Sustainability of WASH services Adishihu town, Tigray

Town audit statement

In June-July 2015, a sustainability check of WASH services was undertaken in Adishihu 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: the, financial and technical viability of the utility is satisfactory; however, the institutional, social and environmental factors are very weak.

Rural water supply: the institutions and financial situation are satisfactory however the maintenance capacities are low and the supply chain is not effective**.** Social and environmental considerations also score inadequate.

Urban sanitation: institutional working at town level; technical and financial viability is limited because of absence of service provider for liquid waste management; social sustainability is also weak because of absence of pro-poor strategies.

Rural sanitation: strategy and institutional framework in place, no sanitation groups at community level; low budget and limited logistics.

Institutional WASH: institutions work effectively, technical and financial sustainability not satisfactory, low budget and logistics.

Overview of water supply and sanitation in Adishihu

The water supply system of Adishihu town is managed by a utility with an operator overseen by a town board. According to the utility (based on water connection and sales data) the water system serves 18% of the population with public taps, 25% with private yard connections while the remaining use shared facilities. The main challenge is the limited yield of water sources. The per capita consumption is eight litres per day. Furthermore, there are challenges related to the reliability of the water supply and the quality of the water provided.

According to the 2014 baseline study, the water supply coverage in the surrounding village is 92%. The main source of improved water supply are the communal handpumps.

A bit more than half of people in Adishihu town (51%) access improved sanitation facilities.

Improved sanitation coverage in rural surroundings is very low with only 20% of people accessing improved sanitation facilities.

All three health facilities have WASH facilities. All eight schools have sanitation facilities as well while schools and all but one have access to improved water supply.

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Sustainability check overview

Within the One WASHPlus Programme, annual sustainability checks have been programmed to assess and monitor whether 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	25	31
	Staff efficiency	50	
	Effective Water Board (WB)	50	
	Town water utility staffing	0	
T	Quality of infrastructure	0	50
	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 disinfestations	75	
F	Cost recovery	50	44
	Effective financial management	75	
	Effective asset management	0	
	Effective billing and collection	50	
E	Sanitary inspection of sources	0	25
	Sanitary inspection public fountains	50	
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 urban water supply in Adishihu Town fails to meet the benchmark on 7 of the 16 indicators, resulting in low sustainability scores.

Institutional sustainability: The utility has only two departments, Operations & Maintenance and finance, and inadequate staff, with only 9 of the required 17 positions filled. The staffing situation also needs improvement in terms of improved skills and better qualification. The Water Board has been established by regional proclamation and been trained but does not have a guideline and has not entered into a performance agreement.

Financial sustainability: The town water utility has a very poor asset management system. The utility generates operational surplus and has a financial management system that produces elementary financial reports. However, it has limited revenue generation capacity (low water production capacity), which means it will struggle to finance long-term investments.

Technical sustainability: The utility does not have information on the state of the infrastructure. It does not have reliable information on the amount of water produced, which makes it impossible to have insight into the amount of non-revenue water. The town water utility does have satisfactory spare part, maintenance practices and disinfectation practices in place.

The utility has not done much to address **equity issues**.

The challenge at both service provision as well as service authority level is the **environmental sustainability** of the urban water supply in Adishihu. The sources did not pass the sanitary inspection and there is no catchment management and source protection system in place.

