

DISTRICT SUSTAINABILITY ASSESSMENT REPORT



Final Version

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Acronyms

HP	Hand Pump
WASHCO	Water, Sanitation and Hygiene Committee
NGO	Non-Government Organization
CapEx	Capital Expenditure
CapManEx	Capital Maintenance Expenditure
OpEx	Operational Expenditure
DSC	Direct Support Cost
WASH	Water, Sanitation and Hygiene
GTP I	Growth and Transformation Plan I
GTP II	Growth and Transformation Plan II
WWT	Woreda Water, Sanitation and Hygiene Team
WIF	WASH Implementation Framework
HDW	Hand Dug Well
O&M	Operation and Maintenance
KWT	Kebele WASH Team

Executive summary

This report is produced based on the district sustainability assessment conducted in Mecha of Amhara, Ejere of Oromia, and Soddo and Abeshege of SNNPR in October and November 2018. The assessment aims at generating complementary data on the institutional factors that affect functionality of rural boreholes (shallow wells) fitted with hand pumps at district level.

Qualitative method was used to collect data. WaterAid staff gave a brief orientation to the consultant on the use of the District Sustainability Assessment Tool; and the consultant took his time to understand the scope of work and the tool, and used to collect relevant data through group discussions. Accordingly, group discussions were facilitated on four topics in each of the district. The analysis of data also followed the components of the District Sustainability Assessment Tools, and the write up was guided by the outline provided by WaterAid.

Influence and interest of stakeholders: Group discussions identified district council, district administration, water office, agriculture office, environmental protection and forest office, finance office, WASH NGOs, government spare part suppliers and the wider community to have high influence to increase sustainability of hand pumps fitted with boreholes, and also have high interest for sustainable access to water supply services in the district. Private repair and maintenance service providers or artisans and land administration authority are identified to have high influence in sustaining hand pumps and low interest for ensuring sustainability in practice. Women and child affair office and education office are reported to have low influence because they are not performing what is expected from them at the moment due to lack of clarity over their roles, but they have high interest for sustainability of water supply services in the district. Private spare part suppliers are reported to have low influence and low interest in ensuring sustainability of water system mainly because they are profit oriented and issues of timely and quality spare part supply is not usually their concern. Slight variation was observed across the four districts. In Ejere, none of the stakeholders fall under high influence/low interest category and low influence/low interest group whereas in Mecha land administration authority was categorized under high influence/low interest group; in Soddo and Abeshege districts, artisans fall under high influence/low interest group, while only in Abeshege, it was reported that private spare part suppliers fall under low influence/low interest in terms of ensuring sustainable access to water services.

Roles and responsibilities: Results from the group discussions indicated that roles and responsibilities are not fully clear at district level. Water office is responsible for ensuring people receive water that meets national standards, but in reality the office is not fully aligning and adhering to the national standards. Health office is responsible for playing a regulatory role, but this is not practiced at the time of this assessment. The National Operation and Maintenance Guideline clearly defines minor and major maintenances along with the roles and responsibilities; but this is not being practiced at district level due to shortage of resources and the fact that some spare parts are not locally available (imported from other countries that take longer time). National water policy promotes full cost recover for urban and partial cost recovery for rural; but setting tariffs under rural context does not comply with this policy mainly because national policy is not yet fully known and hence not being implemented.

Threats to hand pump functionality: Group discussions have come up with threats to hand pump functionality in their respective districts. Unavailability of major spare parts in the local market, and changes in the water supply technology from Afridev to Indian Mark II are identified as the technological threats to hand pump functionality. Shortage of resources due to insufficient fiscal decentralization to districts, and unreliable user fees from low income community is identified to be economic threats to hand pump functionality. Low level of ownership, poor management, misuse of hand pump and cultivation around the water source

are reported to be the major social threats to hand pump functionality. Inadequate skilled manpower (positions not fully filled due to shortage of resources), lack of clarity over the roles and hence unequal responses to problems reported by community are among the reported institutional threats to hand pump functionality in the district. Poor sitting, inability to use hydro-geological data, poor quality installation (or inappropriate installation of hand pump due to low skill by contractors), installing before conducting pump test, low understanding of the soil type and availability of water are identified to be the major threats to hand pump functionality in the district in relation to skills and know how. Deforestation as major contributor to climate change, planting eucalyptus trees, use of chemicals, disposal of wastes around the water source, and discharging untreated wastes to the water source are identified to be environmental threats to hand pump functionality in the district.

