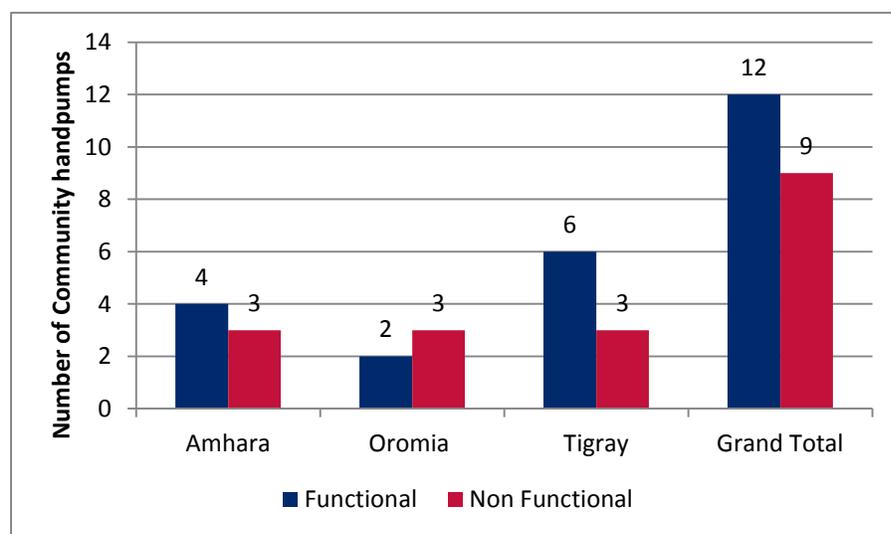


Figure 3. Status of the community handpumps, by region

This represents a failure rate of 43% (confidence interval of $\pm 21\%$). Although this failure rate is higher than the 35% reported by the National WASH inventory, the difference is not significant ($p = 0.485$), due to the small sample size of this assessment. As such, the non-functionality rate of the assessment needs to be interpreted with caution. The rate also is well above the target set by the Ministry of Water for GTP Phase I (20%) and Phase II, which hopes to reduce non-functionality to 15% by 2020. Technical failure of the handpumps in this study was due to various factors, including vandalism, poor operation and

² Five of these handpumps were not constructed by Save the Children. Of these, three were non-functional. The assessment included interventions located in the same enumeration area even if they weren't implemented by STC since these are subject to the same "sustainability" factors. Data from these systems could provide additional insight into sustainability.

maintenance, and poor construction (See Annex A4 for details for each handpump that was assessed). Figure 3 shows a breakdown of the functionality of handpumps by region.

Within the set of handpumps that are classified as “functioning” ($n = 12$) it is also important to consider the level of service that is being provided. There are various potential ways to measure the level of service of a handpump, including the quantity of water provided, accessibility to the water point, ease of use, etc.

As a proxy for ease of use, the efficiency of the pumps was measured through two mechanical tests: a leakage test and a discharge or “stroke” test. Both tests measure the physical condition of the handpumps and therefore can be used as proxies of the pumps’ proactive maintenance and general level of service. Of the 12 functioning pumps, 3 failed the leakage test (i.e., required replacement of foot valve) and 8 (including the 3 that failed the leakage test) failed the stroke test, suggesting that they need a new bobbin or cup seal (see Figure 4). Handpumps with leaky valves and seals require significantly greater effort to produce the same volume of water as well-maintained and properly operating pumps.

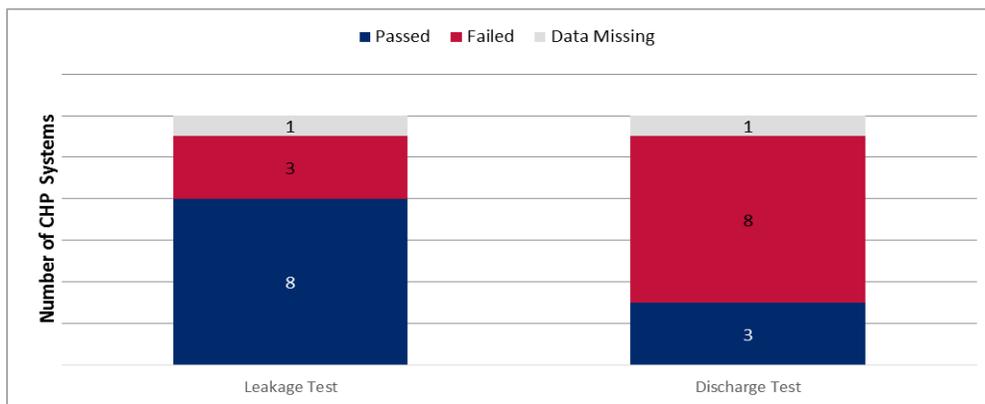


Figure 4. Mechanical test data of community handpumps, all regions

In addition to the general inspection and mechanical tests, a sanitary risk inspection was conducted of each functional handpump utilizing a methodology similar to the WHO’s sanitary inspection scorecard.³ A final score is obtained by counting the number of “yes” responses to each of the numbered questions (1–11) in the scorecard. This score is called the “contamination risk score,” and the following scores are considered very high (9–11), high (6–8), intermediate (3–5), and low (0–2). Figure 5 presents a summary of the sanitation score for the systems included in this assessment.

³ See sanitary inspection risk scores in Guidelines for Drinking-Water Quality: Surveillance and Control of Community Supplies, Volume 3, 2nd Ed., WHO, 1997.

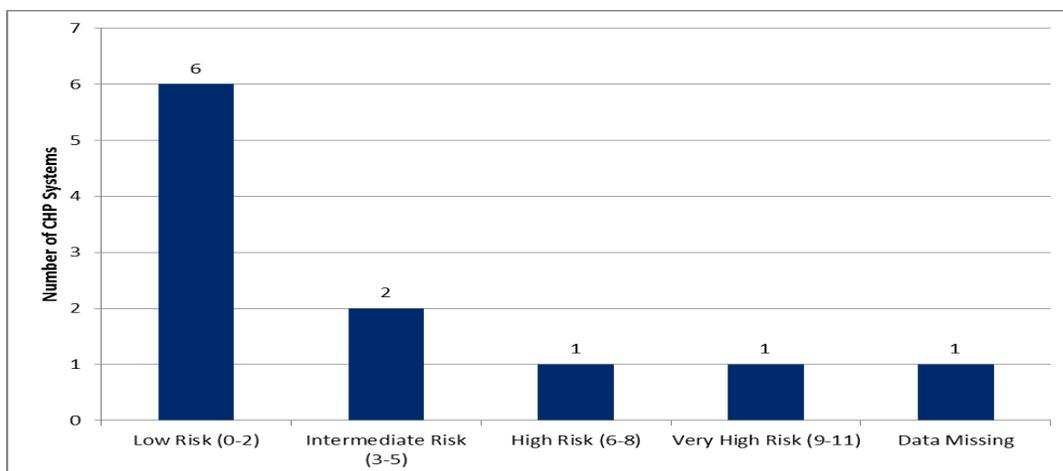


Figure 5. Contamination Risk Scores for Functioning Community Handpumps

Considering the 12 handpumps that were functioning at the time of the assessment, households reported that technical problems, such as the breakdown of a part, had disrupted the handpump’s function in the last month for 30% of the households visited (WT-CHP-T-S1d-iii). There were significant variations between and across regions; however, the majority of repairs (69%) required more than three days to complete (WT-CHP-T-S3d).

An additional dimension that is equally as important to the actual service level (which is measured objectively), is the subjective perception of the service by the households. These perceptions can impact the willingness of users to pay for services or participate in the management of the services. Service user perceptions were captured in detail through the household surveys and were analyzed in the sustainability frameworks. However, the following key observations were made with regard to user perception:

- Half (50%) of households considered their primary water source as insufficient in quantity for daily domestic purposes (WT-CHP-T-S1b-v), which includes both those communities with CHP and SPO as their primary source.
- Water quality was deemed to be more satisfactory than water quantity, with 73% of households noting that they were “very satisfied” with both the water quality (WT-CHP-T-S1a-iv) and the sanitary condition of their primary water point.
- In Amhara, Oromia, and Tigray, 76% of households were satisfied with the accessibility to their primary water source (i.e., distance from household to the water point). This was less of the case in SNNPR, where only 45% were satisfied (WT-CHP-T-S1c-v).

Additional information from the household surveys on service levels, including a disaggregation by region, is provided in Annex A4.

4.2 SPRINGS

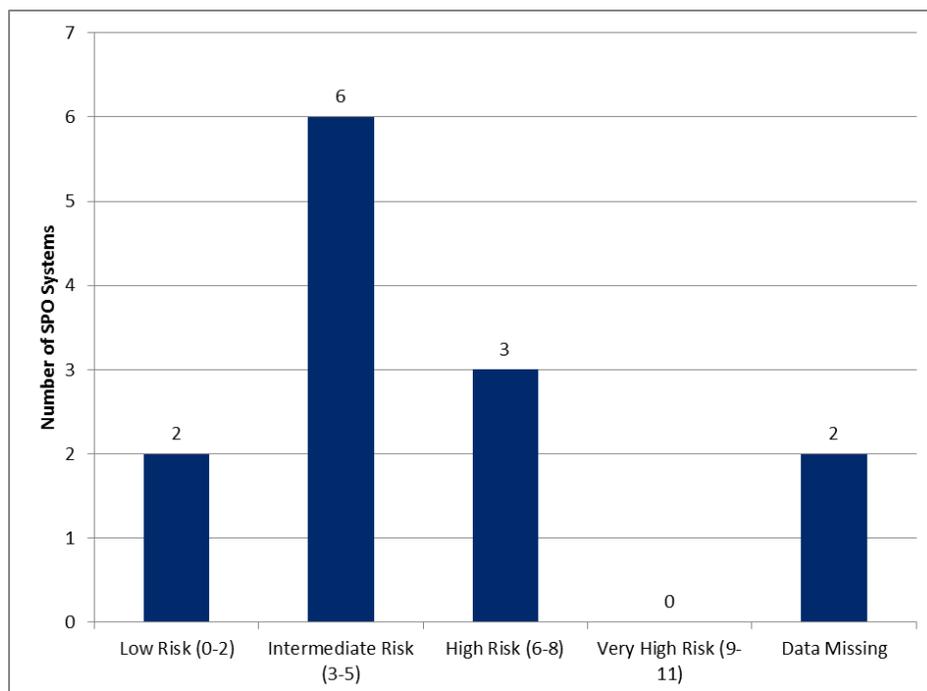


Figure 6. Status of spring capture systems disaggregated by region

The key objective of a spring capture system (also called a spring box) is to protect the water from contamination. Therefore, the spring “functionality,” or status, is measured by the extent to which the capture system is protecting the water source. The World Health Organization (WHO) has developed a sanitary risk scoring system for springs, which is similar to that presented for handpumps in Section 4.1. This system was used to determine the status of the springs included in the SIT assessment. (See Annex A6.) Within the 36 enumeration areas that were visited, 11 had springs, and there were 13 springs⁴ that were developed with spring boxes. Of these, 2 were completely out of service, and 9 were of intermediate or high risk to the beneficiaries. Only 2 had a very low risk as classified by the WHO sanitary inspection scorecard. See Figure 6 for the details.