Rural water supply

Table 3 Rural water supply sustainability scores – service provider level			
Indicator		Score	
I	Well-composed and trained WASHCo	63	56
	By laws and legal status of the WASHCo	50	
T	Presence of WASH artisans in the woreda	50	36
	Spare part supply	38	
	Routine (preventive) maintenance	21	
F	User payment and tariffs	41	51
	Financial management	58	
	Revenue/standard annual expenditure balance	55	
E	WASHCo Water safety plan	25	25
	Sanitary Inspection (SI)	25	
S	Election of WASHCo by entire community	33	25
	Women representation in WASHCos	17	

Table 4 Rural water supply sustainability scores – service authority level			
Indicator		Score	
I	Woreda WASH Team	50	75
	Woreda Water Office	100	
	Woreda level plan	75	
	Regional standard WASHCo by laws	75	
T	Checks on construction quality	50	42
	Monitoring of O&M and WASHCo performance	25	
	Scheme inventory and maintenance plan	50	
F	Woreda water office annual recurrent budget	0	12.5
	Woreda water office logistics	25	

As shown in Table 3, the average indicator score is lower than 50 on 7 of the 12 indicators at service provision level.

The average score on the institutional and financial indicators is relatively high, while the average scores on the environmental indicator and social indicators is low.

Institutional sustainability: All six WASHCos in the rural areas around Adishihu are well established and all but one have by-laws in place.

Technical sustainability: The WASHCos score poorly on the technical sustainability indicators. Only half of the WASHCos can acquire spare parts within three days and even fewer practice routine maintenance on at least annual basis.

Financial sustainability: Only for a bit more than half of the rural water points, a tariff has been set. Four of the six WASHCos have up-to-date financial records and a dedicated account in a financial institution. More than half of the WASHcos have a positive Revenue / standard annual expenditure balance

Environmental sanitation: Only half of the WASHCos have a water safety plan in place and have water points that pass the sanitary inspection.

Social sustainability: The score on the indicator related to the election of WASHCo members was considerably lower for Adishihu than for the rural areas around the other towns. Only a third of WASHCos had members elected by the entire community. Gender balance in WASHCos was also an issue, with only two of the six WAHS Cost having at least 50% women.

At **service authority level**, only three of the nine benchmarks have not been met. The main challenges are lack of monitoring of WASHCo O&M performance and the low water office annual recurrent budget and inadequate logistics.

Urban sanitation

Table 5 Urban sanitation sustainability scores - Service Provision level			
Service provider indicator		Score	
I	Waste water services	50	50
	Solid waste management services	50	
	Local private sector with capacity to construct and repair latrines	50	
T	Access to septic emptying services	25	25
	Public latrines built and effectively operational	25	
F	Economic viability of liquid waste service provider	25	17
	Economic viability of solid waste service provider	25	
	Access to fund for sanitation service providers	0	
E	Open defecation free environment	75	75
S	Affordability of liquid waste management services for households	25	25
	Affordability of solid waste management services for households	NA	
	Availability of social inclusive public latrine facilities	50	

Table 6 Urban sanitation sustainability scores - Service authority level			
Service authority indicator		Score	
I	Clear roles and responsibilities related to town sanitation and hygiene	75	75
	Town council capacity to do sanitation and hygiene promotion	75	
	Town sanitation master plan	50	
	Formalisation of pit and septic pit emptiers	100	
T	Checks on construction quality	50	75
	Effective messaging related to sanitation and hygiene	100	
F	Town / municipality annual recurrent budget	25	25
	Sufficient logistics for town staff to monitor and follow-up on sanitation and hygiene	25	
E	Safe disposal or reuse of sludge in an environmentally sound manner	0	12.5
	Safe disposal or recycling of solid waste in an environmentally sound manner	25	
S	Presence of strategy and service delivery models for reaching the poorest with sanitation facilities	25	25

Adishihu town's priority lies with water supply because of the severity of the problem. The municipality fails on half of the sustainability indicators at **service provision level**.

Institutional sustainability: The office of beautification and sanitation is responsible for urban sanitation in Adishihu. Private Service providers from nearby towns are engaged in extraction and transportation of liquid waste and solid waste management services are provided by formal service providers. Latrine artisans are available from outside town.

Technical sustainability: It generally takes longer than 7 days for septic tank emptier to respond to a request for septic tank emptying services. There are inadequate public latrines.

Financial sustainability: The economic viability of liquid and solid waste service providers was put into question and sanitation service providers do not have access to (micro-) financing.