Enabling environment in the district: Findings from group discussions indicated that none of the four districts fall under the ‘*Emergency WASH*’ or ‘*Fully Transitioned*’ categories for any of the eight building blocks. Traffic lights presented below gives the summary of the scores reached in the four districts with all relevant stakeholders. It was reported in three out of four districts that **coordination** was in the *transitional* stage, meaning the district government and sectors have their own ways to coordinate within the district. Only in Ejere stakeholders ranked coordination as *fragile but strengthening*, which means that there is no coordination among the sectors. Most importantly, all the four districts ranked **strategic planning** as *transitional*, meaning district plan intend to extend new water supply services but do not set out how existing water schemes will be sustained. Mecha and Abeshege districts scored **financing** as *transitional*, which means that fiscal decentralization is being spent on capital and operational costs but not sufficient to cover the full life cycle costs; whereas Soddo and Ejere ranked financing as *fragile but strengthening*, meaning there is little or no fiscal decentralization spending on sustainability or to cover life cycle costs. Only one out of four districts (Ejere) scored **service delivery** as *transitional*, which means that district government as well as other sectors mainly focus on extending coverage with weak post implementation support; the remaining three districts scored service delivery as *fragile but strengthening*, meaning there are fragmented project interventions by different sectors (government and non-government) and multiple reporting systems, with no post implementation support. Three out of four districts ranked **monitoring** as *transitional*, which means that there are common sector targets and multi-stakeholder monitoring but no aggregate reporting; while Mecha district scored monitoring as *fragile but strengthening* that means the district has no common monitoring or review process regarding water supply services. Two out of four districts ranked **accountability** as *fragile but strengthening*, which means that accountability mechanism are clear but few are used in practice; the other two districts ranked it as *transitional*, meaning mutual accountability for sector progress is emerging but few mechanism exist for user feedback. Three out of four districts ranked **institutional arrangement** as *transitional*, meaning there are partially functioning institutions with weak capacity, and roles and responsibilities are not fully clear; while in Abeshege institutional arrangement is ranked *fragile but strengthening* as there are overlapping roles and responsibilities. **Water resources** is ranked *fragile but strengthening* in Mecha and Abeshege, which means water resource management policy exist but poorly implemented, threats to water resources are not identified and there is no regular monitoring of water resources. Soddo and Ejere districts scored water resources as *transitional*, meaning water resources management policy exists but is poorly implemented, threats to water resources are well understood but not responded in the plan, and monitoring is weak.

In summary, perceived barriers to hand pump sustainability include limited finance (limited fiscal decentralization to districts; users are characterized by low income that has led to setting

unreliable water fee), limited access to skilled personnel to fix and repair hand pumps, low managerial skill of WASHCOs (misuse of hand-pumps by children; collecting water throughout the day not giving time to recharge; planting eucalyptus trees around hand pumps that dries the land; disposing waste around hand pumps; deforestation contributing to climate change (leading to lowering water tables); low access to spare parts (of good quality; imported from abroad that takes longer time); overlapping roles and responsibilities (for financing O&M; carrying out maintenance), and weak accountability mechanisms for under performance

1. BACKGROUND INFORMATION

WaterAid envisions creating a world where everyone, everywhere has access to clean water, sanitation and hygiene. This means that extending water coverage alone is not an end by itself and there needs to be a system wherein a lasting service would be guaranteed. In other words, all stakeholders should come together to agree on where they are now, where they should be and how to get there. District government plans to achieve universal access by end of 2020 are drafted; however, understanding of the full life cycle costs required to reach and sustain this access is often lacking. Low level of understanding of the full life cycle cost approach among planners and decision makers, and the low level of fiscal decentralization to districts stood among the reasons for the poor costing of universal access plan. To ensure lasting services, planners and the Budget Standing Committee of the District House of Peoples' Representatives need to have deeper understanding of the life cycle cost approach to improve planning and budgeting. The fact that a district does not budget for capital maintenance implies that the universal access plan is not intended to ensure sustainability of existing water supply services but intended to increase coverage.

It is common to see shallow well or borehole failures in the districts. 'Borehole failure' is a situation where a borehole that was successful at the time of drilling subsequently fails to give intended services. This is due to a number of reasons, which among others include depletion of groundwater level, reduction in yield, plugging of formation around the well screen by fine particles, sand pumping due to siltation, incrustation or corrosion of casing and screens, structural collapse of casing and screens, and over abstraction of water from aquifer and ingress of pollutants. This means that borehole failures could be structural failure of the borehole itself or the mechanical failure of the hand pump. There is limited technical knowledge and equipment, and lack of basic knowledge on hydrological condition to identify, predict and mitigate the possible borehole failures. These problems could be more aggravated by deep-rooted systemic causes for borehole failures such as limited fiscal decentralization to the districts that constrain allocation of budget, unclear roles and responsibilities, low understanding of national policies/guidelines at district level, weak supply chains for spare parts, and low access to skilled personnel.

WaterAid commissioned district sustainability assessments to understand the factors that affect the sustainability of boreholes fitted with hand pumps. This assessment aims to generate complementary data about the institutional factors that affect functionality of rural boreholes (shallow wells) fitted with hand pumps at district level. The assessment used district sustainability analysis tool developed by WaterAid. This district sustainability assessment is part of the *Hidden Crisis Project* led by British Geological Survey. The project is being implemented by multi-disciplinary team formed from the UK, Ethiopia, Uganda, Malawi and Australia, and aims to generate a robust evidence base on the large scale status of rural groundwater supply functionality. It is focusing on boreholes fitted with hand pumps. The project aims to understand the complex and multi-faceted causes that underlie the current high

failure rates of many new groundwater supplies in Africa so that future WASH investments can be more sustainable. Findings from this assessment will be a contribution to the bigger *Hidden Crisis Project*.