4.3 INSTITUTIONAL SANITATION FACILITIES

Thirteen sanitation facilities⁵ were visited during the assessment. All these facilities were located in primary schools and were managed by the schools’ administrations. Ten of these facilities were constructed by the YHYH project, all of which were located in Amhara, SNNPR, and Tigray. The three facilities in Oromia were not built as part of the YHYH project. The data collection teams were instructed to capture information on all the facilities within the enumeration areas that were visited in order to maximize the data capture; this is in line with previous SIT applications in other countries.

National guidelines developed by the MoE and UNICEF define the criteria for the design, siting, and maintenance of institutional sanitation facilities. These constitute the acceptable level of service that the

⁴ For four of the springs, it was unclear if the spring box was constructed as part of the YHYH project. In each of these areas, neither the service providers in the *kushet* nor service authorities in the *kebele* or *woreda* could confirm who built the system.

⁵ An additional interview was done with an HEW who was managing a communal latrine. However, because only one communal latrine was captured by the assessment, this was excluded from the analysis.

facilities should provide to students. Eight facilities were improperly sited, and two of those were located within 30 meters of an improved water source, which could lead to contamination of that water source.

Eight of the school administrators interviewed were able to provide documentation of a cleaning program for the sanitation facilities under their care. However, in general, the sanitary condition of the facilities was poor. Facilities were considered unsanitary if they didn't meet the basic sanitary requirements of the MoE (i.e., no feces on the floor or walls, no cracks in the platform, few flies present, and containment of anal cleansing material). Figure 7 shows a breakdown of the sanitary condition of the facilities by region.

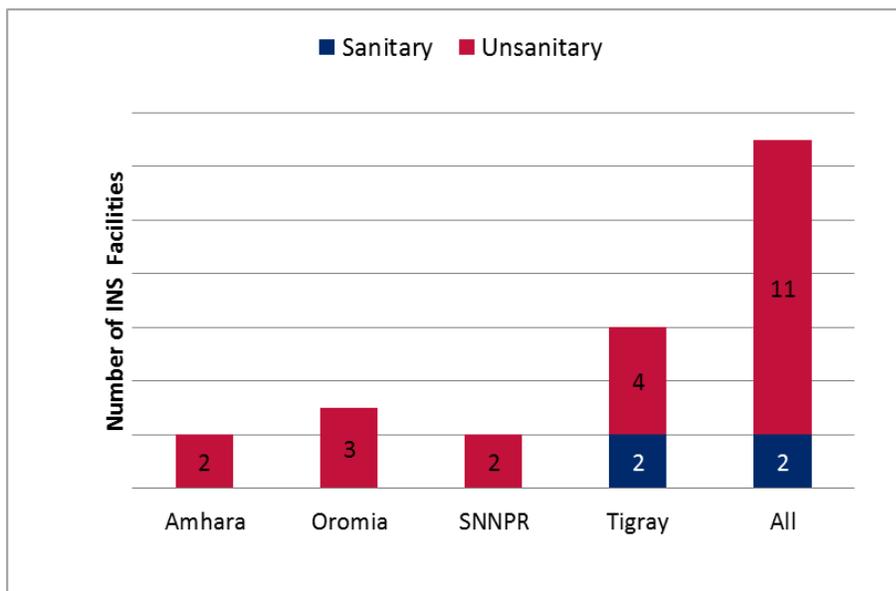


Figure 7. Status of the institutional sanitation systems, disaggregated by region

Figure 8 shows a breakdown of the conditions of the facilities dedicated for boys and those dedicated for girls. About one-quarter to one-thirds of facilities had fecal matter present on the floors or walls. Uncontained used anal cleansing material was present in over half of the stalls visited. As is evident from the data, the sanitary conditions of girls and boys facilities weren't significantly different.

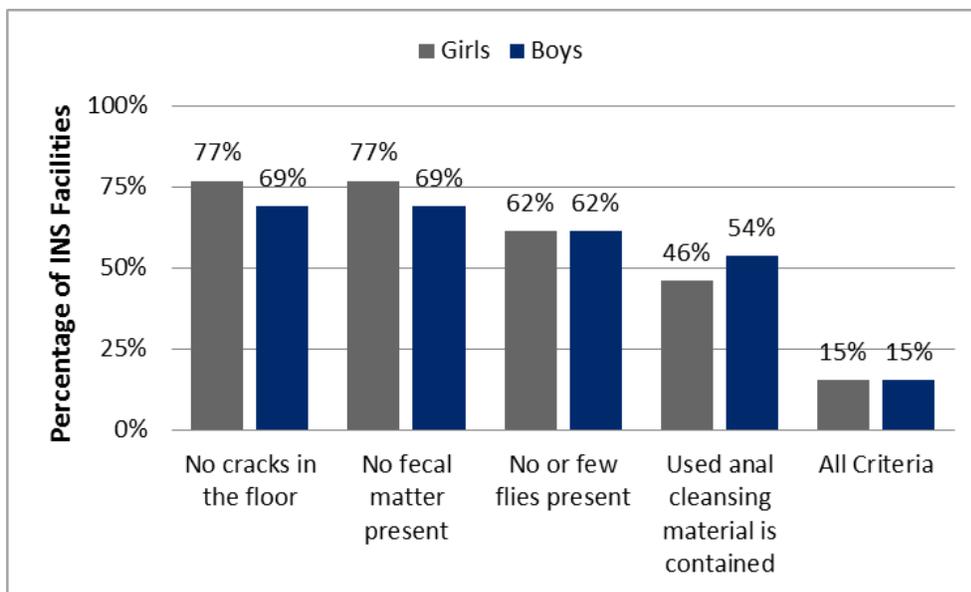


Figure 8. Sanitary conditions of institutional sanitation facilities, disaggregated by gender

The physical condition of the facilities was only slightly better than the sanitary condition. Only five of the schools had facilities with doors on each latrine that could be closed and locked and that did not have any holes or cracks to see through. Sufficient privacy is an important condition for ensuring that girls utilize the facilities. Figure 9 shows a breakdown of the physical condition of the facilities by gender. One alarming issue to note is that less than half the facilities have doors that can lock (46% for both boys and girls facilities).

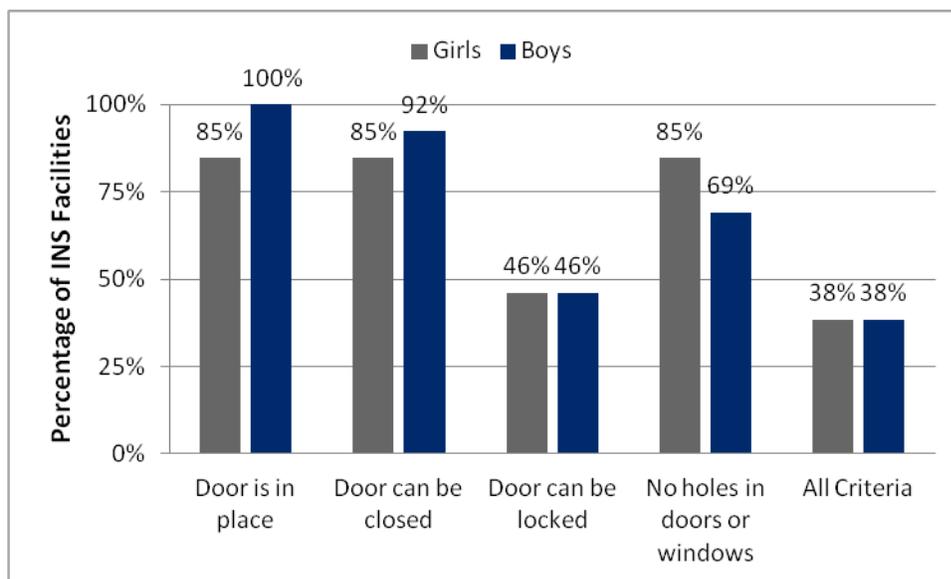


Figure 9. Physical condition of the institutional sanitation facilities, disaggregated by gender

Only one facility met the physical and sanitary inspection criteria and was sited properly. This was the only school with handwashing facilities present. But even in this school, soap was not available at each handwashing station. None of the facilities that were visited had sufficient anal-cleansing materials.

When considering crowding at school facilities (i.e., number of drop holes available), several facilities exceeded the GoE standards for each gender: eight had more than 100 girls per drop hole, and six facilities had more than 150 boys per drop hole. If the capacity of sanitation facilities is exceeded, it could motivate children to defecate in the schoolyard—or worse, could dissuade them from attending school. This is especially true for female students, for which privacy during menses is an additional concern.

Access to the sanitation facilities during the day was limited in at least two of the schools. And in five schools, the administrator admitted that the children would not use the facility for defecating. Human feces were observed within the school compound in 7 of the 13 schools visited.

Not surprisingly, students were found to not practice handwashing after defecating in most of the schools visited. In only three schools, the principals or school administrator stated that most students washed their hands, despite the lack of dedicated handwashing facilities and therefore is viewed with suspicion.

4.4 COMMUNITY-LED TOTAL SANITATION AND HYGIENE

The outcome of a successful community-led total sanitation and hygiene intervention ideally includes a population that has universal access to an improved latrine, which is used by all members of the household and which is combined with good handwashing, general personal hygiene, and safe water handling and storage, resulting in an ODF environment. In Ethiopia, this corresponds to the white flag (Phase II) ODF status. The GoE also recognizes interim milestones on the path to a white flag. The first, represented by a yellow flag, is achieved when at least 50% of households have a latrine and 50% of

institutions have latrines with separate facilities for males and females. The next milestone is a green flag (Phase I ODF), which is achieved when 100% of households and institutions have facilities (gender separate for institutions), and there is a public latrine in the community available for travelers. The status is determined by a verification team, which is described in the protocol (MoH, 2011).

Of the 36 enumeration areas of the study, there were only 5 in which the service providers interviewed (e.g., HEWs, members of the Health Development Army, or KWTs) maintained that the community was ODF at the *kushet* level. These *kushets* are all located within *kebeles* where the sanitation status has been officially recognized by the verification team⁶ as having achieved a green flag (i.e., the first phase of ODF certification⁷). A list of *kebeles* with ODF status is found in Annex A4. It is important to note that even for the five areas that were purported to be ODF, although there were no visible signs of open defecation by the enumerator teams, in each of these communities there was at least one household which did not have a latrine, meaning that these communities do not meet the GoE established criteria for ODF status (either Phase I or Phase II) as outlined in the Ethiopia CLTSH verification guidelines.

The previous ODF status was confirmed for 13 of the 36 *kushets*. Eleven *kushets* were declared ODF, and two were not ODF. Of the 11 previously declared ODF, only 4 were reported to be ODF by the respondents who participated in this assessment. This represents a slippage rate of 67%. Figure 10 shows a summary of the ODF status by region for the 36 enumeration areas included in the study. It is important to note that if the strict definition of ODF were used (i.e. 100% of households in a community have access to a latrine), then based on the household surveys from this assessment, all the enumeration areas would not qualify for ODF status (either Phase I or Phase II).