Environmental sustainability: 75% of households reported not to practice open defecation, while 25% do. This implies a potential limited environmental sustainability risk.

Social sustainability: Liquid waste water services are reported to be only affordable with subsidies. Only 2% of households reported to make use of such services. The public latrine facility has separate latrines for males and females, but no special facilities for disabled people.

At **service authority level**, there is coordination among the key institutions involved. Further, the institutional capacity to undertake promotion works was reported to be high**.** The municipality was also reported to have satisfactory capacity to monitor, support and manage services. Logistics and operating budget however are limited and could jeopardize financial sustainability of services. The town administration is aware of social issues but do not have plans due to low priority given. Due to absence of safe disposal sites for liquid and solid waste (better but also not adequate), environmental sustainability is not addressed.

Rural sanitation

Table 7 Rural sanitation sustainability scores – service provider level			
Indicators		Score	
I	Hygiene and Sanitation community Groups	0	0
T	Local private sector with capacity to construct and repair latrines	100	100
F	Economic viability of sanitation service provider	100	100
	Access to fund for sanitation service providers	100	
E	Open defecation free environment	30	30
S	Affordability of latrines for households	25	25

Institutional sustainability: There are no Hygiene and Sanitation Community Groups in the rural areas surrounding Adishihu town.

Technical sustainability: There are local latrine artisans available in both the town as well as in the rural areas.

Financial sustainability: Sanitation service providers are believed to be economically viable and profit making. They have good access to sources of (micro) financing.

Environmental sustainability: Only 30% of households reported not to practice open defecation, which poses a serious environmental sustainability risk.

Social sustainability: Latrines are considered to be not affordable by households without subsidies.

Table 8 Rural sanitation sustainability scores – service authority level			
Woreda level indicator		Score	
I	Clear roles and responsibilities related to rural sanitation and hygiene	75	67
	Capacity to do sanitation and hygiene promotion	50	
	Sanitation and Hygiene in woreda WASH plan	75	
T	Effective messaging related to sanitation and hygiene	50	50
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	25	0

At **service authority level**, there are good sanitation plans, clear roles and responsibilities and adequate public capacities at woreda and kebele level. Logistic issues are the most critical elements that could hamper viability of services. Limited resources and lack of clear strategy for reaching the poorest with sanitation facilities hamper social sustainability.

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	50	31	66	21
	Availability of sufficient and appropriately equipped sanitation facilities including hand washing	42		0	
	Menstrual hygiene	17		6	
	Septic tank emptying practices	17		13	
F	Payment for water services	33	38	13	30
	Financing of capital maintenance of sanitation facilities	42		47	
E	Distance between latrines and water source (hand dug well / borehole / spring)	100	83	100	94
E	Open defecation free environment	67		88	
S	Social inclusion of latrine facilities	50	50	50	50

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	83
	Local government capacity to provide support to institutional sanitation	75		75	
	Formalization of pit and septic pit empties	100		100	
T	Monitoring of sanitation facility use and follow-up support	50	42	100	75
	Effective support to institutions related to their WASH facilities	25		75	
	Availability of septic tank emptiers	50		50	
F	Sufficient financing of staff to monitor and follow-up on institutional WaSH service provision	0	13	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	0	13	0	13
	Safe disposal and / or recycling of solid waste in an environmentally sound manner	25		25	

At service provision level, both health facilities as well as schools in Adishuu do not score well on technical and financial sustainability.

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

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 none of the schools have sanitation facilities which include hand washing facilities with water and soap and have menstrual hygiene disposal facilities in place. Septic tank emptying is only practiced at few health facilities and schools.