2. SESSION 1: INFLUENCE AND INTEREST

2.1. High influencers, with high interest

Stakeholders that have high influence and interest to ensure sustainable access to water supply services including hand pumps fitted with boreholes in the district are identified to be district council, district administration, water office, agriculture office, environmental protection and forest, finance office, WASH NGOs, Government Spare Part Supplier, and the Community.

Results indicated that the influence and interest of health office, women and child affair office, spare part suppliers and WASH NGOs varies across the districts. In Ejere district, none of the stakeholders fall under high influence/low interest category and low influence/low interest group whereas in Mecha land administration authority was categorized under high influence/low interest group; in Soddo and Abeshege districts, artisans fall under high influence/low interest group, while only in Abeshege, it was reported that private spare part suppliers fall under low influence/low interest in terms of ensuring sustainable access to water services.

In all the four districts it was reported that district council is the highest decision making body that approves budget. However, the current lack of knowledge and information about the full life cycle costs for water supply means that budgets often exclude costs for capital maintenance and direct support costs. The council has high interest for sustainable access to clean water as they represent their constituencies. District administrator has high influence to ensure sustainability of water supply services as he/she can hold sectors to account for low performances, and can decide on the left over of budget from other sectors to be used for major maintenance. Ensuring sustainable access to water for the district population is one of his/her roles, and hence he/she has high interest in this regard. Water office has high influence and interest to ensure sustainable access to water supply mainly because of its direct responsibility to plan, budget and provide technical support to community structures. It can also mobilize community to raise money for capital maintenance, and increase awareness among the users. Environmental protection and forest office as well as agriculture office have high influence and interest to increase sustainable access to groundwater supplies in the district – they are involved in watershed management, tree planting and soil conservation activities that contributes towards improving groundwater potential, which in turn increase sustainable access to water in the district.

Only in Mecha district Health Office was reported having high influence and high interest because they play regulatory role. Currently health office is not playing a regulatory role because it was not part of its plan due to lack of clarity over the role and poor accountability mechanism., The health office is involved in promoting environmental sanitation and hygiene that improves water quality. In all the four districts, Finance Office was reported having high influence and high interest for ensuring sustainability of water system. Again with good orientation on the full life cycle cost approach to water supply planning and budgeting, the office can recommend budget for capital maintenance and direct support costs in addition to operational expenditure and capital expenditures. The office is also involved in monitoring of budget implementation to make sure that sectors are spending budget for intended purpose – under utilization and misuse of budget may affect budget decisions in the coming years.

In Soddo and Abeshege WASH NGOs were reported having high influence and interest to ensure sustainable access to water supply – NGOs often establish management structure, create awareness among community and build managerial and technical capacities of WASHCOs that have long impact on sustainability of the water system.

In all the four districts communities were reported having high influence and high interest as they have direct roles to sustain the water system, contribute money for operation and maintenance and report to higher structures for problems beyond their capacity.

2.2. High influencers, with low interest

District stakeholders identified private sector or artisans and land administration authority as high influencers but having low interest in ensuring sustainable access to water supply. In Soddo and Abeshege districts, private sector/artisans have high influence in sustaining HPs while they have low interest in sustainability of HPs; this is mainly because of the fact that they are profit oriented enterprises and sustainability of the water system may not be in their interest; in order to gain more money they have high interest to make repairs more frequently. In Mecha district participants reported Land Administration Authority as having high influence in sustaining HPs because they are mandated to monitor the proper use of land but it is not delivering this role at the moment because the office is reported to be busy with other activities on the table. Study participants reported that the authority has high interest if the water system provides the services on sustainable basis (to ensure that the land is used for intended purpose).

2.3. Low influencers, with high interest

In three out of the four districts (except Soddo) Women and Child Affairs and Education Offices are identified as having low influence but high interest in sustainable access to water. Women and child affairs should politicize hand pump failures as the major causes for sexual harassment by women and girls, but this is not happening in the districts mainly because of the low understanding about how they could solve the problem by ensuring sustainable access to water supply. The office has high interest for sustainable access to water as it reduces the burden on women and girls. Education office is focusing on academic related issues and puts less emphasize on improving the enabling environment in schools including water supply; the office has high interest for sustainable water supply as this increases the performance of girls. Except Mecha, the other three districts reported health office as having low influence and high interest in sustaining water system including hand pumps. This is associated with lack of clarity over the roles and responsibilities with respect to ensuring sustainable access to water. In Mecha, Soddo and Ejere districts private spare part suppliers are having low influence and high interest in sustainability of water system including hand pumps. Similarly study participants from Mecha and Ejere reported that WASH NGOs have low influence and high interest in sustainability of water system.

