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SUSTAINING RURAL WATER SERVICES IN ETHIOPIA: RURAL WATER SUSTAINABILITY CHECK REPORT

USAID SUSTAINABLE WASH SYSTEMS (SWS) LEARNING PARTNERSHIP CONCEPT I (ETHIOPIA)

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SUSTAINING RURAL WATER SERVICES IN ETHIOPIA: RURAL WATER SERVICE LEVELS REPORT

Prepared by:

This report of sustainability checks for rural water supply services in Mile, Afar and South Ari, SNNPR, is one of a series of reports on different baseline studies and systems analyses in Ethiopia for the Sustainable WASH Systems Learning Partnership.

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CONTENTS

ABREVIATIONS

BM	Bench Mark
CapManEx	Capital Maintenance Expenditure
CBO	Community Managed Organizations
DFID	Department for International Development
FIETS	Financial, Institutional, Environmental, Technical and Social
JSI	John Snow International
NGOs	Non- Governmental Organizations
OWNP	One WASH National Program
QIS	Qualitative Information Systems
RWB	Regional Water Bureau
SEUHP	Strengthening Ethiopia's Urban Health Program
SIT	Sustainability Index Tool
SNNPR	Southern Nations, Nationalities and Peoples' Region
SWS	Sustainable WASH systems
UNICEF	United Nations Childrens' Fund
USAID	US Agency for International Development
TWU	Town Water Utility
TSU	Technical Support Unit
WASH	Water, Sanitation, and Hygiene
WASHCO	Water Supply and Hygiene Committees
WB	Water Boards
WUA	Water Users Association
WWO	Woreda Water Office

EXECUTIVE SUMMARY

Sustainability checks provide an assessment of current service levels and on the degree to which the necessary conditions for sustainable WASH service provision are in place. This can serve a baseline against which progress on outcomes of interventions can be monitored. Furthermore, it can promote attention to sustainability challenges and direct actions from involved stakeholders in addressing these challenges.

In Ethiopia, the development and application of sustainability checks has been spearheaded by Unicef, especially as part of its ONEWASH Plus project. The Sustainable WASH Systems Learning Partnership in Ethiopia has built on the sustainability check framework developed under this initiative and applied it in its two focus woredas: South Ari (in SNNPR) and Mile (in Afar) woredas. This report presents the methodology and findings of the sustainability check of community-managed and utility-managed water service provision in these two woredas.

The sustainability check seeks to benchmark water services in these woredas, and assess both the performance of service providers and the performance of service authorities. Data from an asset inventory (Pearce and Abera, 2018) were the main source for scoring the level of provided services in the two woredas (see a related report by Adank and Hailegiorgis (2018) or more details and discussion on service levels). Key informant interviews formed the basis for scoring at service provider and service authority levels.

The sustainability check shows low service levels for community-managed schemes in South Ari, especially related to reliability of water supply, water quality and amount of water use. In Mile, service levels were slightly higher, with water quality and reliability better than in South Ari. Nevertheless, water service provider scores were higher in South Ari, than in Mile. In Mile, about half of the rural schemes did not have a WASHCO in place. Like the service provider scores, service authority scores were generally low in both woredas. The benchmarks were met on only 5 and 4 of 11 service authority indicators in South Ari and Mile respectively.

Service level, service provider and service authority scores of the utility-managed scheme in Gazer, the main town of South Ari were very low. This reflects the reality of a utility struggling to provide water services in a small town (around 6000 people). Utility-management arrangements in Mile scored a bit better. In both towns, reliability and water quantity are major challenges. At service provider level, financing and asset management are key challenges in both towns. At service authority level, South Ari scored 0, as there are hardly any structures and mechanisms for ensuring a conducive and enabling environment for service provision in Gazer towns. Mile scores were slightly better at service authority level related to utility-managed water supply.

INTRODUCTION

This report presents the results of an assessment of the level of water services and the status of the conditions for sustainable water service provision in two woredas in Ethiopia: South Ari and Mille. It was prepared as an input to the Sustainable WASH Systems Learning Partnership, which is focused on testing approaches to strengthen WASH systems and improve WASH services delivery. In this case, systems are referred to not as the physical water supply facilities such as wells and pipes, but rather the wider enabling environments for service delivery. These cover multiple necessary conditions for sustainable services delivery from financing to infrastructure and monitoring.

The two woredas involved in the study were South Ari in the SNNP Region and Mile in the Afar Region (Figure 1). The projected populations of South Ari and Mile are approximately 280,000 and 118,000 respectively (based on CSA, 2013). Rural water services in both woredas depend on voluntary, village-based Water, Sanitation and Hygiene Committees (WASHCOs) managing facilities under a community management model. In South Ari, wells with hand pumps and springs tap into shallow groundwater, whereas in Mile, there are more complex facilities often accessing deep groundwater and reliant on motorized pumping.

Figure 1: Location of South Ari and Mile woredas.

