



Sustainability of WASH services in Wukro, Tigray

Town audit statement

In June-July 2015, a sustainability check of WASH services was undertaken in Wukro town, Tigray Region under the ONEWASH Plus Programme. This factsheet presents a summary of the key findings relating to sustainability challenges in town water supply, rural water supply, urban and rural sanitation and institutional WASH. As this first sustainability check has been undertaken at the start of the programme implementation, the results reflect that WASH services are not improved and capacity building interventions have not been implemented yet. Based on the findings, sustainability plans with details of suggested actions to overcome the sustainability challenges will be prepared.

Key findings

Town water supply: main sustainability challenges are related to social and environmental sustainability.

Rural water supply: weak institutions and unsatisfactory supply chain are key challenges. The financial situation is also unsustainable.

Urban sanitation: main challenges are related to financial, social and environmental sustainability.

Rural sanitation: strategy and institutional framework in place, low budget and limited logistics for supporting sustainable rural sanitation.

Institutional WASH: limited capacity, low budget and logistics.

Overview of water supply and sanitation in Wukro

The water supply system of Wukro town is managed by a utility with oversight by a town water board. According to the utility (based on water connection and sales data) the water system serves 97% of population with piped system and 3% with public taps. 52% of the population are served with private yard connections while the remaining use shared systems. The per capita consumption is 27 litres per day.

According to the baseline survey of 2014, the water supply coverage in the surrounding villages is 84%.

The urban sanitation situation in the town is satisfactory with 75% latrine coverage (Baseline survey) and acceptable waste management systems. The liquid waste extraction, collection and transportation is provided primarily by the municipality with private operators playing a very limited role. The solid waste connection is provided in two stages with the primary as well as secondary collection provided by private companies. The wastes are dumped at a designated site but there is no proper treatment and environmentally safe disposal.

Improved sanitation coverage in rural surroundings (baseline 2014) is very low with 16% coverage.

The health facilities have over 86% (baseline) WASH facilities but the facilities standard requires improvement. Over 71% of schools have also improved water supply.

Sustainability check overview

Within the ONEWASH Plus Programme, annual sustainability checks have been programmed to assess and monitor the degree to which conditions for sustainable WASH service provision are in place. Based on these sustainability checks, sustainability plans will be developed and implementation promoted to help ensure that the infrastructure and systems developed under the programme – within the programme towns, surrounding satellite villages and including institutional facilities at schools, health centres and other locations - do provide sustainable services to target populations without significant adverse environmental and socio-economic impacts.

The sustainability check considers the following five sustainability factors:

Institutional sustainability

Are policies, strategies and management arrangements in place to ensure sustainable WASH service provision?

Technical sustainability

Are WASH services technically viable and are mechanisms in place to ensure sustainable service provision (including spare part supply, the presence of technical support services etc.)?

Financial sustainability

Are WASH services financially viable and can they be financially sustained over time?

Environmental sustainability

Are measures in place to ensure that WASH services delivery does not have a negative impact on the environment?

Social sustainability

Are measures in place to ensure that everyone can benefit from the provided WASH services?

A scoring system has been developed describing incremental steps related to the performance on the indicator, to which scores are attached from 0 (worst case) to 100 (best case). The benchmark of the minimum acceptable level on each indicator has been determined and is typically set at the 50 score (100 in care of binomial (on-off) indicators).

Urban water supply

Table 1 Urban water supply sustainability scores – service provider level

Indicator		Score	
I	Effective Utility Management	50	56
	Staff Efficiency	75	
	Effective Water Board (WB)	75	
	Town Water Utility staffing	25	
T	Quality of infrastructure	25	60
	Non-revenue water	0	
	Adequate supply of spare parts for minor maintenance (pipes, fittings etc.)	75	
	Effective maintenance system in place	100	
	Water quality management and disinfections	100	
F	Cost Recovery	50	63
	Effective financial management	100	
	Effective asset management	0	
	Effective billing and collection	100	
E	Sanitary inspection of sources	100	63
	Sanitary inspection public fountains	25	
S	Urban poor get affordable water	25	25

Table 2 Urban water supply sustainability scores – service authority level

Indicator		Score	
I	Sufficient capacity at regional and zonal level to provide support to TWUs	75	75
T	Effective provision of technical support to the TWU	50	62.5
	Checks on construction quality	75	
E	Catchment management system in place	0	0

As shown in table 1, the Wukro Town Water Utility fails to meet the benchmark on 6 of the 16 indicators. On the remaining benchmarks, scores are generally high, often exceeding the benchmarks. This has resulted in relatively high sustainability scores.