2.4. Low influencers, with low interest

Only in Abeshege district, private spare part suppliers are identified to have low influence and low interest in ensuring sustainable access to water supply in the district due to the wrong attitude. It was reported that they are profit oriented and do not care about the quality of the spare parts. They have high interest to sell the spare parts but not to ensure sustainability of the water system.

Table 1. Influence and interest grid

Influence	High	Private repair and maintenance service providers / local Artisans; Land Administration Authority (Mecha)	District council; District Administration; Water office; Agriculture office; Environmental Protection and Forest; Finance office; WASH NGOs; Community; Government Spare Part Suppliers
	Low	Private spare part suppliers [Abeshege]	Women and Child Affairs office; Education office
		Low	High
		Interest	

3. SESSION 2: ROLES AND RESPONSIBILITIES

3.1. Water service providers

According to national water policy (1999) water office takes the leading role in the provision of adequate, reliable and clean water services at district level. WASH Implementation Framework (WIF, 2013) gives health office the lead role in water supply provision in health facilities, and education office to take the leadership role in advancing water supply services in schools. Water sector policy welcomes the involvement of non-government organizations in the supply of water services to communities.

3.2. Ownership and operation of HP based water system

National water sector policy guides district water office to design participatory management practices by creating sufficient awareness among communities so that they take ownership of the water system, operate it and keep from damage. Accordingly, the water office is putting some effort to establish WASHCOs and build their capacity to manage water supply schemes.

3.3. Maintenance of hand pump fitted to boreholes

According to the water sector policy, the district water office is responsible for making minor maintenance while the zonal and regional water bureaus are responsible for carrying out major maintenance. The same policy promotes partial cost recovery principles for rural water supply where communities cover operation and maintenance costs. The O&M guideline (2017) distinguishes minor maintenances from that of major maintenances and gives specific roles to

semi-skilled caretakers and area mechanics (no price ranges that distinguishes minor from major maintenance, but the types of repair). Accordingly, repairing of hand pump that does not require lifting of hand pump assembly is considered as minor maintenance and this can be carried out by semi-skilled caretakers; and repairing of hand pump that involves un-lowering of hand pump assembly is regarded as major maintenance and this kind of repair is carried out by area mechanics or private sector. The practice however varies across the districts. In Mecha and Ejere it was reported that water office is making repairs of HPs that is within their capacity by mobilizing resources; and if WASHCOs cover the cost the office immediately repair the water scheme. In Soddo and Abeshege it was reported that the regional water bureau has rolled out a new guideline for operation and maintenance of water supply schemes to districts, and according to this guideline districts should not budget for repair and maintenance of water schemes, and community should contribute money to cover repair and maintenance costs.

3.4. Tariff setting, collection and revenue management

National water policy recommends progressive rates for urban and flat rates for rural areas where people use water from hand pump based water system. It further promotes site specific tariff structures that should be determined based on the cost recovery principles. The practice varies across the districts. Rural community vote for flat rate regardless of whether the rate is sufficient to cover operation and maintenance cost. There is no guideline that directs setting water tariff in accordance with the policy. In other words, there is no awareness on the full lifecycle cost approach, and hence the rates are not sufficient to cover repair and maintenance costs.

3.5. Monitoring performances

WIF (2013) states that Woreda WASH Team (WWT) supports Kebele WASH Team (KWT) to perform their roles of annual data gathering (to update and maintain the inventory), analysis and action planning on annual basis; visit all non-functional water schemes and provide support to restore them back to services. It also directs WWTs to conduct technical assessment every three years, make comparisons among kebeles and use data to inform joint review meetings and planning at district level. However, this has not yet been translated into practice, and water office is playing such roles. As indicated in the WIF (2013) document, Woreda WASH Technical Team will be formed from relevant sectors and chaired by the administrator. This platform is intended to serve as a coordination mechanism at district level, but this is constrained by lack of resources (financial, human, vehicle). Where there are donor projects or NGO projects, some steps are being taken to make this platform functional. With government budget it was found to be a challenge to put this to work. As a result, the water office is doing what it can do to generate data on the inventory of water schemes, producing progress reports on monthly, quarterly and annual basis to its upper structures.