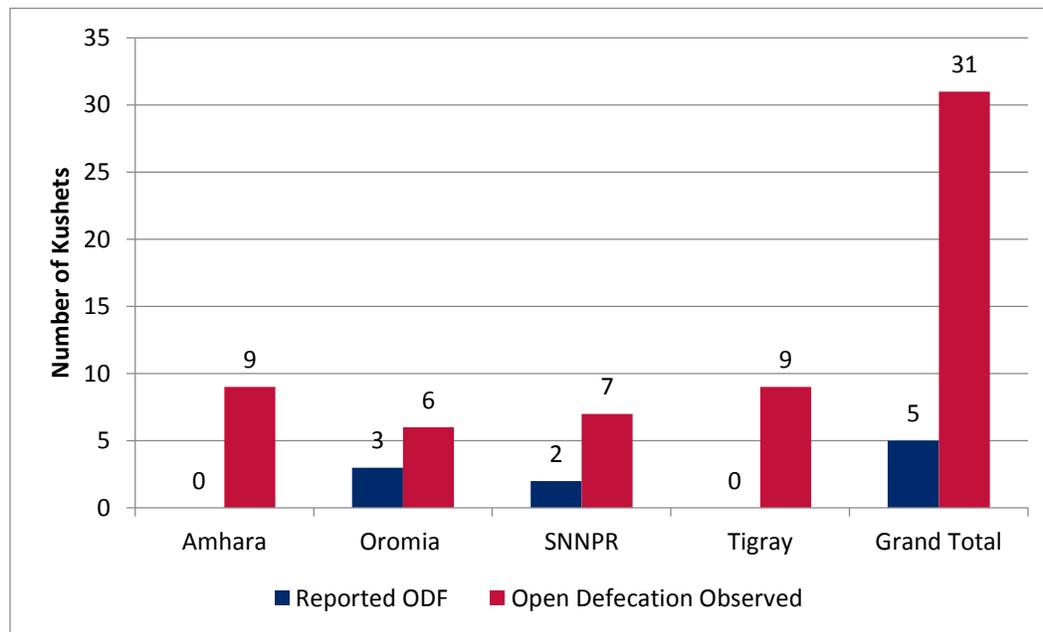


Figure 10. Open defecation status of areas visited during the WASH SIT assessment

⁶ The *kebele*-level team verifies the CLTSH status of villages. The team should be made up of front line *kebele* WASH team and other stakeholders such as HEW, HAD, teachers, etc. For *kebele*-level verification, 30 households are randomly selected in the villages in the *kebele*, and all the institutions within the *kebele*'s boundary are visited. See MoH Publication "CLTSH Verification and Certification Protocol" (January 2012) for more details.

⁷ To be declared ODF, 100% of the households in the community must have a latrine (of any type) and must be using it, and a community latrine for visitors should be in place. This is equivalent to a green flag.

Twenty-four percent of the 1,080 households visited did not have a latrine, although this varied considerably by region: For example, in one Amhara enumeration area, only 7% of the households had latrines, while in another Amhara area, 74% had latrines. The ranges were also high in Tigray (10%–80% latrine coverage) while the coverage was lower in Oromia (3%–27%) and SNNPR (0–10%). Table 2 presents an overview of the hygiene status of the latrines that were visited during data collection.

Latrine Hygiene	Number	Percent
Total number of respondents	1,080	100%
No sanitation facility	299	27%
Have a sanitation facility	781	73%
1. Fresh feces in pit	419	53%
2. Visible signs of daily access (worn path to latrine)	504	64%
3. Latrine is well maintained	195	25%
4. Absence of spider webs	168	21%
5. No other household waste is visible in the latrine	96	12%
6. No other human feces in the yard/compound	91	11%
All six elements	4	<1%

Table 2. Summary of the questions on latrine hygiene in the four regions

Of those household with latrines, only 12% had nearby handwashing stations that had water and soap (e.g., a tippy tap with water and soap). The likelihood of finding a functioning handwashing station near the latrine was highest in Tigray (30%) and Oromia (18%) and lowest in SNNPR (4%) and Amhara (5%). Except for Oromia, the prevalence of handwashing stations observed in the assessment was significantly less (i.e. p -value ≤ 0.005) than that observed in the final evaluation of the YHYH, which found Tigray (57%), SNNPR (9%), and Amhara (36%). Approximately three-quarters of the households visited had soap available; however, observations were varied across the *woredas* (CLTSH-F-S3c-i). In most communities, soap could be purchased (CLTSH-F-S3a-ii), and there was a generally high (80%) reported willingness to pay for soap (CLTSH-F-S3b-i).

There was a chronic lack of handwashing facilities across all regions (CLTSH-T-S1d-i), and when asked about their handwashing practices, most respondents said that they washed their hands before eating, but fewer washed after defecating or before preparing food. The limited knowledge about appropriate handwashing times (e.g., low level of knowledge of the importance of washing before preparing food; see Figure 11) and the high prevalence of open defecation in the *kushets* casts doubt on the effectiveness of hygiene promotion and CLTSH activities. Indeed, 61% of households indicated that they knew of no CLTSH-related activities taking place at the *kebele* level to maintain or encourage ODF status (CLTSH-M-S6c).

Approximately 80% of respondents at the household level practiced safe water storage across regions (CLTSH-T-S3d-i), using a mixture of easy-to-clean containers (57%), covered lids (66%), and water drawing (41%). However, 90%–97% of respondents do not treat their water before consumption (CLTSH-T-S3d-ix), with the exception of Oromia, where 29% reported filtering their water with a cloth prior to consumption. Very low levels of water treatment could pose a significant risk to health, because surface water was the primary water source in 20% of the households interviewed.

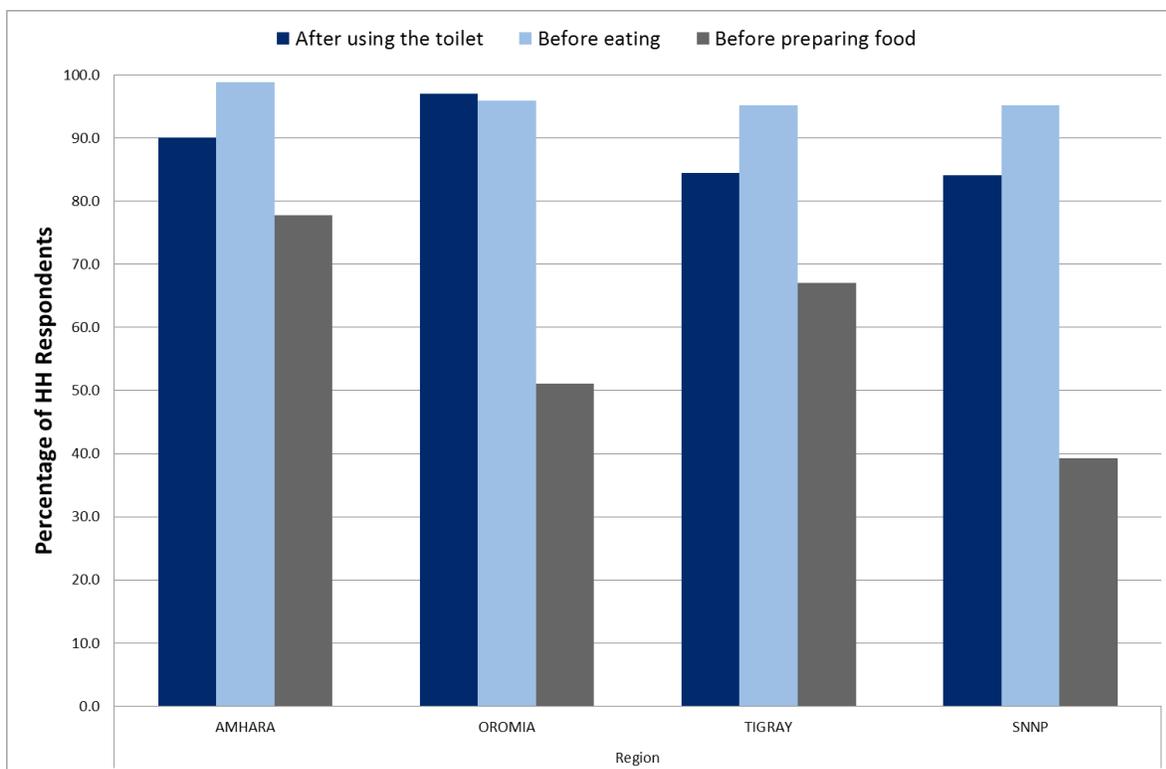


Figure 11. Percentage of household respondents that knew the critical times for handwashing

Of the 781 households with sanitation facilities, the quality of these facilities spans a wide range, from an open pit designated for defecation to an improved latrine with concrete platform and stable superstructure. Table 3 presents a breakdown of the sanitation facilities.

%	Number	Sanitation facilities
27%	299	No sanitation facility
73%	781	Have sanitation facilities
36%	284	Open pit designated for defecation
55%	428	Open pit surrounded by privacy fence
7%	56	Improved pit platform and superstructure
1%	9	Improved pit platform of concrete and superstructure
<1%	4	Improved pit—both platform and structure constructed of purchased "conventional" materials

Table 3. Sanitation status

The most recent Demographic Health Survey conducted in 2014 found that 2.3% of the 6,967 households had an improved facility (CSA, 2014). Out of the 781 households with a designated facility, a total of 69 households had an improved facility (8.8% confidence interval of 6.8%–10.7%), which is significantly less than what was seen in the DHS survey. Considering those households included in the assessment, overall progress up the sanitation ladder was relatively limited, as only 7% of households had an improved latrine with a slab separating the excreta from urine.