USAID SUSTAINABLE WASH SYSTEMS LEARNING PARTNERSHIP

The SWS Learning Partnership is a global U.S. Agency for International Development (USAID) cooperative agreement to identify locally driven solutions to the challenge of developing robust local systems capable of sustaining WASH service delivery. Led by the University of Colorado at Boulder, it emphasises partnership and learning for catalytic change in the WASH sector. Coordinating and facilitating interactions amongst partners in four priority countries (Ethiopia, Kenya, Uganda and Cambodia), the project works to meet the rapidly increasing needs of USAID's partner countries for sustainable WASH service delivery.

The partnership has four 'concept' teams. In Uganda and Ethiopia, Concept 1 is led by IRC, working with Tetra Tech and LINC. With other stakeholders, Concept 1 is developing and testing a structured approach to understanding, engaging with and strengthening decentralized woreda (district) and small-town systems for WASH service delivery. Learning alliances that gather local

stakeholder seek to provide a safe space for innovation. Comprehensive systems analyses are expected to provide a basis for action research experiments – joint testing of potential improvements involving implementers and researchers – to find new solutions to service delivery and sustainability challenges. Emphasis is on strengthening the WASH service delivery system as a whole, finding a balance between competing priorities to extend, improve and sustain services, and delivering the capacity development and communications activities that are needed at local, regional and national levels to scale up successful innovations and outcomes.

The expected outcome is stronger service delivery systems in the targeted woredas and small towns. At regional and national levels, Concept 1 seeks to influence the country's wider WASH sector agenda with tools and approaches applied beyond the focus woredas and small towns.

Concept one in Ethiopia is addressing both rural and small-town water supply and urban sanitation in different parts of the country. This baseline report is limited to the rural and small-town water activities, and a separate report by Tetra Tech is focused on urban sanitation. Concept 1 emphasizes the application of innovation to improve local systems, and works with local actors through multi-stakeholder partnerships, or learning alliances. In the learning alliances, local stakeholders develop understanding of their WASH service delivery system and execute a shared learning and action agenda. It is expected that locally driven innovation will result in better solutions to challenges and changes that increase the sustainability of WASH services.

During year one, with in-country activities starting in January 2017, a strategic partnership was developed with the USAID Lowland WASH Activity led by AECOM and involving the International Rescue Committee and CARE as implementing NGO partners. The USAID Lowland WASH Activity is working in challenging lowland environments in Afar, Somali and SNNP regions to develop, rehabilitate and sustain water supplies and improve sanitation. The partnership provides an opportunity for synergies between the systems-strengthening and learning activities of SWS, and the implementation of a package of construction, rehabilitation and improved maintenance for rural water supply schemes.

Two rural woredas where the USAID Lowland WASH Activity operates were selected for SWS rural water supply activities: South Ari, part of South Omo Zone in the Southern Nations, Nationalities and Peoples Region (SNNPR) (south-western Ethiopia), which relies heavily on hand pumps and springs, and Mile, in the Afar Region (north-eastern Ethiopia), where water schemes include motorized boreholes pumping deep groundwater. Community management is the primary service delivery model for both the simple and the more complex rural water supply schemes, with utility management present only in some small towns.

THIS REPORT

The objective of sustainability checks is to provide an assessment of current service levels and on the degree to which the necessary conditions for sustainable WASH service provision are in place. This will be used for:

- Establishing a baseline against which progress on outcomes of the SWS interventions will be monitored;
- Promoting more attention and directing actions from involved stakeholders in addressing sustainability issues and concerns;
- Stimulating and influencing sector-wide discussion on monitoring and ensuring sustainable WASH services.

- Serve as an input to the local WASH systems assessment (Adank, Hailegiorgis and Butterworth, 2018)

This report presents the proposed methodology for the SWS sustainability checks and the results of the sustainability check analysis in South Ari and Mile woreda, Ethiopia.

METHODOLOGY

SUSTAINABILITY CHECK FRAMEWORK

The framework for sustainability checks used here builds on the earlier work by IRC for UNICEF as part of the DFID funded ONEWASH plus Project (Adank et al, 2017; Adank et al, 2018). This framework in turn was developed drawing on a wide range of experiences including UNICEF Mozambique's Sustainability Check, the Sustainability Monitoring Framework of the WASH Alliance International, and the Sustainability Index Tool (SIT) developed by AguaConsult and applied in several USAID Programs. Based on these experiences, and taking into account suggested indicators, norms and standards as set out in Ethiopia's One WASH National Program (OWNP) documents, a draft sustainability framework was developed to suit the Ethiopian context. This draft framework was discussed with a wide variety of stakeholders, including representatives from government, NGOs and development partners, during consultation workshops in 2015 at different institutional levels: national, regional and the town or woreda level. Feedback from the consultations at the three levels was used to further refine the framework and resulted in the modification, deletion and addition of some indicators. Lessons learnt from the application of the framework in 2016 and 2017 helped to further refine the framework (Adank et al, 2017). For SWS, the framework was further revised slightly, in order to be as much as possible compatible with the building block indicators, as presented on the synthesis report (Adank, Hailegiorgis and Butterworth, 2018).