Table 2. Roles and responsibilities of local stakeholders

Role	National policy	Understanding of national policy				Reality on the ground			
		Mecha	Soddo	Abeshege	Ejere	Mecha	Soddo	Abeshege	Ejere
Who is responsible to ensure that people receive water service?	Water office is the lead institution to make sure that people residing in the district receive safe water.	Water, health, education offices	Water office	Water office	Water office and NGOs	Water office; other sectors not yet started delivering their roles	Water office	Water office and user community	Water office and user community
Who is responsible for operating HP based water supply system?	As per the water policy, water office develop participatory management modality by creating sense of ownership for the community to operate the water system.	Community	Kebele water federation and facility committee	Kebele water federation and facility level committee	Community with support from water office	WASHCO	Community	Community	WASHCOs
Who is responsible for carrying out minor maintenance?	Repairing of HPs that does not require lifting of HP assembly can be treated by semi-skilled caretakers or WASHCOs	WASHCO	Water office	Water office	Community supported by water office	WASHCO	Community / caretakers	Community / WASHCO	Water office
Who is responsible to pay for minor maintenance?	According to water policy, user community should pay for minor maintenance	Community	Community	Community	Community	Community	Community	Community	Water office
Who is responsible for carrying out major maintenance?	Repairing of HPs that involves un-lowering HP assembly is treated as major maintenance, and this type of repair are carried out by area mechanics / private sector.	Water office	Zonal water department	Regional or zonal bureau of water	Water office and NGOs	Water office; but no budget up to date	District water office	Zonal or district water office	Water office
Who is responsible to pay for major maintenance?	According to water policy, community should cover O&M costs	Community	Community	Community	Water office and community	Community and left over budget from water office	Water office and community	Water office and community	Water office

Role	National policy	Understanding of national policy				Reality on the ground			
		Mecha	Soddo	Abeshege	Ejere	Mecha	Soddo	Abeshege	Ejere
Who owns HP? (district, community)	According to water policy, water office ensures ownership of HPs by community – but provide technical support	Water office	Kebele water federation & Community	Kebele water federation & Community	Water office and community	Water office; and community	Kebele water federation & Community	Kebele water federation & Community	Community
Who is responsible for managing revenues?	Water utility for urban, and WASHCOs for rural manages revenues collected from water users.	WASHCO	Water association committee	Water association committee	WASHCO for rural; water utility for urban	No practice up to date	Water association committee	Water association committee	Community
Who is responsible for monitoring performance of these services across areas?	According to WIF (2013), WWT conducts monitoring visits to WASHCOs, as well as water facilities; conduct technical assessment every 3 years, and use monitoring data to plan and budget.	Water office	Water office	Water office	Water office	Water office but irregular	Water office	Water office	Water office
If water committee stops working, who is responsible for reforming them?	According to water policy, water office make sure that management of water system and decisions related to it be made at the lowest possible level, that is, at community level; hence water office is responsible to reform WASHCOs.	Water office	Water office	Water office	Water office and community	Water office	Water office and community	Water office & community	Water office

4. SESSION 3: UNPACKING THREATS TO HANDPUMP FUNCTIONALITY

4.1. Technological threats

Outputs of group discussion indicated that poor workmanships, unavailability of some spare parts, and change in technology from Afridev to Indian Mark II are the major technological threats to hand pump functionality at district level. Majority of the spare parts are imported from other countries and this takes unexpectedly longer period before fixing the problem.

4.2. Economic threats

Group discussions identified shortage of resources at district level, and unreliable user fees as economic threats to hand pump functionality. Fiscal decentralization to district is not sufficient to cover the full life cycle cost, and this is threatening hand pump functionality in the district. Further, user fees are not set in accordance with the national water sector policy to cover operation and maintenance because rural communities are largely categorized as low income. As per the national water policy water tariff should be set in such a way that it sufficiently covers the operating and maintenance costs for the rural water supply, and at the same time it recommends flat rates for rural water supply – meaning paying fixed price regardless of the quantity of water collected. The practice on the ground is that WASHCOs organize community meeting to agree on water tariff without the knowledge of how much it costs to sustain the water system.

4.3. Social threats

Focus group discussions have come up with social threats to hand pump functionality at district level, which among others include low level of ownership of the hand pump by the community that results in the misuse (people collect water during the whole day – over abstraction of water; children play with the hand pump; not fencing the water source; etc). Further, people plant eucalyptus tree around the water source as income generating activities and this has adverse effect on the groundwater potential. The water source is surrounded by cultivated lands where chemical fertilizers and herbicides are intensively used as input of crop production, and this has negative implication on the quality of water in the long run. An increase in the population overtime will put more pressure to the water source that leads to over abstraction of water.

4.4. Threats associated with skills and know how

It was reported during the focus group discussions that there is inadequate skill at district level to select sites for construction of hand pumps, install hand pumps, use hydro-geological data and understand availability of groundwater and soil types. These are reported as threats to hand pump functionality.

4.5. Institutional / Legal threats

Institutions involved in water supply in the district have a fixed organizational structure but not all positions are filled. At district level roles and responsibilities of stakeholders are not very clear in terms of ensuring sustainability of hand pumps fitted with boreholes. Community report failures of hand pumps to the district but not all stakeholders respond to the problem on equal basis. As per the WASH Implementation Framework (WIF, 2013) water, health and education offices are responsible for water supply to community, health facility and schools, respectively. Health and education offices are however not practicing their institutional roles because they are not legally mandated to perform such roles. Members of Woreda WASH Team (WWT) – water, health, education, agriculture, women, finance, and administrator – are responsible to ensure sustainable access to water through making regular supervision visits and

holding regular review meeting at district level. This is, however, not happening at the moment because every sector is busy with their individual plans of activities.