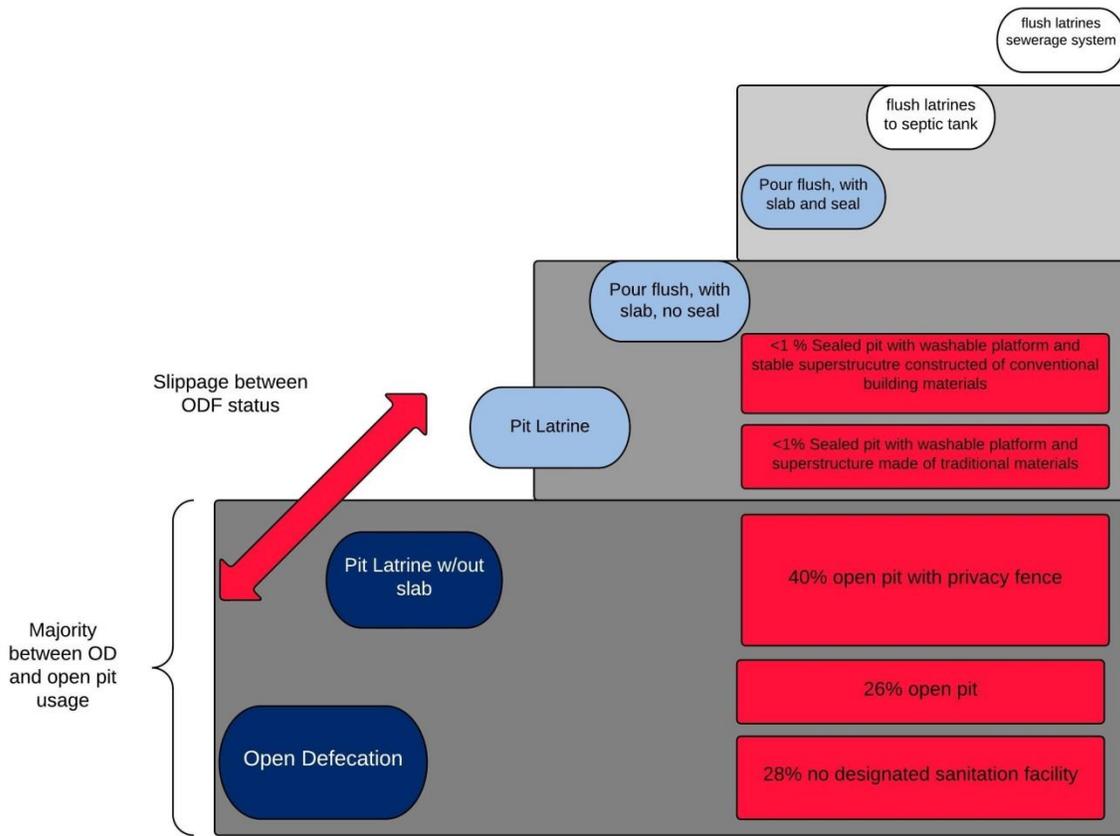


Figure 12. Latrine status in relation to sanitation ladders (credit sanitation ladders: psu-wss.org)

4.5 LINKING FUNCTIONALITY, SERVICE LEVELS AND SUSTAINABILITY

The status of WASH services is clearly very important to the beneficiaries utilizing these services. However, a key assumption of the WASH SIT is that measuring functionality alone does not explicitly provide insight into how the services will perform in the future. A pump that is broken today can easily be repaired tomorrow if the required money, spare parts, equipment, technical know-how, and follow-up support are available. On the other hand, a pump that is functioning today can (and will) deteriorate in the future. If the appropriate mechanisms are not in place and the required capacity is not available to repair the pump, then the services from that handpump (or other WASH service) will deteriorate or stop altogether. Maintaining positive behavior changes and the ODF status of communities requires an even higher level of long-term support and facilitation. Therefore, it is necessary to assess not only the status of the services, but also the overall likelihood that these services will continue. This is the aim of the WASH SIT. The following section presents the results of this sustainability assessment.

5.0 SUSTAINABILITY OF WASH SERVICES

5.1 OVERALL SUSTAINABILITY

The overall sustainability of the interventions in the *kebeles* visited during the SIT application was mixed. Considering the factor scores by intervention type, the scores ranged between 41% and 93%. In general, the institutional and technical sustainability of the interventions was higher than the financial, management, or environmental sustainability. Institutional scores as compared with other factors were higher for three of the four intervention types (Figure 13).

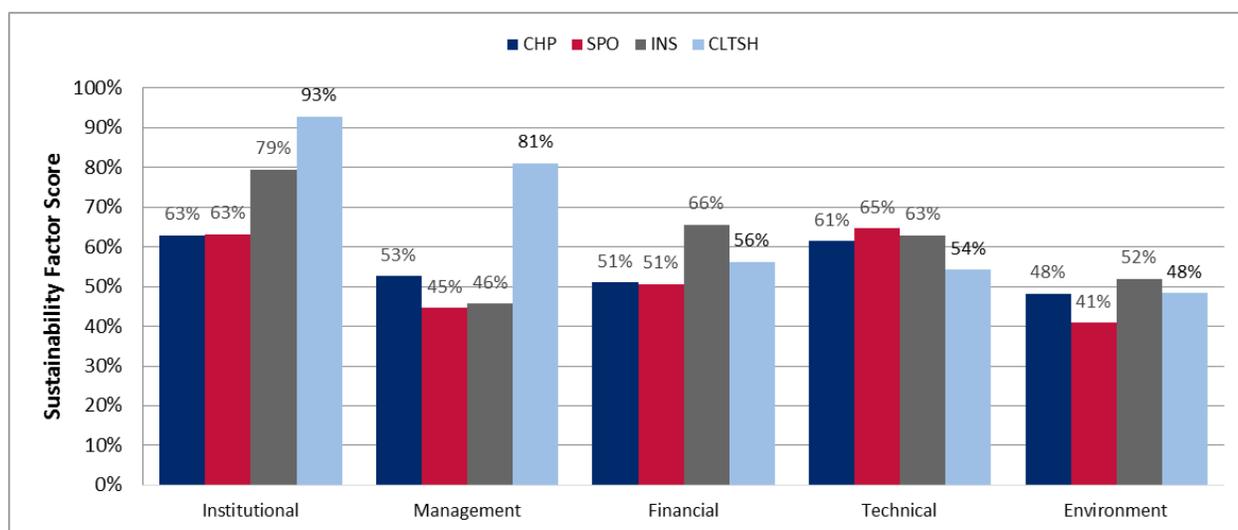


Figure 13. Sustainability factor scores by intervention type

Stronger institutional sustainability is due, in part, to the well-developed enabling environment of the WASH sector, which has been a result of the sector-wide approach under the OWNPN. The four primary ministries involved in OWNPN (i.e., MoWIE, MoH, MoFED, and MoE) have been successful in developing the required policies, strategies, guidelines, and protocols as well as in implementing structural changes, particularly at the federal and regional levels. The effectiveness of these changes may be seen in the relatively higher sustainability scores when considering the indicator level (See Figure 14). All the indicators included in the SIT are assigned a level, which in the Ethiopian context, is as follows: *N* = federal or regional; *W* = zonal or *woreda*; and *S* = *kebele* or *kushet* where the service is provided. Therefore, within the SIT framework, information from the service level (i.e. “S” indicators) could include information collected from the *kushets* or the *kebele* within which the *kushet* is found.

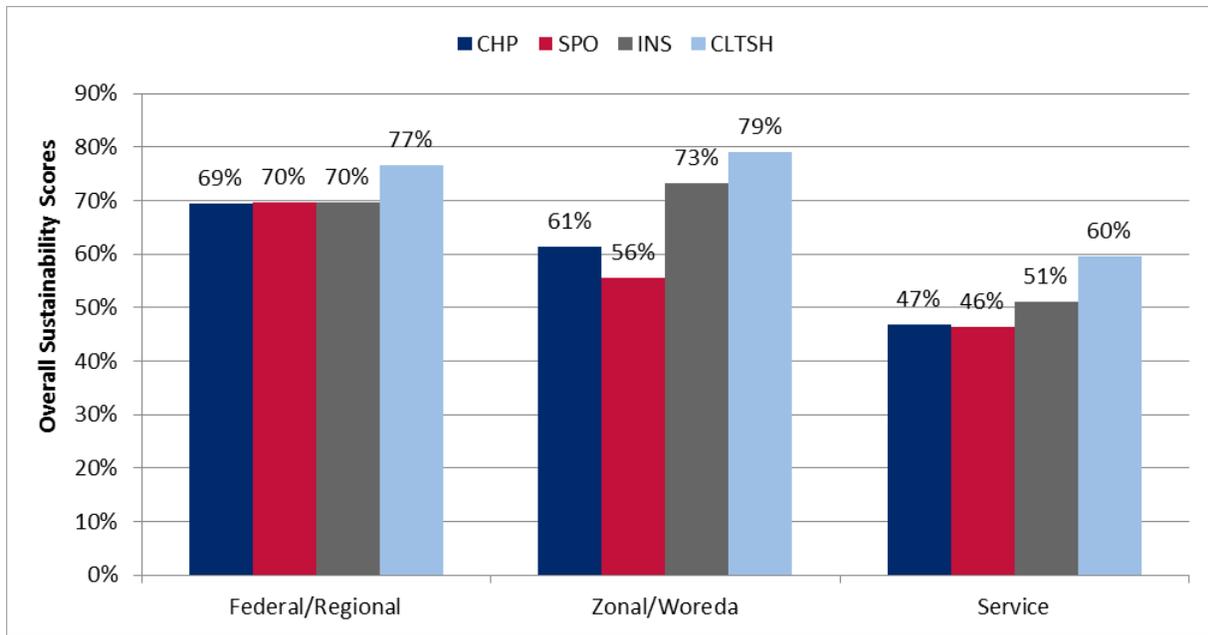


Figure 14. Overall sustainability scores by indicator level and intervention type

Figure 14 shows that the overall sustainability scores for the water supply interventions (i.e., CHP and SPO) were highest at the federal level and lowest at the service level. For the hygiene and sanitation interventions, the scores were highest at the decentralized level (i.e., zonal/woreda), then at the federal/regional level, and finally the service level. For all four intervention types, the overall score was lowest at the service level. Although it is encouraging to see relatively good scores at the decentralized level, apparent weaknesses at the service level is a particular concern given that this represents the “front line” of WASH service delivery.

CLTSH scores are slightly higher on average, compared with the other intervention types, but they have been roundly observed to be failing as an approach in terms of indicators (ODF status and sanitary inspection). SIT indicators related to quality of construction (CLTSH-T-S1 average 19%) and maintenance and state of care (CLTSH-T-S2 average 16%) score very low. These indicators are critical in assessing the overall use and success of the CLTSH approach. And they are borne out consistently in relation to observations on the ground, where open defecation and poor use practices were prevalent, regardless as to whether other stakeholders had in many cases successfully carried out their duties. In relation to the SIT frameworks, CLTSH is one intervention type where a more weighted approach to indicator scoring may be an advantage in future iterations in order to more accurately reflect this across levels. The strong policy framework surrounding CLTSH—and therefore recorded in the SIT—no doubt contributed to higher overall scores, but this has not translated into outcomes at the community level.

Looking at the overall sustainability scores by intervention type across the four regions (Figure 15) included in this assessment, the scores were higher in Tigray and SNNPR as compared with Amhara or Oromia. These sustainability scores were generally surprising for the water supply interventions (CHP and SPO) when considering the functionality statistics published by the Management Information System of the Ministry of Water, Irrigation and Energy (MIS), in which functionality of water points was highest in Amhara (90%), Oromia (78%), SNNP (67%), and Tigray (60%) (DMISS, 2013). It is unclear how to explain this divergence, although it is recognized that the sample size of this study is small compared with the DMISS database. Despite this, both the qualitative data and quantitative observations captured by the data collection teams support the findings of the SIT framework analyses.