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

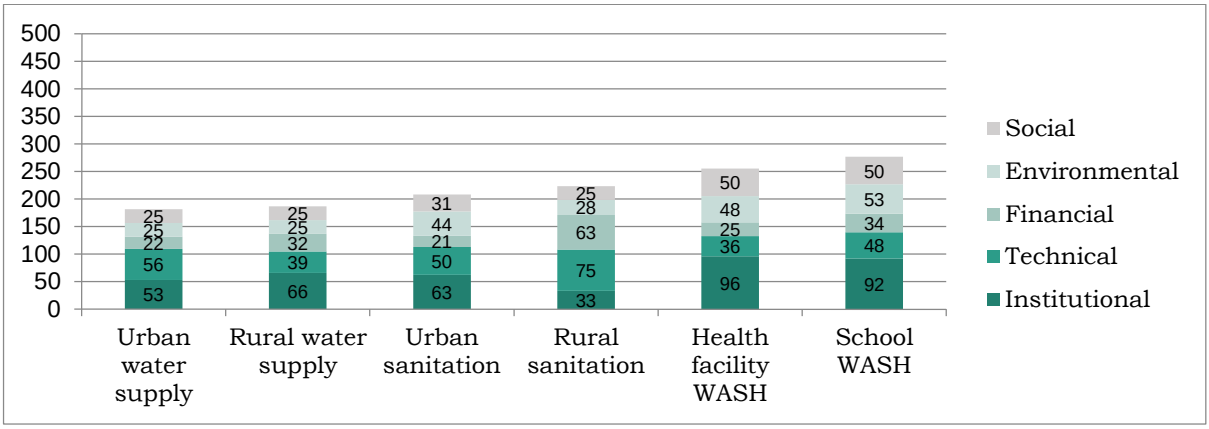
Environmental sustainability: Institutional sanitation facilities are generally located away from hand dug wells, boreholes and springs, the environmental sustainability risks are limited. Open defecation is only practiced in one of the three health facilities and in one of the eight schools.

At **service authority level**, there is clarity on roles and responsibilities related to institutional WASH. In the Woreda Health Office and Education office, there is sufficient dedicated staff that has received training to support institutional WASH. Main challenges for both health facilities WASH as well as for school WASH are the lack of logistic resources available to the woreda level staff to do their job in supporting institutional WASH, and the lack of facilities for the safe disposal of liquid and solid waste. Furthermore, there were reported to be no financial resources available for undertaking monitoring and support to health facility WASH. This probably contributes to the fact that it generally takes more than a week for the Health Office to respond to a request for support from a Health facility.

Conclusions and recommendations

Figure 1 gives an overview of the average WASH sustainability check scores from service provision and service authority level in Adishihu. It shows that in general the average score on the institutional and technical indicators are higher than the ones on the financial, environmental and social indicators. Rural sanitation is the exception to this, with low average scores on the institutional indicators and high average scores on the financial sustainability indicators.

Figure 1 Aggregated scores



Highlights of proposed actions

The Town utility needs to strengthen its institutional capacity. There is a need for training of the utility staff and for guideline to board members. Asset management should be introduced. The provision of shared yard connections in low income household compounds could strengthen social sustainability. In order to ensure environmental sustainability, catchment management should be introduced.

Related to urban sanitation the systematic grouping of towns to have effective extraction services could be considered, in addition to the introduction of waste management technologies. Pro-poor strategies are to be introduced to ensure access to sanitation facilities for vulnerable groups. Public latrines management could be improved through performance agreement with operators and improved monitoring.

Sustainability of rural water supply could be improved by strengthening spare part supply chain through involvement of private sector and allocation of adequate budget at woreda level to improve monitoring and support to WASHCOs

Improving access of woreda staff to logistical resources that allow them to undertake their roles and responsibilities related to supporting rural sanitation could have a positive effect on sustainability.

Budget and logistics at woreda level for supporting institutional WASH are limited and need to be increased. Also, WAaH facilities at schools and health facilities should address the needs of girls. Furthermore, institutions should develop a financing plan for operation and maintenance of WASH facilities.

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