4.6. Environmental threats

Arable land is increasing at the expense of forest and grazing lands. In the districts deforestation is common to expand crop production. This is contributing to changes in the climate, and this is reported to have adverse effect on the groundwater availability in the long run. Planting eucalyptus tree for income generation is widely practiced around the water sources, and this is also reported to be a threat for hand pump functionality. Wider use of chemicals and discharges from industries are threatening quality of water.

Table 3. Threats to hand pump functionality as reported by district stakeholders

Threat areas	As reported by Mecha district	As reported by Soddo district	As reported by Abeshege	As reported by Ejere district
Technological threats to hand pump functionality	Poor material quality; lack of water quality equipment to test water quality; change in technology from Afridev to Indian Mark II leading to shortage of spare parts; shortage of construction materials	Low supply of drilling company; poor workmanship of contractors;	Poor design or design failure; poor material quality; lack of access to spare parts	Low access to spare parts; poor quality of spare parts; low access to drilling company; some spare parts rarely available (imported) that challenges timely maintenance
Economic threats to hand pump functionality	Shortage of resources at district and community level; high cost of construction materials; high cost of spare parts	Majority of community are low income; unreliable user fee; costly & frequently required spare parts (U-Seal, O-ring, etc); high cost of drilling	Shortage of resource - CapManEx not supported; lack of supervision budget for direct support costs; shortage of logistics to monitor hand pump status	Low level of budget; poor perception on lifecycle cost approaches (focus on extending new services); costly spare parts;
Social threats to hand pump functionality	Low community ownership (no fence); WASHCO not performing as trained; misuse of HP; wider use of herbicide & chemical around the water source; disposal of wastes on the water sources	Poor protection for water source; lack of ownership – children play with HP; population density (lead to over discharge); HP requires high energy (not friendly with women)	Poor social acceptance; low level of awareness of proper use of hand pump; low compensation of land owner; low participation of communities in development of water system	Planting eucalyptus tree around water source for sale; not fencing the water source; collecting water throughout the day leading to over discharge; frequent failure of HP before maturity or design period due to poor management; disposal of wastes

Threat areas	As reported by Mecha district	As reported by Soddo district	As reported by Abeshege	As reported by Ejere district
				around the hand pump
Threats related to skills and know how	Installing before conducting pump test; skill not complying with changes in technology; poor installation of HPs; unable to use geological data leading to unsuccessful drilling	Poor siting and design; lack of experts knowing the technology (Indian Mark 2)	Poor handling of the HP / misuse of HP; shortage of experts who knows the technology; low awareness and training on technology; low interest to cope with changes in technologies	Inadequate training for experts; lack of skill to operate the HP; poor understanding of groundwater availability and soil types
Institutional / legal threats to hand pump functionality	lack of engagement of responsiveness of WWT members; not owning the problem; poor follow up by WWT; lack of clarity over roles; low awareness / understanding about collaboration for sustainability among stakeholders	Members of WWT not fulfilling their roles and responsibilities; low capacity of water office to own the problem and provide required support	Members of WWT not equally responsive to problems reported by community; low interest among WWT members to perform duties	Poor focus on HP fitted with boreholes among majority of stakeholders (more attention at district level paid to HDWs; inadequate overseeing of HP by kebele administration; limited response by members of WWT
Environmental threats to hand pump functionality	Releasing wastes from industries to the water source; problem with water quality (arsenic); climate change	Climate change; eucalyptus trees around water source; inadequate work to sustain groundwater	Difficult topography; soil type; ploughing around water; dry up; use of chemicals	Deforestation; soil erosion; dry up of well; flooding leading to damage of HPs; difficult topographical set up

5. SESSION 4: ENABLING ENVIRONMENT

5.1. Coordination among stakeholders

According to One WASH National Program (2013) and WASH Implementation Framework (2013) relevant sector should be coordinated under the leadership of district administrator. In all the four districts it was reported that water, health and education offices have their own action plan and there is geographical coordination of the three sectors within the district; however, agriculture, women affair and finance offices are reported rarely participating in the WWT meeting. In Mecha and Soddo districts, it was reported that water, health and education sectors meet regularly (monthly) whereas in Abeshege and Ejere districts there is no regular meeting. In all the four districts Growth and Transformation Plan II (GTP 2) is the master plan for coordinating relevant sectors even though this is

not happening at the time of this assessment. The practice is that every sector has its own plan. WWT is the only forum to coordinate WASH sector actors under the leadership of the district administrator.

Table 4. Scoring coordination at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Are all agencies working on water supply as well as other relevant agencies working together under a coordination body at the district level?	Yes	Yes	Yes	Yes
Does the coordination body meet regularly?	Yes	Yes	No	No
Do all water supply actors coordinate around one single master plan (a wider district plan)?	Yes	Yes	No	Yes
Is coordination and integration led by government?	Yes	Yes	Yes	Yes

5.2. Availability of strategic planning

In all the four districts GTP 2 is considered as a universal access plan to extend water supply services but not to sustain the existing services or builds resilience to natural and manmade disasters and risks. This universal access plan is renewed every five years. Since fiscal decentralization to district is inadequate, and there is no deeper understanding of the full life cycle cost approach, the universal access plan is not based on full life cycle cost. The current practice is that district only allocate for OpEx including salaries and CapEx. It was reported that districts estimate coverage every year based on administrative and/or monitoring reports, and there is no full inventory of water supply schemes. GTP 2 is formulated by water office and feedback is collected from other sectors, and it is fully owned by district water office.