The sustainability check framework that was applied to assess water services in South Ari and Mile originally consisted of five modules, each focused-on WASH service provision in a certain context: Rural water; rural sanitation; urban water; urban sanitation; and Institutional WASH (McIntyre and Paba, 2015). For South Ari and Mile woreda, the focus was on the rural and urban water modules (for small towns in these woredas) applying these to the main service delivery models found in the two woredas: community managed schemes and utility-managed schemes. The urban sanitation module was used by SWS in Woliso and results are reported separately by Tetra Tech.

In each module, the level of service is assessed and expressed numerically, based on a number of service level indicators, namely reliability, quality, quantity and accessibility of the provided water services (Adank and Hailegiorgis, 2018). The conditions for sustainable water services provision are then assessed at two levels:

- Service provider level: the performance of service providers;
- Service authority level (woreda, town and regional level): the performance of service authorities.

Functions at the service provider level are related to the day-to-day operation and maintenance of water schemes. Service authority functions include strategic planning, oversight of the service providers, provision of technical support to service providers, monitoring, etc. (Lockwood and Smits, 2011). As such, the service authority level determines the local enabling environment in which service providers operate.

SUSTAINABILITY INDICATORS AND SCORING

The sustainability check differentiates between two main service delivery models: community-managed schemes (hand pumps and small piped schemes) and utility managed (more complex) piped schemes. Except for the schemes in the towns Gazer (South Ari woreda) and Mile and Andale (Mile woreda) where water is provided through utility-managed piped schemes, all point sources and schemes are supposed to community-managed.

The sustainability indicators include factors which are commonly used to assess the presence of conditions for sustainable WASH service provision related to financial, institutional/managerial, environmental, technical and social sustainability (sometimes referred to as FIETS. The factors are as much as possible related as well to the building blocks for sustainable water services provision (Adank, Hailegiorgis and Butterworth, 2018), which include: legislation, institutions, finance, planning, infrastructure development, infrastructure management, monitoring, regulation, learning and adaptation, and water resources.

In order to minimize the number of indicators, the sustainability check indicators have been developed as composite indicators. For the scoring of such composite indicators, qualitative information systems, or QIS tables are applied and provide a useful way of converting qualitative information into quantitative scores. Micro-scenarios have been developed describing incremental steps related to the performance on the indicator, to which scores were attached from 0 (worst case) to 100 (best case). A benchmark being the minimum acceptable level for each indicator was determined and typically set at 50 (100 in case of binomial on-off indicators).

The advantage of using QIS scoring tables is that it allows for composite indicator scores which have a specific meaning and are actionable. At the same time, by attaching numeric scores to different scenarios, sustainability index scores can easily be calculated and aggregated. When an indicator is used to assess a number of units (e.g. WASHCOs, institutions etc.), the score on the indicator can be presented in different ways:

- Proportion of units that score at a certain level;
- Proportion of units that meet the benchmark (so generally with a score of 50 or more);
- The average score on the indicator over the different units.

SOURCES OF DATA

Asset inventory data (Pearce and Abera, 2018) was used to inform findings on coverage, functionality and service levels (Adank and Hailegiorgis, 2018). This was complemented by primary data collected using different methods including surveys and key informant interviews, including:

- WASHCO survey: A representative sample of WASHCOs (29 of the 154 Water User Associations was randomly selected in South Ari. In Mile, all 12 WASHCOs were assessed. The WASHCO survey addressed issues related to institutional, financial, infrastructural, and water resource related factors.
- Town Water Utility / Town Water Scheme Survey: Key informant interviews with different sections of the town water utility (management, financing and billing, technical operations) were conducted. These included collection of secondary data from the Town Water Utility, including financial records (revenue, expenditure), records on number of connections, tariff information, records on amount of water produced and sold (where available).
- Key informant interviews: Key informant interviews with the service authority representatives at regional and woreda level included interviews with Woreda Water Office and Regional Water Resource Bureau staff.

DATA COLLECTION, PROCESSING AND INDICATOR SCORING PROCESS

A WASHCO survey was executed in South Ari and Mile in August 2017 to complement the asset inventory data collected in March- April 2017. WASHCO survey data collection in South Ari was executed by a team of three Water Office staff members, while in Mile it was executed by one Woreda Water Office staff member, with support from a SWS project staff member from IRC. Data collectors received half-day training in the application of the data collection tools and surveys. The data collection process took four days in each woreda. Survey data were collected using Akvo FLOW (South Ari) and mWater (Mile), which are data collection smartphone application. This allowed for monitoring of the data as it was coming in. Key informant interviews and town water scheme surveys were executed by SWS project staff from IRC. The tentative scores were presented and verified during learning alliance workshops with relevant WASH stakeholders from the different woredas and towns.

RESULTS

COMMUNITY MANAGED SCHEMES

Service level scores

The service level scores which are based on the results of the service delivery assessment (Adank and Hailegiorgis, 2018) are presented in Table 1. The table shows low scored on the quality and quantity indicators, especially in South Ari. Overall the service level score related to community-managed water supply is slightly lower in South Ari (at 25) than in Mile (at 38).