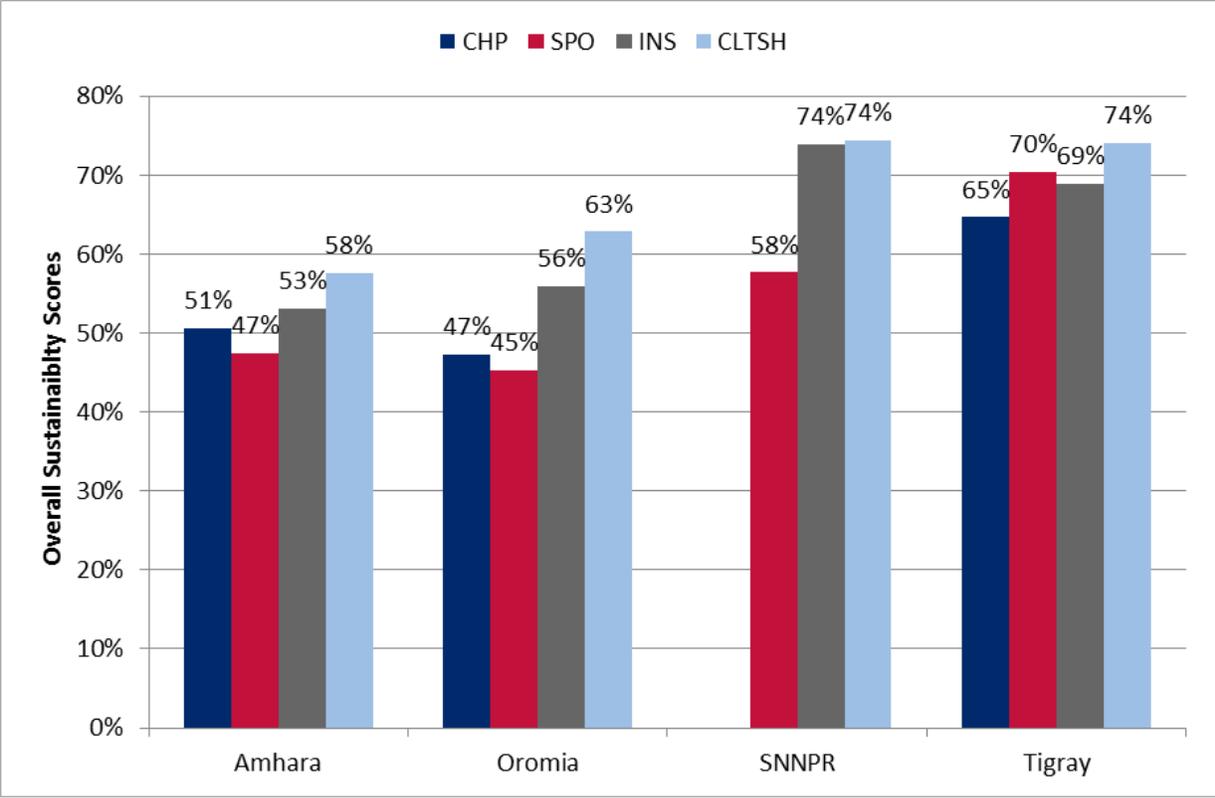


Figure 15. Overall sustainability scores by region

5.2 RISKS TO SUSTAINABILITY

The integrated analysis and interpretation of both quantitative and qualitative findings is an important part of the SIT application and is where the approach can add value to either type of assessment methodology. During this process, a number of threats or key risks to long-term sustainability have been identified for the interventions carried out within the YHYH program funded by USAID. These risks are presented in this section, with the converse or positive drivers for likely sustainability presented in the following (Section 5.3).

1. VERY LOW CAPACITY OF THE SERVICE PROVIDERS

The overall capacity of service providers at the community level is very low across all communities included in this assessment. This includes the capacity in regard to technical, financial, and administrative responsibilities.

In general, there were few *kushets* where the WASHCo was formed, active, and well-functioning. WASHCos were not present in 14 of out 36 enumeration areas, and where they do exist, their overall financial and administrative capacities, as viewed by the members of the community, were low. This included an assessment of variables such as whether the WASHCo collected and managed money to cover to capital costs and pay for operation and maintenance, kept the community informed about money raised and spent, kept records of money, maintenance and meetings, etc. (WT-CHP-I-S2d). Where WASHCos were in operation, the community’s general confidence in their capacity was mixed, with 58% of the household respondents being either unsatisfied or unsure whether the WASHCo members had carried out their duties fully (WT-CHP-I-S2d-iii).

In many cases, the low capacity of the WASHCo is a reflection of the low levels of training and support provided by the implementing organization and/or the local government. The average number of days of

training was just over three, while the national materials developed for the training of WASHCoS recommend a minimum of five days. The limited access to training results in a condition whereby the capacity to undertake repairs is limited in many instances by a lack of suitably qualified technicians.

The capacity of CHP and SPO service providers to respond to repairs is indicated by the frequency and duration of episodes that result in a disruption of service. This low capacity can be due to a combination of technical and managerial factors as well as available financing to effect repairs. Technical faults disrupted more than 30% of the CHP and SPO services (WT-CHP-T-S1d-iii) in the enumeration areas. Following the information provided by the households during the household surveys, the majority of repairs (69%) required more than three days to resolve (WT-CHP-T-S3d). Figure 16 shows a disaggregation by region of the time required to repair the primary water point, as reported during the household surveys. Although the responsiveness to breakdowns is low across the board, the levels were worse in Amhara than in the other areas.

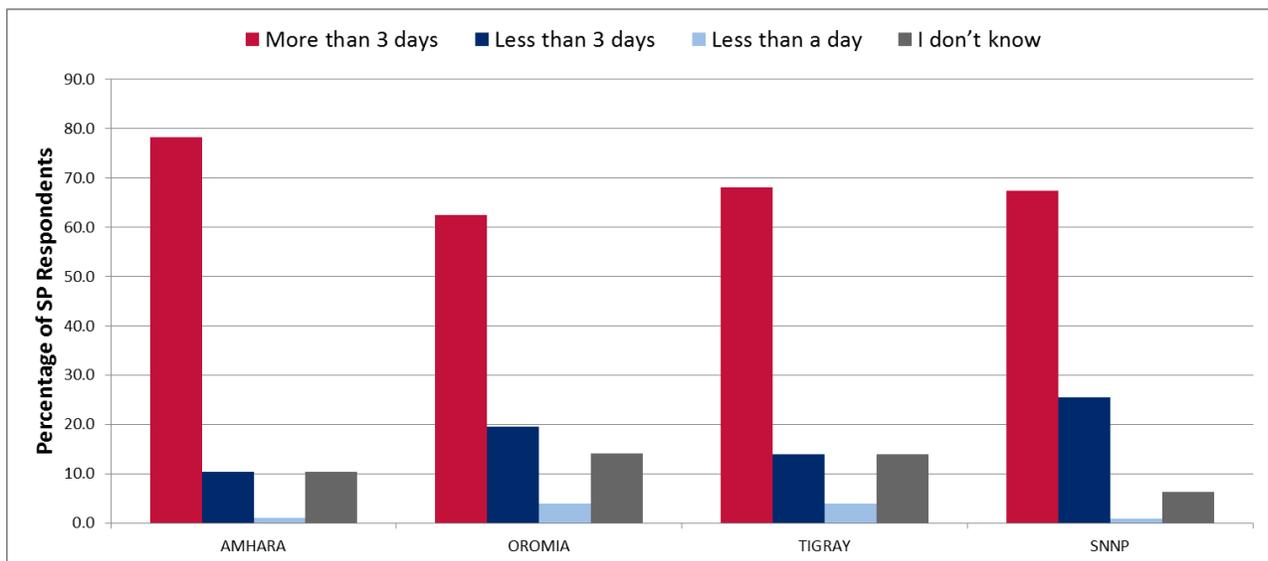


Figure 16. Time required to repair the primary water source

In many communities, minor maintenance is not happening. An important indicator of community buy-in to the management of the water system is the existence and condition of the fence surrounding the handpump or spring. In some communities, there were no barriers to prevent entry by animals, or the barriers were poorly maintained (Figure 17); while in other communities, the barriers were well maintained. These fences can be made of locally available materials and are therefore very inexpensive (or free) to maintain, but they require labor for upkeep.

For institutional sanitation services, the service providers are dedicated “WASHCo type” committees that are supposed to deal with school water and sanitation issues. However, the community members who were interviewed had a very low understanding of the costs required for running the facility, with only 46% of respondents stating that they understood and were planning for these costs (SN-INS-F-S1a). In general, for the CLTSH effort in schools, the promotion of hygiene and handwashing has mainly fallen on a group of volunteer students who are overseen by a teacher. These groups are formed to deal with various health-related issues, and are generally referred to as HIV/AIDS clubs because they are usually formed with funding from government or donors to focus on that issue. In general, these clubs are not well-equipped to address WASH-related issues.



2. MISMATCH OF FINANCIAL AND HUMAN RESOURCES:

MoFED stated that the utilization of resources at the *woreda* level is low. Many national-level stakeholders feel that this is due, at least in part, to the low absorption capacity, in terms of human resources at the various levels (e.g., regional, zonal, and *woreda*) to handle financial resources. Some individuals attributed the human resource gap to an overly bureaucratic process for hiring and the low salaries that are offered in the public sector, as compared with the private sector (e.g., ceiling of wages for professionals with the highest rank, XVIII, is around 11,000 Birr per month, while professionals in the private sector can make three to four times more). In addition, various national-level stakeholders cited unnecessarily slow procurement processes, which prevent effective operations (e.g., difficulties in obtaining motorbikes in one area of Amhara, where human and financial resources for program implementation were in place). Although the conclusions of this assessment were that the human resource capacity at the *woreda* level was generally lower than ideal, a MoFED representative contradicted these findings during a recent forum,⁸ stating that MoFED’s *woreda* readiness assessment tool has been effectively applied and that the human resources required to roll out the OWNPN are in place. However, both MoH and MoWIE representatives present at the event disagreed on this point.

3. CULTURAL AND SOCIAL CHALLENGES TO LASTING BEHAVIOR CHANGE

In most communities, there is a continuing practice of open defecation (i.e., in at least 31 of the 36 *kebeles*, open defecation is occurring; 27% of households are without a sanitation facility; and 40% of households admitted that sometimes someone in the household defecates openly). More importantly, the general sanitation and hygiene culture—as well as opinions on open defecation—seem to have changed very little, according to many of the research assistants who visited (and are familiar with) these communities. Cultural barriers to the adoption of good hygiene behaviors and the widespread and

⁸ Panel Discussion on One WASH National Program, organized by WASH Ethiopia Movement and WaterAid Ethiopia, in collaboration with the National WASH Coordination Office on May 2, 2015.

consistent use of latrines and handwashing at *all* critical times are continual challenges to the success of CLTSH in the areas visited during this study. There is socio-cultural resistance to changing from the traditional practices to a modern system of latrine use, and many elders are not willing to use latrines. Many people expressed a preference for the most convenient option and location for defecation, even if that is open defecation.