Institutional sustainability: There is effective utility management by a utility with three core department (Operation, Finance, Customer). Staff efficiency is high, with less than 10 staff members per 1000 connections. There is a well-trained Water Board. However, the 64 staff members have not been sufficiently trained.

Technical sustainability: The town water utility has good access to spare parts and practices effective corrective and preventive maintenance and water quality management. However, information on the state of the infrastructure is only partially available and there is not reliable data on water production quantity, making it difficult to have insight into the amount of non-revenue water.

Financially sustainable: The main challenge the utility faces is the lack of effective asset management. It does not have an up-to-date asset register, which makes it difficult to make predictions and plans for future capital maintenance expenditure.

The most critical area is the **social sustainability** where the utility has little activity.

At service authority level, the main challenge is **environmental sustainability**, with the absence of catchment management and source protection given low priority.

Rural water supply

Table 3 Rural water supply sustainability scores – service provider level			
Indicator		Score	
I	Well-composed and trained WASHCo	54	41
	By laws and legal status of the WASHCo	29	
T	Presence of WASH artisans in the woreda	0	14
	Spare part supply	32	
	Routine (preventive) maintenance	11	
F	User payment and tariffs	49	43
	Financial management	50	
	Revenue/standard annual expenditure balance	31	
E	WASHCo Water safety plan	32	28
	Sanitary Inspection	25	
S	Election of WASHCo by entire community	89	64
	Women representation in WASHCos	39	

Table 4 Rural water supply sustainability scores – service authority level			
Indicator		Score	
I	Woreda WASH Team	50	56
	Woreda Water Office	50	
	Woreda level plan	75	
	Regional standard WASHCo by laws	50	
T	Checks on construction quality	100	83
	Monitoring of O&M and WASHCo performance	75	
	Scheme inventory and maintenance plan	75	
F	Woreda water office annual recurrent budget	0	25
	Woreda water office logistics	50	

As shown in Table 3, the average indicator score is lower than 50 on 9 of the 12 indicators at service provision level.

Institutional sustainability: Almost all WASHCos in the rural areas around Wukro are well established, but only about half have by-laws in place.

Technical sustainability: There are no trained artisans in the woreda. Only a third of the WASHCos have access to spare parts within three days and about a third practice preventative maintenance, though only 1 out of the 14 WASHCos does so only at least annual basis.

Financial sustainability: For about two-third of rural water points a monthly tariff has been set, while for the remaining third no tariff is in place. More than half of the WASHCos have up-to-date financial records and a dedicated account in a financial institution. Only about a fifth of the WASHCo have up-to-date financial records and a dedicated account in a financial institution.

Environmental sustainability: Almost two-third of the WASHCo have water safety plans in place. Less than half of the water points pass the sanitary inspection.

Social sustainability: Wukro scores relatively high on social sustainability of rural water supply. The majority of WASHCos have been elected by all community members. More than half of the WASHCos are gender balanced and some of these have women in the key decision making positions.

At **service authority level** the main challenge is the inadequate woreda water office annual recurrent budget.

Urban sanitation

Table 5 Urban sanitation sustainability scores - Service provider level				As shown in table 5, the benchmark is not met on 5 of the 12 indicators at service provision level.	
Service provider indicator		Score			
I	Waste water services	25	58		
	Solid waste management services	50			
	Local private sector with capacity to construct and repair latrines	100			
T	Access to septic emptying services	75	50		
	Public latrines built and effectively operational	25			
F	Economic viability of liquid waste service provider	100	42		
	Economic viability of solid waste service provider	25			
	Access to fund for sanitation service providers	0			
E	Open defecation free environment	94	94		
S	Affordability of liquid waste management services for households	100	58		
	Affordability of solid waste management services for households	25			
	Availability of social inclusive public latrine facilities	50			

Institutional sustainability: The liquid and solid waste management is reasonably well organized with liquid waste managed by municipality and solid waste by private operators. Furthermore, latrine artisans are available within town.

Technical sustainability: Septic emptying services are available within 3 days. However, the number of public latrines in the town is insufficient.

Financial sustainability: The solid waste service provider is not fully economically viable and is subsidised by local government. The liquid waste service provider on the other hand has an annual profit of at least 25%. However, sanitation service providers have no access to sources of (micro-) financing.