Table 1: Service level score community-managed schemes

Service level indicator	Score					South Ari	Mile
	0	25	50	75	100		
Reliability	Less than 50% of water points is reliable (providing water services at least 85% of the days in the year)	50%-75% of water points is reliable (providing water services at least 85% of the days in the year)	75-85% of water points is reliable (providing water services at least 85% of the days in the year)	At least 85% of water points is reliable (providing water services at least 85% of the days in the year)	100% of water points is reliable (providing water services at least 85% of the days in the year)	25	50
Quality	Less than half of water quality samples taken from the piped scheme have an e coli count of <10	At least half of samples e coli count of <10	All samples E. coli count of <10	All samples E. coli count of < 4.7	All samples E. coli count of 0	0	25
Quantity	Water use is at GTP-2 norm for less than 50% of population	Water use is at GTP-2 norm for 50%-75% of population	Water use is at GTP-2 norm for 75%-85% of population	Water use is at GTP-2 norm for at least 85% of population	Water use is at GTP-2 norm for 100% of population	0	0
Accessibility	< 50% of households access improved water services within 1km	50%-75% of households access improved water services within 1km	At least 75% of households access improved water services within 1km	At least 90% of households access improved water services within 1km	All households of households access improved water services within 1km	75	75
Average score						25	38

Service provider scores

As shown in Table 2, the overall (average) service provider score is lower in Mile than in South Ari (a score of 10 compared to 34). This is mainly due to the lack of properly constituted community-based service providers (WASHCOs) in South Ari and gaps in financial and maintenance arrangements at this level.

Institutional issues: In South Ari, Water User Associations (WUAs) are supposed to be in place for the operation and maintenance of rural water supplies. In Mile, WASHCOs are supposed to be in place to take up this service provision role. However, in South Ari, one third of the water schemes do not have a Water User Association or utility in place and in Mile even more than half of the water schemes do not have a WASHCO in place. Most WUAs that were in place in South Ari were found to be well constituted, with a chair, secretary, treasurer and other members elected by the community, established as a CBO and registered with the regional water bureau. This was not found to be the case in Mile, where WASHCOs were found to be not well constituted, with an often unclear distribution of roles and responsibilities amongst members. Training of WUAs and WASHCOs is an issue with most only having received limited training during establishment more than 2 years ago. Also, only very few WUAs and WASHCOs are gender-balanced. Most of the WUAs consist of 3 men and 2 women and for about 67% of the WASHCOs only one of the three key positions (chair, secretary, and treasurer) was held by a woman. For about 59% of the WUAs in, at least one of the three key positions (chair, secretary and treasurer) was held by a woman. For about 17% of WUAs, at least 2 key positions are filled by women.

Financing issues: Systematic, regular collection of money for operation and maintenance is a problem for most rural schemes in both South Ari as well as in Mile woreda. In South Ari, only 43% of water schemes have a tariff in place and in Mile money is mostly collected on an ad hoc basis (e.g. when there is a need for buying fuel). Whereas in South Ari most WUAs (72%) do have a bank account and keep financial records, none of the WASHCOs in Mile have a bank account and only one WASHCO reported to keep records on revenues and expenditure up to date, and these have not been checked by an inspector.

Infrastructural issues: While most WUAs (93%) in South Ari reported to execute routine preventive maintenance on at least annual basis, with 71% reporting to do so on monthly basis, none of the WASHCOs in Mile reported to execute routine preventive maintenance. Most WUAs and WASHCOs reported that they could access spare parts for minor maintenance within 3 days (South Ari: 81%; Mile: 78%), but only 25% in South Ari and none in Mile reported to also have access to spare parts for major maintenance within 3 days. Parts for minor maintenance were mainly reported to be sourced from the woreda. Parts for major maintenance were reported to be mainly sourced from local shops and NGOs in South Ari and from the woreda and the region in Mile.

Water resources issues: Only a very few WUAs reported to have a Water Safety Plan in place for both woredas.