The general conclusion from the research assistants was that in many communities where open defecation is occurring, neither the school nor the community prioritizes hygiene and sanitation. Even if there is a willingness to invest in improved sanitation facilities, there is a very low prevalence of trained artisans/masons or sanitation entrepreneurs: Only 28% of respondents were aware of such entrepreneurs in their *kebeles*. These combined trends present a clear risk to the long-term sustainability of efforts under the CLTSH approach and are deep-rooted in both cultural and social norms; this indicates a significant challenge to sustainability without continued follow-up and refresher orientations. Only 33% of households responded that they felt culturally appropriate measures for elders and men and women had been carried out (CLTSH-T-S1c-i). Across regions, this score was much lower in Amhara (9%), Oromia (14%), and SNNPR (28%), but it was 80% in Tigray, where the approach has been more successful.

4. INADEQUATE SUPPORT FROM WOREDA GOVERNMENT

Overall, the monitoring and support provided by the *woreda* government to the WASH service providers in the community was inadequate and considered a risk to long-term sustainability. However, the support for institutional sanitation from *woreda*-level sanitation staff varied greatly among regions, with all of the Tigray-based informants responding that support from the *woreda* was adequate; while in SNNPR and Amhara, only 50% said it was adequate; and the statistic was much lower in Oromia, 33% (SN-INS-I-D1d-i). Furthermore, low levels of “additional” support (i.e., support which is specifically requested by the *kebeles*) from *woreda* sanitation staff were recorded across all regions, averaging 15% nationally (SN-INS-I-D3a). Looking just at the CHP interventions, the scores for requested technical support were directly related to the functionality of the systems, with the high level of direct support (CHP-T-W1) in Tigray (71%), compared with Amhara (50%) and Oromia (21%), with the later regions having generally lower service levels.

In general, monitoring by *woreda*-level staff is inconsistent across *kebeles* in all regions. Roughly two-thirds of respondents reported some monitoring (e.g. of sanitation facilities use and maintenance/condition) in Tigray and Oromia, and around half do so in SNNPR, while none report any monitoring of INS facilities in Amhara. The situation varies considerably by village (SN-INS-I-W2a-iii). Often, the low levels of monitoring and support are a reflection of the low capacity of the *woreda* (i.e., human resource and financial capacity).

5. POOR LINK BETWEEN COMMUNITY EFFORTS AND SCHOOL WASH

A significant issue is the low level of integration of sanitation and hygiene promotion activities between the schools and the broader communities in which they are located. In many areas, the school compound seems to be the designated spot for open defecation, while the broader community is ODF. Although this could be seen as a specific failure of CLTSH in schools, according to many respondents in these cases, open defecation is not limited to the students of the school. Therefore, this point is linked to the finding relating to cultural social challenges to lasting behavior change.

A number of additional challenges to effective CLTSH include the following:

- Lack of community latrines will make it harder to fully eradicate open defecation in *kebeles* that are experiencing dramatic population growth and changing *kebele* centers.
- Despite active CLTSH groups in some communities, physical community spaces that are conducive to open defecation remain. So when convenient, people still openly defecate.

- Many of the government HEWs are generally not taking full responsibility for CLTSH, as they have prioritized other aspects of their work.

6. LOW RATES OF PAYMENT BY USERS FOR WATER SUPPLY SERVICES

The willingness of individual households to contribute to services that are operated at the community level (i.e., contributions in the form of tariffs for the operation and maintenance costs of the water supply systems) is low. Overall, tariff collection in the *kushets* is very weak. For example, seven of the 30 *kushets* did not have a tariff, and in the remaining 23 *kushets*, 30% of the households using the systems were totally unaware that a tariff had been set. In no cases was the tariff based on an estimation of the actual costs or financing required to ensure long-term functionality of the springs or handpumps.

Region	Average Tariff (ETB/Month)	Range of Tarriff Level (ETB)
Amhara	2.57	1–5
Oromia	5.78	3–30
Tigray	2.95	2–10

Table 4. Amount paid in tariffs among those kebeles with functioning handpumps

The most common method of payment was a monthly charge; however, 28% of all respondents admitted to not paying the tariff (WT-CHP-F-S2a-iii). The reasons cited for unwillingness to pay a tariff for the water supply system (WT-CHP-F-S1a-viii) include:

- should be a service provided free of charge (68%);
- no income/money to pay (15%);
- other alternative water source available to use (11%);
- do not trust tariff collectors (5%); and
- other reasons (1%).

As with the limits on behavior change, the challenge to low tariff payment appears to be based as much on cultural assumptions (i.e., that water should be a free good) as on more objective logic, meaning that this will remain a significant threat to water supply facilities in the near- to medium-term.

7. LOW FINANCIAL ADMINISTRATION CAPACITY AND UNDERSTANDING OF LIFE CYCLE COSTS

Poor documentation of payments was observed in 80% of WASHCOs, and very few of the WASHCOs had a bank account (Amhara, 0%; Oromia, 0%; SNNPR, 40%; Tigray, 67%; total, 26%). This was expected because a number of projects have been working to formally establish WASHCOs, with particular success in SNNPR, where legislation has been passed (Regulation NO 102) that legally recognizes a WASHCO. Establishing and using a bank account are critical characteristics of a well-functioning and transparent service provider; while conversely, a lack of financial transparency has been demonstrated to be a significant risk to long-term service sustainability. Tariff collection was particularly problematic for WASHCOs managing springs. There appears to be a lower willingness to pay for services from a spring, and many of the WASHCOs managing springs do not receive support or guidance from *woreda* on tariff collection or enforcement.

In schools, the situation with regard to financial capacity and financial management is equally as dire. In general, there is virtually no budget available for long-term major repair costs, with an average of only 8% of schools across all regions (SN-INS-F-S1c). There was some budget available to cover the costs of consumables, and all schools in SNNPR reportedly had funds available; however, reported funding for general items was low elsewhere (SN-INS-F-S2a). There was little consistency regarding student/family contributions (SN-INS-F-S2c-i). Only in Oromia did all schools report that any fee was charged to cover

the cost of operating and maintaining WASH facilities; however, the reason for this is unclear, as the MoE representative in Oromia refused to meet with a WASH expert.

8. WATER SUPPLY AND DEMAND DATA AND INFORMED WATER RESOURCE MANAGEMENT

There have been significant gains made with regard to increased coverage of water and sanitation services in Ethiopia. The GoE has a plan for universal access and has stipulated aggressive targets for its GTP 2020, including increasing water service levels (i.e., quantity of water provided on a per capita basis). In addition to improvements in potable water supply, the government has ambitious targets for irrigation development, significantly increasing the amount of irrigated land and improving the productivity of land currently being farmed. These are no doubt very important objectives for the development of the country; however, it will be important that these developments take place within an integrated water management planning framework.

Effective and efficient management and regulation of water resources requires access to accurate and up-to-date information. Improvements need to be made with regard to the collection, updating, and sharing of data on the quantity and quality of surface and groundwater resources. Although 9 out of the 12 *woredas* visited in this assessment said they have a regularly updated and functional water supply development plan (E-N2a-ii), the resounding message was that water resource and environmental issues are really only considered for big schemes and irrigation activities. Furthermore, all of the *woreda*-level respondents stated that monitoring data is not regularly collected at the *woreda* level and that limited reporting is done at the national level (E-N2b). In addition to information on the supply of water, it is necessary to achieve greater understanding about the demand for water. Demand information will need to be collected for all sectors, including agricultural, industrial, and domestic.

9. LIMITED IMPLEMENTATION APPROACHES

There were also some general issues observed during data collection that imply a risk to the long-term sustainability of WASH service. These issues seem to be related to the management of and approach to implementation. It is important to note that this assessment was not an evaluation of the implementing organization; and indeed, a number of interventions that are represented in the results were not implemented as part of the YHYH project. Nevertheless, a number of issues were identified that are worth mentioning for operational reasons. These include the following:

- Many *woredas* stakeholders who were contacted were completely unaware that the project had been operating in their jurisdiction. Almost all local government officials were unable to confirm the specific location of the project interventions. Furthermore, the central offices of the implementing organization were not able to provide detailed information of the interventions (i.e., only information down to the *kebele* level, and not the specific *kushet*, in many cases). This implies a weak level of coordination during implementation, and/or high staff turnover in either the implementing organization or the local government. However, this is a risk to the long-term sustainability, as the inability to identify and track services will contribute to low levels of follow-up support.
- Community participation in the design phase appeared to be limited. Only 20% of households, across all regions, participated at the project outset, during the process of siting handpumps or spring sources, while nearly 60% stated that they contributed in the form of labor (WT-CHP-M-S1a). This is a significant concern, considering that at least 25% of enumeration areas experienced problems regarding a conflict over the location of water supply infrastructure.

5.3 DRIVERS OF SUSTAINABILITY

Drivers are presented to highlight what can be viewed as good practice, and which have often been linked to particular enumeration areas where the status of WASH services were remarkable. It is assumed that

these exceptional instances are contributing to the successful delivery of the services or those which have the *potential* to have a significant long-term impact as foundational practices. These drivers should be considered in conjunction with the risks identified in the previous section, the sustainability scores⁹, and the overall status of the WASH services presented in Section 4 of this report. Aside from the national policy environment, the majority of the drivers identified at the level of individual *kebeles* fall into the management and technical categories and reflect the “working end” of service provision.

1. ACCOUNTABILITY AND COMMUNITY PARTICIPATION

Across regions, there was greatest household awareness of WASHCo activities in Tigray and SNNPR. Notably in Tigray, there was a further trend toward well-run and accountable WASHCos in charge of CHP and SPO interventions, with a corresponding beneficiary population that was more aware of WASHCo roles and responsibilities and that was generally more satisfied by their performance. In response to the question “Do you know whether the WASHCo members clearly understand their administrative duties and responsibilities?” (WT-CHP-I-S2c-i), 63% of households in Tigray answered positively, 22% responding no, and 15% indicating they did not know. A similar range of scores was also recorded in relation to critical WASHCo duties (WT-CHP-I-S2c-ii). This general finding was reinforced by the qualitative data on financing and social tariff consideration being more transparent (e.g., in *Simret Kebele*, in *Endamekoni Woreda*, Tigray, where this was noted as a major positive in community summaries by researchers). With respect to financial reporting, a key element for accountability and trust, this was carried out on a more frequent basis in Tigray, where 40% of households reported that records were shared on a monthly basis (WT-CHP-F-S3d-ii), and in Amhara (44%). See Figure 18 for details of the frequency of financial information sharing by region.