Table 5. Scoring strength of strategic planning at the district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Is there a comprehensive district plan in place for achieving universal access to water by 2030?	Yes	Yes	Yes	Yes
Is this plan based on full lifecycle costs of water supply services?	No	No	No	No
Are investments within the plan based on up to date service level monitoring data?	Yes	Yes	Yes	Yes
Is the plan government owned with buy-in from all relevant actors?	No	Yes	Yes	Yes

5.3. Financing and sources

Output of the discussion indicated that fiscal decentralization is being spent only on operational and capital expenditure but it does not cover full life cycle cost. All four districts reported that fiscal decentralization is not sufficient to finance universal, sustained access. The current practice is that district government allocates budget only as salary, operating and capital expense, and this shows that the government is focusing largely on extending new services. District Finance Office knows the source of funding for the approved budget, but water office does not know the source of funding for the

budget. None of the district stakeholders have basic understanding of the full life cycle cost approach, and hence none of them calculate budget based on life cycle costs.

Table 6. Scoring financing at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Is there sufficient fiscal decentralization to district to finance sustained universal access by 2030?	No	No	No	No
Have sources of funding been identified to finance all aspects of the district plan (taxes, transfers, tariffs, investments)?	Yes	Yes	Yes	Yes
Have life cycle costs been calculated for different service options and approaches within the district? (i.e. CapEx, OpEx, CapManEx, Direct Support Costs, Indirect Support Costs, Cost of Capital)	No	No	No	No
Does understanding of life cycle costs feed into budget allocation and planning?	No	No	No	No

5.4. Institutional arrangements

Results of the focus group discussion revealed that institutions are partially functioning with weak capacity, and roles and responsibilities are not fully clear. It was reported that roles and responsibilities for management and delivery of water services overlap in case of health institutions and schools. There are also overlapping roles and responsibilities for maintenance of hand pumps vertically (community, district, zone, region) and horizontally (water office, health office, education office) depending on the location of the water scheme. Even where the roles and responsibilities are clear, it is usually not translated into practice. For example, it is clear that health office plays regulatory roles but this is not happening on the ground. Only in Mecha district, it was reported that stakeholders have the capacity to assess, plan, budget, implement and monitor water supply services. National water policy is not fully cascaded to districts; however they reported that they are delivering water services which take into account access and quantity standards.

Table 7. Scoring institutional arrangement at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Are roles & responsibilities for management & delivery of water services clear at district level?	Yes	Yes	Yes	Yes
Are these roles & responsibilities upheld in practice?	No	No	No	No
Is there capacity at district level to assess, plan, budget, implement & monitor for effective water service delivery?	Yes	No	No	No
Are national level policies in place that provide for ongoing financing and quality of water services?	No	No	No	No

5.5. Accountability mechanisms

From the focus group discussions it can be concluded that accountability mechanism are not written on paper (that means, there is no written procedure for ensuring accountability, but

orally agreed between water office and the WASHCOs that for anything beyond the capacity of WASHCOs, water office intervene to fill the capacity gap), but the address of the water office is made available with WASHCOs so that they report any problem they encounter while managing water schemes including the hand pump based water system. Actions are however dependent on the availability of finance within the community or the district water office. This means that feedback is often tokenistic and not used to improve services.

In all the four districts, it was reported that feedback is acted upon immediately by the water office provided that WASHCO cover the costs of repair and maintenance; otherwise it may take some time as the water office does not budget for CapManEx and Direct Support Costs. Mecha and Ejere districts reported that total budget allocated for pro-poor sectors are posted on notice board. Others like performance reports, budget processes and aid flows are not transparent and not publicly available.

Table 8. Scoring accountability at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Are implementers held to account by government for implementation of national standards for water?	No	Yes	Yes	Yes
Is there a functional feedback mechanism between service users and service providers/regulators? (between WASHCOs & water office)	Yes (WASHCOs report to water office)			
Is user feedback acted up on by service providers/regulators?	Yes (provided WASHCO pays)			
Is data about the performance of water supply services and budget processes and aid flows transparent and publicly available?	Yes	No	No	Yes

5.6. Monitoring frameworks

At national level there is a system under development for regularly monitoring water service levels and this is led by government (Ministry of Water, Irrigation and Electricity), but this system is not functional at district level. District water office has checklist, but they are not sure whether the checklist is cascaded down from the national level. Other sectors also have their own checklist to monitor services. It can be concluded from the discussion that at district level there are sector targets and checklists for monitoring water supply services but the data are not used to produce aggregated reporting. In other words, service level indicators exist on paper but are not being monitored in practice in the districts due to reasons like shortage of logistics and lack of understanding on collaboration for sustainable water services. It was reported that there are checklists used for monitoring however the data is not being used to produce aggregated reporting at district level that could be used for planning and budgeting. Districts reviewed their performance at the end of Growth and Transformation Plan I (GTP 1), and this was used as baseline for water supply services while planning for Growth and Transformation Plan II (GTP 2). Except Soddo the remaining three districts reported that each sector uses service level monitoring data it has generated for planning and budgeting purposes; joint review processes are not strong. This means that there is no regular monitoring practice, but each sector reported collecting information while on field for other mission, and they reported using the data for planning and budgeting.