Table 2: Community-managed schemes - Water service provider scores

							South Ari		Mile	
Number of sampled schemes with WASHCOs/WUAs							**29**		**12**	
% of rural water schemes with a WASHCO/WUA							**67%**		**46%**	
Indicator		**0**	**25**	**50**	**75**	**100**	**Average score**	**% schemes meeting the BM**	**Average score**	**% schemes meeting the BM**
SP-I-1	**Well-composed and trained WASHCO/WUA**	No WASHCO/WUA or WASHCO/WUA without 3 key positions filled or WASHCO/WUA which never meets.	WASHCO/WUA with all three key positions filled	….and trained	…less than a year ago	….and meeting at least monthly	30	60%	0	0%
SP-I-2	**By laws and legal status of the WASHCO/WUA**	No WASHCO/WUA with by-laws.		WASHCO / WUA has by-laws		...and legal status (established and registered with RWB)	67	67%	0	0%
SP-I-3	**Election of WASHCO/WUA by entire community**	No WASHCO/WUA with members elected by entire community.				WASHCO/WUA members elected by entire community.	67	67%	46	46%
SP-I-4	**Women representation in WASHCO/WUAs**	Less than 50% of the WASHCO/WUA members is female.		At least 50% of the WASHCO/WUA members is female		….and there are at least 2 women in the 3 key decision-making positions (chair, treasures, secretary)	1	2%	12	15%
SP-F-1	**User payment and tariffs**	No user payment.	Ad hoc basis (when the system breaks down).	Annual fees.	Monthly (or weekly) fees.	Tariffs by unit of used water.	33	43%	20	19%
SP-F-2	**Revenue/standard annual expenditure balance**	<0.5.	at least 0.5.	At least 1.	at least 1.25.	at least 1.5.	22	32%	0	0%
SP-F-3	**Financial management of WASHCO/WUA**	No WASHCO/WUA which keeps financial records.	Simple) financial records.	Up-to-date financial records and a dedicated account in a financial institution	….and records are shared with community on irregular basis	…. according to their by-laws.	38	49%	2	0%
Sp-Inf-1	**Spare part supply**	Minor maintenance spare part supply takes more than 1 month	Minor maintenance spare part supply takes more than 3 days	Minor maintenance spare part supply within 3 days.	…and major spare part supply within a week.	…and major spare part supply within 3 days.	40	55%	23	38%
SP-inf-2	**Routine (preventive) maintenance**	Not done.	Done, but irregularly.	Done at least annually.	Done at least monthly.	Done at least weekly.	47	62%	0	0%
SP-WR-1	**WASHCO/WUA Water safety plan**	There is no water safety plan.		There is a water safety plan.		Water safety plan has been implemented.	0	0%	0	0%
Average							**34**	**44%**	**10**	**12%**

Service authority scores

Like the service provider scores, service authority scores are generally low in both woredas. South Ari meets the benchmark on 5 and Mile on only 4 of 11 service authority indicators. Table 3 shows the overall scores for both woredas (with average scores of 31 and 35 in South Ari and Mile respectively).

Institutional issues: The South Ari Woreda Water, Mines and Energy office is understaffed, with only 61% of the required positions filled, and with only 7 staff dedicated to rural water supply (in addition to 4 staff of the town water utility of Gazer town under contact with the woreda). The Mile Woreda Water Resources Office on the other hand is relatively well staffed, with 24 of the 25 required positions in place. Nevertheless, only 30% of WASHCOs in Mile reported to get technical support from woreda level within three days in case of technical issues beyond the capacity of the WASHCO. However, in addition, half of the WASHCOs reported having received technical assistance from the region in the last year. There are only two WASH artisans in the woreda (the woreda has been selected as a pilot woreda to develop SME capacity for maintenance).

Financing issues: Both woreda water offices are poorly resourced, with only one motorcycle each. The office experts sometimes use transport facilities from other offices (in South Ari and Mile), or take a bajaj (in Mile) or public transport. The benefitting communities tend to pay for the costs of transport.

Planning issues: In both woredas there is a woreda (multi-annual) WASH strategic plan and a WASH annual plan which has been costed for both capital investments as well as recurrent costs (CapManEx/ support costs) and sources of funding have been identified from government side. The plan does not include plans from NGOs.

Infrastructure issues: In both woredas, there is limited clarity on ownership of assets, especially amongst communities. An asset inventory was executed in 2017 in collaboration with IRC and the Lowland WASH Project. In Mile, this inventory has informed the development of a maintenance plan. Although the woredas are supposed to check construction quality of all schemes, including the ones implemented by NGOs, this does not always happen in reality.

Monitoring and regulation issues: The woreda water offices monitor water services and uses data to inform planning and corrective action. However, monitoring at woreda level does not (yet) monitor the performance of WASHCOs. Also, the woredas do not approve and regulate tariffs set by WUAs/WASHCOs.

Coordination issues: There are no platforms for coordination between stakeholder (government, NGOs etc.) involved in rural water supply at woreda level.