Table 6 Urban sanitation sustainability scores - Service authority level			
Service authority indicator		Score	
I	Clear roles and responsibilities related to town sanitation and hygiene	100	87.5
	Town council capacity to do sanitation and hygiene promotion	75	
	Town sanitation master plan	75	
	Formalisation of pit and septic pit emptiers	100	
T	Checks on construction quality	50	75
	Effective messaging related to sanitation and hygiene	100	
F	Sufficient logistics for town staff to monitor and follow-up on sanitation and hygiene	25	25
E	Safe disposal or reuse of sludge in an environmentally sound manner	50	50
	Safe disposal or recycling of solid waste in an environmentally sound manner	50	
S	Presence of strategy and service delivery models for reaching the poorest with sanitation facilities	50	50

Environmental sustainability: As 94% of the interviewed households mentioned not to practice open defecation, this is not a major risk to environmental sustainability.

Social sustainability: Where liquid waste management services are regarded as affordable by all, solid waste management services are only considered affordable with subsidy. However, it should be noted that only 3% of households were found to make use of liquid waste management services in Wukro town.

At **service authority level**, the benchmark is not met on only one of the 10 indicators. The municipality has insufficient logistical means to monitor and follow-up on sanitation and hygiene.

Rural sanitation

Table 7 Rural sanitation sustainability scores – service provider level

Indicators		Score	
I	Hygiene and Sanitation community Groups	50	50
T	Local private sector with capacity to construct and repair latrines	50	50
F	Economic viability of sanitation service provider	100	100
	Access to fund for sanitation service providers	100	
E	Open defecation free environment	42	42
S	Affordability of latrines for households	75	75

Table 8 Rural sanitation sustainability scores – service authority level

Woreda level indicator		Score	
I	Clear roles and responsibilities related to rural sanitation and hygiene	100	92
	Capacity to do sanitation and hygiene promotion	100	
	Sanitation and Hygiene in woreda WaSH plan	75	
T	Effective messaging related to sanitation and hygiene	75	75
F	Sufficient logistics for woreda staff to monitor and follow-up on rural sanitation and hygiene	25	25
S	Presence of strategy and service delivery models for reaching the poorest with sanitation facilities	0	0

As shown in Table 7, the benchmark is not met on 1 of the 6 indicators at service provision level. This is on the indicator related to the open defecation free environment. Less than half (42%) of households in the rural areas around Wukro do not practice open defecation, which poses a potential **environmental sustainability** risk.

Institutional sustainability: Trained Hygiene and Sanitation Community Group were reported to be in place in the rural areas around Wukro.

Technical sustainability: Latrine artisans are available in town, but not in the rural areas. Rural inhabitants rely on the artisans from Wukro town for construction and repairs of their latrines.

Financial sustainability: latrine artisans are believed to be economically viable, with annual profits of at least 25%. They have access to (micro-) finance at reasonable conditions.

Social sustainability: Latrine construction is believed to be affordable without subsidy to most rural households.

At **service authority level**, the benchmark is not met on two of the six indicators. There are good sanitation plans and adequate public capacities at woreda and kebele level. Sanitation and hygiene messaging was reported to be carried out in the entire woreda. However, the logistical means to the disposal of the Woreda Health Office in order to execute this, are insufficient. Also there is no policy and strategy for ensuring social equity related to rural sanitation.

Institutional WASH

Table 9 Institutional WASH sustainability score – service provider level					
Indicators		Health facility		School	
I	Roles for cleaning and minor maintenance of institutional latrines	100	100	100	100
	Clear roles and responsibilities with regard to pit emptying/desludging /decommissioning	100		100	
T	Cleaning programme for sanitation facilities	71	33	65	33
	Availability of sufficient and appropriately equipped sanitation facilities including hand washing	25		6	
	Menstrual hygiene	36		10	
	Septic tank emptying practices	0		5	
F	Payment for water services	29	38	20	10
	Financing of capital maintenance of sanitation facilities	46		44	
E	Distance between latrines and water source (hand dug well / borehole / spring)	100	100	95	90
E	Open defecation free environment	100		85	
S	Social inclusion of latrine facilities	14	14	53	53

Table 10 Institutional WASH sustainability score – service authority level					
Indicators		Health facility		School	
I	Clarity on roles and responsibilities related to supporting institutional WASH	100	92	75	67
	Local government capacity to provide support to institutional sanitation	75		25	
	Formalization of pit and septic pit empties	100		100	
T	Monitoring of sanitation facility use and follow-up support	75	50	100	58
	Effective support to institutions related to their WASH facilities	25		25	
	Availability of septic tank emptiers	50		50	
F	Sufficient financing of staff to monitor and follow-up on institutional WASH service provision	50	38	50	38
	Sufficient logistics for staff to monitor and follow-up on institutional WASH service provision	25		25	
E	Safe disposal and / or reuse of sludge in an environmentally sound manner	50	50	50	50
	Safe disposal and / or recycling of solid waste in an environmentally sound manner	50		50	

At service provision level, both health facilities as well as schools in Wukro do not score well on technical and financial sustainability. Health facilities also score poorly on the **social sustainability** indicator related to availability of socially inclusive latrines, with separate facilities for men and women.