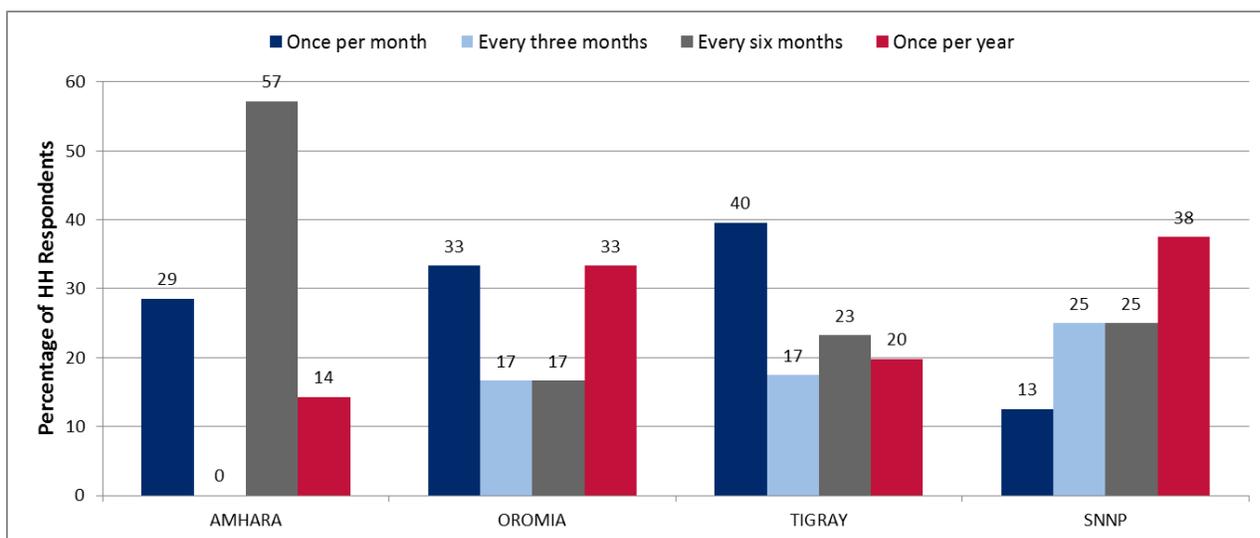


Figure 18. Frequency of financial information sharing to the community by WASHCo

2. EVIDENCE OF THEORETICAL KNOWLEDGE OF HANDWASHING AND HYGIENE PROMOTION

There are significant challenges to establishing lasting behavior change as is discussed in the risks section. However, there are a number of positive aspects that were identified during this assessment that could contribute to lasting behavior change and improved outcomes of future CLTSH initiatives. For instance, across all regions, 85% of households responded that the head of household did promote handwashing and hygiene practices with family members. (CLTSH-T-S3a-iv). Nevertheless, on average, 40% of households with latrines reported that a member of the household, on occasion, defecates outside,

⁹ A complete list of the sustainability scores is available upon request.

even though signs of regular use (either feces in pit or signs of daily access) were observed in more than 40% of these households.

Figure 9 (Section 4.4) presents the reported instances when heads of household reported that they washed their hands. In general, there was good knowledge about the importance of washing hands after using the toilet and before eating. However, even when disaggregating by gender—to try to capture any differences that might be attributable to a lower level of men involved in cooking—the percent of both female and male respondents who said they wash their hands before preparing food was very low. Gaps exist, therefore, but very few respondents stated that they “never” washed their hands or had no knowledge of critical handwashing times.

3. COORDINATION BETWEEN ACTORS AT THE WOREDA AND KEBELE LEVEL

At the national level, coordination between ministries with respect to WASH—via the National WASH Coordination Office under the OWP—is well established. However, the effectiveness of coordination at the local level was less systematic, but there were instances where it was improved. For example, where HEWs, KWT representatives, and members of the Health Development Army (HDA) were present and active, the impact on sustainability scores was noticeable. In general, in the *kebeles* visited in Tigray, both the HEWs and HDA members were more active. For instance, in *Seharti Samre Woreda*, where a CLTSH action plan has been established and the HDA is very active, the results are visible in the number of *kebeles* that have been declared ODF. In addition, the CLTSH activities were linked to the schools and resulted in positive outcomes for institutional sanitation in these areas. For example, the primary school in *Teshi Kebele* had a proactive management group in place, strong engagement in hygiene promotion, and a regular cleaning and maintenance plan. As a result, the latrines were correspondingly well built, clean, and regularly used. The positive reinforcement of hygiene and sanitation behaviors both at home (CLTSH at the community level) and the school cannot be underestimated. Furthermore, in this *kebele*, special user needs were also considered in the design and siting of sanitation facilities in homes with disabled individuals (sub-indicator CLTSH-T-S1c-I averaged 78% positive), which was an additional positive indicator of a coordinated approach.

Even though outcomes were not uniform across all *kebeles*, in 27 of the 36, the service providers who were interviewed stated that they had implemented an approved CLTSH action plan. In 28 of the communities, there was a village-level team responsible for CLTSH triggering and activities. (CLTSH-M-S4a). Repetition and reinforcement is a key factor in lasting behavior change; therefore, coordination among individuals and institutions working on hygiene behavior change is important for sustained and positive change.

4. LEADERSHIP AT COMMUNITY LEVEL

Leadership through traditional community structures emerged as another key driver, even in cases where WASHCos were not performing all of their roles and responsibilities in an ideal fashion. For instance, in *Ambakalit Kebele*, in *Denbia Woreda*, Amhara, the WASHCo chairman maintains and controls access to the CHP, which is situated on his own land and has functioned well for five years. In *Buha Simani Kebele*, also in *Denbia Woreda*, village leaders were reportedly leading triggering activities, and the number (i.e., coverage) and quality of household latrines was observed to be higher. Village leaders were involved in a majority of CLTSH activities in these communities (62%), according to household respondents, including visiting households to attempt to maintain ODF (CLTSH-T-W2a and CLTSH-T-W2b). As with the success (or lack of success) of community health workers working to achieve and maintain ODF in a community, much depends on the energy and commitment of key influential community members for groups and committees to maintain momentum and cohesion. Identifying and then supporting such potential champions for social change and positive management is the key challenge.

5. ADHERENCE TO NATIONAL-LEVEL STANDARDS AND GUIDELINES

Poor quality construction will not only undermine the functionality of services but can also negatively impact the quality and/or acceptability of the services that are subsequently provided. In the case of sanitation infrastructure, poor quality construction deters use of facilities, particularly in the case of institutional sanitation facilities. Dissuading use can undermine the momentum built during triggering and compromise the overall impact of behavior-change activities under CLTSH. Conversely, high-quality construction and the resulting high standard of services can prevent these pitfalls, and is viewed as a driver of long-term sustainability.

At the national level, for INS, CHP/SPO and CLTSH, construction standards and guidelines are well developed, and implementation guidelines are broadly disseminated via the OneWASH program. While it may appear to be common sense, this driver cannot be overemphasized given the negative impact poor construction can have on school attendance (INS) and willingness to pay (SPO, CHP). In addition, within the private sector, quality control of products and services is a key element to effective sanitation marketing. Even for CLTSH, which encourages “locally appropriate” building materials, it is important 1) to provide training and guidance on what simple design aspects can be integrated to make traditional latrines safer and 2) to demonstrate the value of continued investment in more permanent sanitation solutions. Currently, the vast majority of households in the 36 *kebeles* visited are using unimproved facilities (CLTSH-T-S1a-ii and CLTSH-T-S1b). As shown by the functionality and sanitary inspection results (Section 4), however, the reality on the ground contrasts with the clear national standards and guidelines with respect to technical standards for all intervention types.

6. WILLINGNESS AND ABILITY TO PAY

This study did not capture detailed elements of consumer willingness or ability to pay. However, when asked about their perceived ability to pay, the majority of household respondents indicated that they can afford to construct household latrines without the need for subsidy (CLTSH-F-S1b-iii averaged 80%). This statistic is significantly different from the responses provided during a recent study done by the Water Sanitation Programme (WSP) which showed a very high (99%) willingness to pay for sanitation services amongst those who were open defecating. However, it also showed a correspondingly high perception (67%) amongst those of an inability to pay. This was based on a misperception on the costs of sanitation services, with the same group that thought they could not afford sanitation facilities overestimating the costs of a toilet by five to 20 times. See Annex A4 for more details.

High willingness and ability to pay are important to increasing sanitation coverage. However, so is the availability of sanitation products and services. Linked to all three of these is economic stability at the community level, which includes access to finance and spare parts. All of these conditions result in a sanitation market at the community level, which—when combined with assistance for those who cannot afford services—will result in greater sanitation coverage.

However, the availability of low-cost options was very limited. Only 22% of household respondents indicated that there were low-cost alternatives available for the least-well-off in communities, however (CLTSH-F-S1c-i); and only 31% of those interviewed were saving money for maintenance and/or upgrading of their latrines (CLTSH-F-S1a). This suggests that even in *kebeles* where latrines were well made and well used, there is the danger that they will not be well maintained into the future unless the economic and microfinancing prospects of those communities are enhanced and unless the market for lower-cost sanitation options is developed further through external capacity building and training.

As seen above, there was significant variation in the tariffs paid for water across regions and no conformity about tariff-setting processes. Only 55% of respondents paid for water, with significant variation among regions (WT-CHP-F-S2a-iii). However, an encouraging associated driver was that households said they would pay for improved service: 70% of households indicated that they would pay in the future if good quality services were provided (WT-CHP-F-S1a-vii). Therefore, in common with

other contexts where services are improved, the likelihood of increased tariff payment also improves, thereby creating a “virtuous cycle” that can drive sustainability.

7. AVAILABILITY OF SPARE PARTS

Access to affordable and high quality spare parts are key drivers of sustainability. Although spare parts supply depots were established in 4 of the twelve *woredas* that were visited during this assessment (i.e., Oromia, Jeju and Kofale; SNNPR, Limo and Shebedino) the general availability at the *kebele* level was very low across all regions. Only 2 of the *kebeles* out of all 36 (both of which were located in Tigray) were able to source any spare parts locally. Both of these *kebeles* were located in *woredas* where SNV has been operating a project aimed at improving the capacity of private sector service providers. The perceived costs of spare parts was high, but sufficient information was not available in the *kebeles* for calculating the actual costs of obtaining spare parts in these areas. However, the impact of the limited availability of spare parts can be seen in the relatively long length of time it takes for primary water sources to be repaired, which in the vast majority of cases is more than three days (Figure 16).

There were instances in which spare parts availability was high at the *woreda* level. For example, in *Shebedino woreda* in SNNPR, there was the best evidence of a well-managed, community-owned spare parts shop. The spare parts shop is linked to the *woreda* water office, and when a community has an issue, a technician is sent to diagnose the problem; WASHCos then transfer funds to the spare parts shop’s bank and are then able to procure the parts. This shop is able to provide spare parts that are cheaper and of higher quality than those sold privately, as this is a so-called “seeded shop” where parts for the enterprise were initially provided by STC and a link was made between the shop and national distributor. It is important to note that repair time averages in Shebedino were marginally better than in other *woredas*. However, the overall amount of time required for repair was high in all areas (Figure 16).

6.0 RECOMMENDATIONS

Considering the issues with regard to the status of WASH services presented in Section 4 and the risk factors and drivers to sustainability identified in Section 5, the following section presents a number of recommendations. These are divided into those targeting the **operational level** (i.e., primarily *woreda* staff responsible for supporting WASH services and implementing agencies that are considering new programs) and those relevant at the **strategic level**, for USAID and federal and state governments to improve the investment design and further strengthen the enabling environment.

6.1 OPERATIONAL RECOMMENDATIONS

The following section includes a list of operational recommendations divided by intervention type.