Table 3: community-managed schemes - service authority scores

Indicator		0	25	50	75	100	South Ari	Mile
SA-I-1	**Woreda Water Office**	Woreda water office (or department) has less than 75% of required staff.	Woreda water office (or department) has more than 75% of required staff	... and are sufficiently trained in WASH planning, management and monitoring.	…..and receive some support from zonal / regional level.	…..and receive adequate support from zonal / regional level.	0	75
SA-I-2	**Support to WASHCOs**	None of the WASHCO receive support and back-up from the woreda water office	Less than half of WASHCOs/WUAs get technical support within 3 days	At least half of WASHCOs/WUAs get technical support within 3 days	At least 75% of WASHCOs/WUAs get technical support within 3 days	All WASHCOs/WUAs get technical support within 3 days	50	25
SA-I-3	**Presence of WASH artisans in the woreda**	No WASH artisans or other private sector support for O&M in the woreda	WASH artisans in the woreda, but less than half of the number of kebeles.	At least half of the number of the kebeles.	All kebeles have at least 1 trained artisan.	All kebeles have at least 2 trained artisans.	25	25
SA-F-1	**Woreda water office annual recurrent budget**	Operational budget < 12,5 birr / person/year	Operational budget 12.5 - 25 birr / person / year	Operational budget 25-50 birr / person / year	Operational budget 50-75 birr/ person / year	Operational budget >75 birr / person / year	0	25
SA-F-2	**Woreda water office logistics**	No motorcycles available to WWO	One motor bike available to WWO	Two motor bikes available to WWO	Three motor bikes available to WWO	More than 3	25	25
SA-P-1	**Woreda level plan**	There is no WASH strategic plan, nor a woreda annual plan.	There is a WASH annual plan but no (multi-annual) strategic plan.	There is a woreda (multi-annual) WASH strategic plan and a WASH annual plan	…which has been costed for both capital investments as well as recurrent costs (CapManEx/ support costs)	…and sources of funding have been identified.	100	100
SA-inf-1	**Roles and responsibilities related to major maintenance**	No clarity on asset ownership	Clearly on asset ownership	…and clearly defined roles and responsibilities related to major maintenance and rehabilitation	…. with all (WASHCO, woreda, zone, region) fulfilling roles and responsibilities accordingly	…..as documented in local laws and regulations	0	0
SA-inf-2	**Scheme inventory and maintenance plan**	Woreda has never done inventory of schemes.	Woreda has done inventory of schemes, but more than a year ago	Woreda has conducted scheme inventory within last year	…which includes functionality status and age of all schemes	… and has developed a maintenance plan	75	100
SA-inf-3	**Checks on construction quality**	Build quality is checked for some schemes.	Build quality is checked for all schemes	... and action is taken when faults are observed	…including for NGO implemented schemes	…informed by general guidelines.	50	0
SA-M-1	**Monitoring of O&M and WASHCO performance**	The woreda water office staff do not monitor rural water services on ongoing (at least annual basis)	The woreda water office monitors water services on at least annual basis	….and uses data to inform planning and corrective action	…and monitors performance of WASHCOs	…and uses data for providing targeted support to WASHCOs...	50	50
SA-R-1	**Tariff and performance regulation**	The woreda water office has not set tariff regulations, nor does it provide guidelines for tariff setting to the WASHCOs.	The woreda water office provides guidelines for tariff setting to the WASHCOs but does not regulate tariffs.	The woreda water office provides guidelines for tariff setting to the WASHCOs and regulate set tariffs	… and has set performance benchmarks for service providers	…. And enforced the service provider benchmarks.	0	0
SA-L-1	**Coordination at woreda level between stakeholder (government, NGOs etc) involved in rural water supply**	No coordination structures	Coordination structure	…. meeting on at least quarterly basis	… with agreed actions based on meeting	….and a joint annual plan.	0	0
Average service authority score							31	35
% of service authority BMs met							**42%**	**33%**

UTILITY-MANAGED TOWN SCHEMES

South Ari's capital Gazer is the only town in the woreda with a utility-managed piped scheme. In Mile woreda, two utilities managing piped schemes are found in Mile town and in Andale. This assessment focusses on Mile and Gazer town.

Service level scores

The service level score for utility-managed water supply in South Ari and Mile woreda are presented in Table 4. These scores are based on the performance of the schemes on the service delivery indicators as presented in the service delivery assessment (Adank and Hailegiorgis, 2018). It shows low levels of service, especially related to reliability and quantity of the provided water services. As in Mile more people access the utility-managed services through household connections than in South Ari, accessibility to services is better in Mile than in South Ari.

Table 4: Utility-managed water service level score

	0	25	50	75	100	Gazer	Mile
Reliability	Rotation is practiced for at least part of the year	No rotation is practiced	At least 16 hours a day of uninterrupted water services	At least 20 hours a day of uninterrupted water services	24 hours a day of uninterrupted water services	0	0
Accessibility	< 50% of households access the piped scheme within 250m	50%-75% of households access the piped scheme within 250m	At least 75% of households access the piped scheme within 250m	At least 85% of households access the piped scheme within 250m	All households of households access the piped scheme within 250m	25	100
Quality	Less than half of water quality samples taken from the piped scheme have an e coli count of <10	At least half of samples e coli count of <10	All samples e coli count of <10	All samples e coli count of < 4.7	All samples e coli count of 0	25	Unknown
Quantity	Water sales is less than half of GTP-2 norm	Water sales is at least half of GTP-2 norm	Water sales is at least 75% of GTP-2 norm	Water sales is at least 90% of GTP-2 norm	Water sales is at least GTP-2 norm	0	0
Average service level score						13	33
Number of service level benchmarks met (Max 4)						0%	33%

Service provider scores

Both towns score low on the service provider indicators. Overall, the average score of Gazer (19) is lower than that of the larger town of Mile (27). On five of the 12 service provider indicators, Gazer scores lower than Mile. Table 3 shows the service provider scores for each woreda.

The Gazer scheme struggles with financial sustainability. Because of the poor services, water sales are low, with households using water from standpipes using only an average of 11 liters per person per day. Therefore, revenues are low and not sufficient to cover even the basic operational costs. The revenues only cover the salary of two of the six staff members, with the other four being paid for by the woreda Water, Mines and Energy Office. This also means that there is generally not enough money for spare parts, let alone for major repairs, expansion and rehabilitation, which are needed to ensure the provision of better water services and increased revenues. Also record keeping is a challenge, with incomplete financial records. According to the systems manager, this is related to the lack of well-capacitated staff. Staff members also lack the capacity to effectively execute small repairs. Asset registration and management is not practiced, non-revenue water is not measured and disinfestation of reservoirs is not executed. Like in Gazer, effective financial management and availability of data on non-revenue water are big challenges in Mile. In addition, staffing of the utility is a challenge in Mile town. Only about half of the required positions have been

filled, but because of the limited number of household connections, staff productivity (assessed based on number of staffs per 1000 connections) is very low as well.