Institutional sustainability: Roles and responsibilities related to latrine cleaning, minor and major maintenance and de-sludging are clear at health facilities and schools in Wukro.

Technical sustainability: In many of the health facilities and schools there is a regular cleaning programme and latrines are cleaned at least once a week. However, only few health facilities and even fewer schools have sanitation facilities which include hand washing facilities with water and soap and have menstrual hygiene disposal facilities in place. Septic tank emptying was not practiced by health facilities and only by very few (2 of the 20) schools.

Financial sustainability: Only part of the health facilities and schools pay for water services and pay for major repairs to sanitation facilities.

Environmental sustainability: As open defecation is not commonly practiced in the health facilities and schools in Wukro and sanitation facilities are generally located away from hand dug wells, boreholes and springs, the environmental sustainability risks are limited.

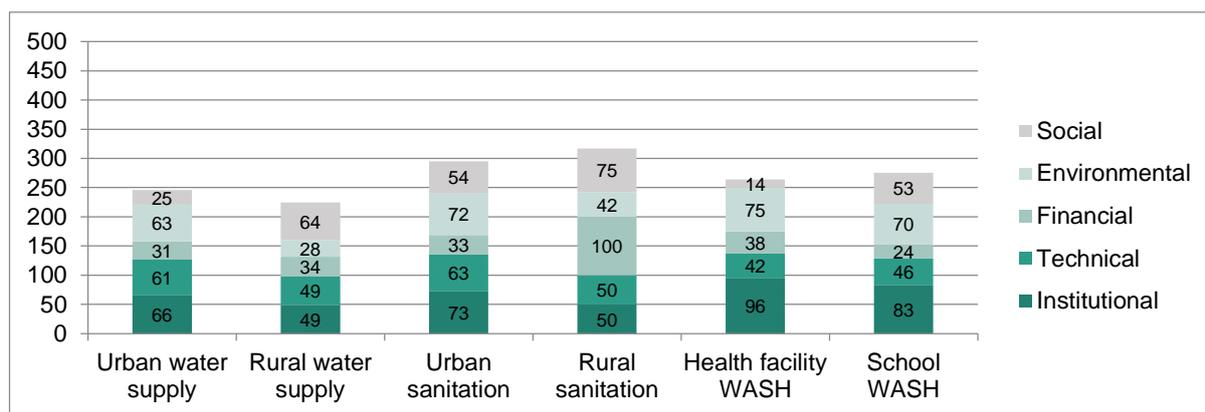
At **service authority level**, there is clarity of responsibilities. In the Woreda Health office, there are sufficient dedicated staff that have received training to support health facility WASH. In the woreda education office however, there is no trained WaSH focal person. Other main challenges for both health facility WASH as well as for school WASH are the time it takes for woreda staff to respond to requests for support from institutions (which generally takes more than a week) and the lack of logistic resources available to the woreda level staff to do their job in supporting institutional WASH.

Conclusions and recommendations

Figure 1 gives an overview of the average WASH sustainability check scores from service provision and service authority levels in Wukro. It shows that the town and its surrounding rural areas score relatively well on institutional sustainability and technical

sustainability. Generally, financial issues seem to be the main challenge to sustainable WASH services, with critical gaps also identified with respect to some environmental and social issues.

Figure 1 Aggregated scores



Highlights of proposed actions

The town water utility should address social equity issue through provision of shared yard connections in low income household compounds. The capacity of the town board should be strengthened through continuous training and provision of guidelines. Asset management should be introduced in the utility. In order to ensure environmental sustainability, catchment management should be introduced.

In rural water supply, allocation of adequate budget at woreda level and strengthening the contribution of users should be given high priority. Support and monitoring to WASHCOs should be improved.

In urban sanitation introduction of appropriate waste management technologies should be given priority. Furthermore there is a need for improving public latrines management through performance agreement with operators and improved monitoring.

In rural sanitation the logistics at woreda level should be improved and strategy and service delivery models for reaching the poorest with sanitation facilities should be developed and implemented.

In institutional WASH, budget and logistics at woreda level are limited and this needs to be improved. Institutions themselves should develop a financing plan for operation and maintenance of WASH facilities Further, WASH facilities at schools and health facilities should address the needs of girls.

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