COMMUNITY HANDPUMPS AND SPRINGS

One of the key issues to sustainability identified in this report was the capacity of the WASHCos. The technical capacity of service providers (i.e., the ability of the service providers, such as WASHCos or handpump mechanics, to carry out routine repairs and maintenance) was higher than their financial management capacity, which was viewed by both community members and WASHCo members themselves as low. In many cases, the financial management capacity, together with transparent accounting, is strongly linked to users' willingness to contribute to community management systems, either in financial terms or through in-kind contributions.

Therefore, it is important that any future projects or programs work to professionalize service providers. The following should be considered:

- **Build on the successes in the sector.** There have been a number of successful projects and programs currently under way in Ethiopia focused on building the capacity of service providers at the community level. Foremost among these is the community-led accelerated WASH in Ethiopia (CoWASH) project, which has developed an extensive catalog of reference documents. Another promising project is SNV's project targeting improved functionality of water systems in Tigray, where they are working with technical vocational training and microenterprise institutions to develop private sector service providers and encourage preventative operations and maintenance.
- **Leverage existing resources.** Implementing organizations working in the WASH sector should utilize the library of resources that have been generated and/or consolidated as part of the CoWASH project. Resources include guidelines on technical operation and maintenance requirements, management roles and responsibilities, water supply safety plans, spare parts management plans, and implementation guidelines.
- **Ensure that implementers build the capacity of local service authorities.** *Kebele* and *woreda* support structures are key drivers to the sustainability of water supply and sanitation services. Implementing partners should support these structures. This includes enhancing the coordination mechanisms among the WASH line ministries.
- **Ensure sufficient training in terms of both overall time and duration.** Many of the WASHCos interviewed during this assessment said that they had received a one-off training, which was of high intensity and lasted for two or three days only. Ideally, training should be a total of at least five days and include sufficient opportunities for developing technical skills (both mechanical and financial) through hands-on experiences. Where appropriate, exchange visits

should be utilized to link new WASHCoS with those that are close-by and well-performing. These types of mentorship arrangements among community-based groups have yielded significant success, not only in the WASH sector but also in agriculture and business.

- **Ensure that opportunities to reinforce training are sufficient.** Training needs to be reinforced with practice. Sufficient opportunities should be created to ensure that WASHCoS have confidence in their collective skills.

COMMUNITY-LED TOTAL SANITATION AND HYGIENE

At least 9 of the 36 *kebeles* have red flags, meaning that they have regressed with regard to their sanitation status, and it is likely that many more *kebeles* are in this category. This slippage is something facing many communities around the world. To reduce slippage, the following recommendations could be considered:

- **Adopt a holistic approach** to CLTSH, which includes schools and institutions and more meaningfully engages WASHCoS and other community-based organizations. In some cases, HEWs have other demands competing for their time (e.g., requirement to implement 16 public health “packages”), and while they may be well-positioned to serve as facilitators, it is nonetheless important that additional groups are brought into the activities.
- **Leverage local leadership.** Spend time to identify and engage with key local leaders who can become role models and champions for CLTSH. A recent study in Amhara by Welthungerhilfe (WHH) found that when *kebele* leaders were engaged in CLTSH, good hygiene behavior was observed in 90% of households (WHH, 2015).
- **Empower and educate open defecators,** with information on the real costs of building toilets to combat misperceptions on the barriers. Multiple studies, including this one, reveal a common misperception about the costs of building a sanitation facility. In addition, a recent study (SaniFOAM, 2014) showed that open defecators were less likely to agree that they had the skills to build a toilet on their own. The same study found that shaming or sanctions were not as likely to be effective against open defecators, which suggests that a facilitative approach toward open defecators might be more effective than a punitive one.
- **Target sanitation marketing and microfinance** to those with unimproved sanitation to improve the availability of both sanitation products and the money to pay for them at the local level.

INSTITUTIONAL SANITATION

- **Leverage community-level hygiene and sanitation promotion activities.** As flagged in the results of the SIT, school hygiene promotion and sanitation behavior change activities should be closely linked to broader behavior change communications activities in the community to maximize the impact of both.
- **Ensure that all sanitation facilities meet design guidelines.** Require that all school sanitation (and water) facilities meet the guidelines developed by the MoE and UNICEF. Facilities should be adequate in number, with at least one drop hole per 100 girls and one per 150 boys. Facilities should incorporate all aspects to ensure that design is optimal from a gender-sensitivity perspective. This requires sufficient facilities for menstrual hygiene and washing; dedicated disposal facilities for menstrual hygiene products; proper design and orientation of doors and facility entrances; and siting of facilities to ensure privacy and safety. Facility design should also meet the criteria for disabled students and younger users. All facilities should include adequate handwashing stations.

- **Work with schools to improve financial planning and management.** Implementing organizations and local governments should work with schools to help them calculate and understand what the long-term costs of operating, maintaining, and upgrading sanitation facilities will be. This will be the first step in the process of financial planning. Organizations should work with school administrators to improve their accounting practices. It will also be necessary to engage parents and parent groups to establish tariffs/student fees for purchasing consumables.

6.2 STRATEGIC RECOMMENDATIONS

One of the clear and common trends identified by the SIT—including both the quantitative scores and the qualitative assessment—is that the national and state levels score consistently higher, indicating well-developed policy frameworks, guidelines, and norms, as well as good coordination among ministries, all of which are a reflection of the progress made under the OOWNP movement. However, unless these gains can be “pushed down” to zonal and (especially) *woreda* levels, it is doubtful whether the benefits of a strengthened enabling environment will result in improved WASH services. Hence, the majority of the strategic recommendations are aimed at filling the critical gap, essential for providing long-term support to communities, schools, and households as they manage their facilities.

STRENGTHEN CAPACITY AND DIRECT SUPPORT FUNCTIONS AT ZONAL AND WOREDAS LEVEL

There have been considerable efforts and important institutional achievements made to date in regard to defining and arranging the roles and responsibilities under OneWASH. However, there are many areas where the program has not yet been fully operationalized, in terms of both geographic areas and administrative levels (i.e., zonal, *woreda*, and *kebele*). For example, there should be a KWT formed; however, this was found to be the case in only 15 out of the 36 *kebeles* in the SIT. There were no KWTs in Amhara, and only 2 out of 8 *kebeles* in Tigray had a KWT.

At the federal and regional levels, there are established and functioning arrangements for governance, oversight and management, program implementation, and program coordination. However, at the lower level, some of the institutional arrangements stipulated under OOWNP have been operationalized to a lesser degree. These include the Zonal WASH Management Team, the Zonal WASH Coordination Unit, the *Woreda* WASH Steering Committee, the *Woreda* WASH Coordination Unit, the *Kebele* WASH Team, and water user associations. Therefore, donors and WASH stakeholders should work together to facilitate the rollout of these institutional changes at all administrative levels and across all geographic areas.

The generally low sustainability scores at the zonal and *woreda* levels attest to the challenges faced by the decentralized service authorities in fulfilling their roles and responsibilities. To address this issue, the following recommendations are made:

- **Ensure zonal and *woreda* staff have proper training and support.** Many of the service authorities at the zone and *woreda* levels said that the training that they have received (e.g., financial accounting training) has been through one-day seminars. However, it is clear that yearly refresher training and support is required to ensure that government officials have not only the skills and capacities required, but also the motivation to continue with their support work to service providers.
- **Advocate for the professionalization of key WASH positions in local government.** It has been reported that regional and zonal health bureau salary levels are not high enough to obtain and retain highly skilled individuals. Turnover in government positions is recognized as being high, despite the claims by MoFED that salaries are sufficient, so employee retention strategies should be explored. When consultants do a significant amount of the work, there are inherent challenges resulting from low institutional memory.

- **Help the *woreda* governments implement basic asset management practices** to better understand the life-cycle costs of water services (and all WASH services in general). An asset register/inventory of water points is an important first step in estimating what the capital costs will be to reach full coverage and what the capital maintenance costs will be to maintain coverage in the short and medium term. This is important for understanding how to finance and plan for costs over the long term.
- **Help the *woreda* governments develop a water safety plan** as part of the risk assessment process. However, this has not occurred in the majority of areas included in this assessment. The CoWASH project has developed detailed guidelines on how this process should be implemented and what needs to be done by donors, implementing agencies, and national and local governments throughout the process (see Part G of the CoWASH Operation and Maintenance Manual).

IMPROVED DONOR–IMPLEMENTING PARTNER COORDINATION

Development partners should pursue a range of sector-level efforts. These include the following:

- **Mandate that all implementing agencies work through the protocols** established by *woreda*, zonal, and regional governments. Require that implementing organizations collect data according to the established guidelines of local government with regard to the content (i.e., indicators) but also in terms of reporting frequency and the chain of communication. Also, ensure that the appropriate permissions are obtained and that the corresponding “political protocols” are followed for each ministry (i.e., cascading permissions from federal, regional, zonal, *woreda*, etc.). Handover procedures to transfer ownership to the appropriate service authority should be followed, including the organization and transfer of all documents, records, and pertinent data. Support should be provided to the local government during this process so that it is not a drain on financial or human resources.
- **Ensure greater coordination, integration and communication about (donor-funded) NGO programs.** The OOWNP takes into consideration four different implementation mechanisms managed by communities, *woredas*, and NGOs, as well as those that are self-supplied (i.e., implemented at the household level). In addition, there are two funding channels: those that are channeled through the consolidated WASH account and those that operate through other channels. It is important that all development partners working within the OOWNP structures, including USAID, are planning and executing programs in a coordinated fashion and aligning these with the planning frameworks, both strategic and annual, established under OOWNP. This should also apply to those donors and implementing agencies that are not channeled through the CWA. It is crucial that all WASH stakeholders participate in coordination activities and ensure optimal communication about their activities and funding envelopes.
- **Ensure that development partners are actively participating stakeholder groups, including multi-stakeholder fora,** WASH Sector Working Groups, and MoWIE “FLOWS” seminars. There were a number of representatives of donors at the national level who said that broader involvement from NGOs in multi-stakeholder fora was needed and that this should be encouraged wherever possible.

SUPPORT INCREASED PRIVATE SECTOR CAPACITY

- **Identify ways to develop the private sector.** In addition to professionalizing the service providers at the community level, there is value in improving private sector capacity to meet the specific WASH needs at the *woreda* and even zonal levels, especially for technical skills and capacities that are not prevalent at the *woreda* level. Groups that may be able to take this on include the Ethiopian Water Technology Centre, which focuses on training for groundwater assessment, development, and extraction; and the National Capacity Building Unit (NCBU),

which reports to the head of the National WASH Coordinating Office and is responsible for coordination of WASH sector capacity building in the context of the new National WASH Program.

IMPROVE ENVIRONMENTAL MANAGEMENT WITHIN THE (DOMESTIC) WASH SECTOR

- **Encourage increased engagement with the MoEF in the OWP** and increase attention toward environmental issues at the *woreda* level. This could include helping the government place an environmental health worker in each *woreda*.

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ANNEXES

U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

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