Service authority scores

Both the utility in Gazer as well as Mile are supposed to be supervised and supported by the Woreda Water Office. When the need for support goes beyond the capacity of the woreda, the utility can be supported from Zonal (in the case of Gazer) and / or regional level (in the case of Mile). The Gazer utility also received some advice and support from the nearby (grade 3) utility from the larger Jinka town.

As shown in Table 6, service authority scores are very low for Gazer (South Ari). The support the town receives is insufficient and the enabling environment related to having a town master plan, a catchment management plan etc. is not in place. The service authority scores for Mile are slightly higher, as the town water utility does receive support from regional level when needed.

Table 5: Utility-managed schemes - water service provider score

Service provider level indicators		0	25	50	75	100	Gazer	Mile
SP-I-1	**Utility organization**	No Utility.	Utility in place	... with three core department	.. and signed performance agreement	… which is implemented.	25	50
SP-I-2	**Town Water Utility staffing**	< 75% of required staff.	>= 75% of required staff	…. and all trained in WASH planning, management and monitoring	….and equipped with required guidelines	….and performs quarterly monitoring.	25	0
SP-I-3	**Staff Productivity**	>20 staff per 1000 connections.	15<20 staff per 1000 connections.	10<15 staff per 1000 connections.	7<10 staff per 1000 connections.	<7 staff per 1000 connections.	25	0
SP-F-1	**Cost Recovery**	Operational cost recovery not met.	Operation cost recovery	…. and 20% reserve	….. and fulfilling on-lending agreement.	Full cost recovery.	0	25
SP-F-2	**Effective financial management**	Single entry accounting but incomplete records.	Single entry with complete financial records.	Double entry accounting system with annual income statement	…. and balance sheet	… and audited.	0	0
SP-f-3	**Effective billing and collection**	No consumption-based billing.	Manual billing with 60 days or more backlogs.	Manual billing with less than 60 days backlog.	Computerized billing with no backlog and >80 collection rate.	Computerized billing with no backlog and >95 collection rate and < 10% zero reading.	50	50
SP-P-1	**Urban poor get affordable water**	No public taps and no shared yard connections.	Insufficient public taps and shared yard connections in the town.	Sufficient public taps in the town and shared yard taps for urban poor	…. and provision of credit facility for urban poor for private connections	…., which are all repaid within 1 year.	25	25
SP-Inf-1	**Effective asset management**	No (or incomplete/ outdated) asset registry.	All utility assets registered	…. and accumulated depreciation calculated	…and condition identified	….. and replacement plan developed.	0	25
SP-infr-2	**Effective maintenance system in place**	Utility has no capacity to execute simple repairs.	Utility has capacity to execute simple repairs but does not do so within 3 days.	Utility can execute all repairs (except major electronic mechanical maintenance) within 3 days	... and executes periodic (preventive) maintenance	… on monthly basis.	0	50
SP-infr-3	**Adequate supply of spare parts for minor maintenance (pipes, fittings etc)**	No spare parts available.	Spare parts available but takes more than 3 days.	Spare parts available within 3 days.	Spare parts available within day.	Store available with adequate pipe and fittings available for a month requirement or there is private sector which delivers within 24 hours.	75	75
SP-infr-4	**Non-revenue water**	NRW is not known.	>20%	<20%	<20%, action developed for reducing on NRW	<10%, and action developed for reducing on NRW	0	0
SP-infr-5	**Water quality management and disinfestation**	No disinfection of reservoir(s).	Disinfection of reservoir(s) but less often than monthly.	Monthly disinfection of reservoir(s) by qualified operator	... and intermittent quality check (chemical, bacteriological, physical) on network.	... and periodic (at least monthly) quality check (chemical, bacteriological, physical) on network.	0	25
Average service provider score							19	27
% of service provider BMs met							17%	33%

Table 6: Utility-managed schemes - water service authority scores

Service authority scores		0	25	50	75	100	Gazer	Mile
SA-I-1	**Presence of Water Board (WB)**	No WB established by Regional proclamation.	WB established by Regional proclamation	….. and receives regular training and support when needed	... and with guidelines	... and meeting monthly.	0	25
SA-I-2	**Sufficient capacity at woreda/zonal/ regional level to provide support to TWUs**	Woreda/zone/region has no dedicated department / section for supporting TWU.	Woreda/zone/region has dedicated department / section for supporting TWU, but not adequate staff.	Woreda/zone/region has dedicated department / section for supporting TWU, with adequate staff.	…. and logistics and budget.	…. and systems (guidelines etc).	0	25
SA-I-3	**Effective provision of technical support to the TWU**	There is no technical support to the TSU.	There is some technical support to the TSU, but it generally takes more than a week to get the technical support.	Technical support to the TSU is generally provided within a week.	Technical support to the TSU is generally provided within three days.	Technical support to the TSU is generally provided within a day.	0	75
SA-P-1	**Town master plan**	No annual water supply plan and no town master plan which includes water supply.	Annual water supply plan	….and multi-annual town master plan, which includes water supply	…which has been costed for both capital investments as well as recurrent costs (CapManEx/ support costs)	…and sources of funding have been identified.	0	0
SA-L-1	**Coordination at town level between stakeholder involved in town water supply**	No coordination structures	Coordination structure	….meeting on monthly basis	… with agreed actions based on meeting	….and a joint annual plan.	0	0
SA-WR-1	**SA-E-1: Catchment management system in place**	No catchment management plan.	Catchment management plan in place	…..which is partially implemented.	…which is fully implemented	….. and regularly monitored.	0	0
Average service authority score							0	21
% of service authority BMs met							0%	17%

CONCLUSION AND RECOMMENDATIONS

As shown in Table 7, average sustainability check scores are low for both woredas and for both service delivery models. The utility management model in South Ari (Gazer) scores especially low (average lower than 20 points) on the service level, service provider and service authority performance. In Mile woreda the community-managed model scores especially low on the service provider indicators. Nevertheless, Mille does have a higher service level score than South Ari. This could be due to Mille's proximity to the Regional capital Semera and the (Operation & Maintenance) support provided from regional level to service providers and water users in the district.

Table 7: Average sustainability check scores

Service delivery model	Sustainability check level	South Ari	Mile
Community-managed schemes	Service level score	25	38
	Service provider score	35	10
	Service authority score	34	36
Utility-managed piped schemes	Service level score	13	33
	Service provider score	19	27
	Service authority score	0	20

The sustainability check findings highlight the need to not only improve service levels, by investing in implementation and rehabilitation of infrastructure, but also the need to strengthen service provider and service authority capacity and performance, in order to ensure sustainable service provision.

Key areas for improvement related to the community-managed model include:

- Reliability of water services (South Ari woreda) and water quality and quantity
- Establishment and legislation of WASHCOs in Mile woreda
- Representation of women in WUAs and WASHCOs
- Financial management of WUAs and WASHCOs, including establishment and collection of tariffs, record keeping and establishment of a dedicated bank account
- Spare part supply and preventive maintenance in Mile
- Water safety planning
- Staffing of Woreda Water Office in South Ari woreda
- Presence of WASH artisans
- Asset ownership and management
- Tariff and performance regulation
- Stakeholder coordination

Related to the utility-management model, key areas of improvements include:

- The staffing of the utility
- Financial management and record keeping
- Services for the urban poor
- Maintenance (South Ari) and asset management
- Non-revenue water
- Water quality management
- Establishment of a Water Board
- Capacity at Zonal / Regional level to support utilities
- Strategic planning at town level
- Stakeholder coordination
- Development of a catchment management plan.

There is a need to review and revise some of the sustainability check indicators and benchmarking. For example the utility indicator SP-I-3, related to staff productivity: For smaller (category 4 and 5) towns, the current scoring table may not be relevant, as the staff / connection ration is likely to be higher than in larger towns. This requires further review of how this indicator is applied and benchmarked in other countries (e.g. Portugal's ERSAR sets different benchmark levels for urban (2-3 staff per 1000 connections), peri-urban (2-3.5 staff per 1000 connections) and rural (2-4 staff per 1000 connections) piped service providers. Furthermore it requires a review of the current norms and guidelines in Ethiopia related to required number of staff in relation to number of connections. Nevertheless, this sustainability check forms a useful baseline against which progress in strengthening the local WASH system can be measured.

REFERENCES

Adank, M., Defere, E, Butterworth, J. 2017. ONEWASH Plus sustainability checks, Second annual report (2016). ONEWASH Plus Project

Adank, M. and Hailegiorgis, B. 2018. Baseline assessment: water service levels report. Sustainable WASH Systems Learning Partnership Concept 1 (Ethiopia)

Adank, M., Hailegiorgis, B., Butterworth, J. 2018. A local systems analysis for rural and small town water services delivery in South Ari (SNNPR) and Mile (Afar), Ethiopia. Sustainable WASH Systems Learning Partnership Concept 1 (Ethiopia)

Adank, M., Godfrey, S., Butterworth, J., Defere, E., 2018. Small town water services sustainability checks: development and application in Ethiopia. Water Policy wp2018004. https://doi.org/10.2166/wp.2018.004

Lockwood, H., Smits, S., 2011. Supporting rural water supply: moving towards a service delivery approach. Practical Action Publishing, Warwickshire, UK

MacIntyre, P. and Paba, M. 2015. Measuring factors that predict if WASH services are sustainable. ONEWASH Plus Programme Learning Note. ONEWASH Plus Project

Pearce, J. and Abera. M. 2018. Baseline assessment: rural water asset inventory report. Sustainable WASH Systems Learning Partnership Concept 1 (Ethiopia)