Table 9. Scoring monitoring at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Is there a government-led, regularly updated system to monitor water service levels?	Yes (but not functional at district level)			
Are harmonized, nationally agreed indicators used to monitor service levels in the district (only focused on coverage)?	Yes (water office use its own checklist)			
Is there a comprehensive baseline for water supply including an inventory of water supply assets?	Yes (review of GTP 1 used as baseline)	Yes (review of GTP 1 used as baseline)	Yes (review of GTP 1 used as baseline)	Yes (review of GTP 1 used as baseline)
Is service level monitoring data used to inform plans, investments and joint review processes?	Yes (used to inform plans)	No	Yes (used to inform plans)	Yes (used to inform plans)

5.7. Service delivery strength

Results of group discussions indicated that district government and sector offices are focussing on extending coverage and there is weak post implementation support to ensure services that last. One out of the four districts (Mecha) reported having capacity to deliver and ensure good quality water supply services; and the same district reported that water supply provision largely aligns and adhere to the national standards. Three out of four districts (Soddo, Abeshege and Ejere) reported a lack of sufficient capacity to deliver good quality water services, and that water supply provisions do not fully align and adhere to the national standards for access, quantity, quality and reliability. Dispersed rural settlements make reaching the standard to access difficult; and in some places high population density threatens attainment of the quantity standard. Weak enforcement of regulations associated with discharge of liquid wastes, poor environmental sanitation, and use of chemicals around the water source are also threatening quality of water. Lack of sufficient finance, poor quality of spare parts and lack of basic maintenance are challenging the reliability of water supply services. In all the four districts it was reported that there is no sufficient oversight to ensure quality of installation mainly because of shortage of resources. WASHCOs have access to technical support from the district and NGOs involved in water supply.

Table 10. Scoring service delivery at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Do service providers have the capacity to deliver and ensure good quality water supply services?	Yes	No	No	No
Does service delivery at the local level align and adhere to national norms and standards?	Yes	No	No	No
Is there sufficient oversight to ensure the quality of installation?	No	No	No	No
Do service users have access to external support for maintenance and management?	Yes	Yes	Yes	Yes

5.8. Water resources availability

Focus group discussions indicated that water resource protection and management plans exist but are poorly implemented. Threats to water resources are poorly understood at district level; and water resources are not regularly monitored. In all the four districts it was reported that there is a lack of credible information about water resources; in Abeshege and Ejere districts stakeholders reported having knowledge about water resources based on their experience and assumptions, rather than on scientific studies or investigation. Only one out of the four districts (Ejere) reported that they know the threats to water resources and the wider environment but poorly responded to mitigate them (Environmental Protection and Agriculture offices are implementing watershed management activities, tree planting and soil conservation measures, but these are not sufficient). None of the four districts reported regularly monitoring of water resources.

Table 11. Scoring water resources at district level

Questions	Mecha (Yes/No)	Soddo (Yes/No)	Abeshege (Yes/No)	Ejere (Yes/No)
Is there sufficient information on water resources & disaster risks to select appropriate service options?	No	No	Yes	Yes
Are threats to water services, water resources and the wider environment understood and mitigated?	No	No	No	Yes
Are water resources regularly monitored?	No	No	No	No

In summary, the traffic lights for the building blocks as rated by the four districts are presented as follows. Coordination at district level is scored *transitional* in Mecha, Soddo and Abeshege while Ejere is scored as *fragile but strengthening*. Strategic planning has scored transitional by the four districts. Financing has scored fragile but strengthening in Soddo and Ejere districts while it has scored transitional in Mecha and Abeshege. Service delivery has scored fragile but strengthening in Mecha, Soddo and Abeshege while it has scored transitional in Ejere. Monitoring has scored fragile but strengthening in Mecha whereas in the remaining districts it has scored transitional. Accountability has scored fragile but strengthening in Mecha and Ejere while in Soddo and Abeshege it has scored transitional. Institutional arrangement has scored fragile but strengthening in Abeshege whereas in other districts it has scored transitional. Water resources have scored fragile but strengthening in Soddo and Ejere while in Mecha and Abeshege it has scored transitional.

Table 12. Traffic lights for the building blocks as rated by stakeholders at district level

Building block	Mecha district	Soddo district	Abeshege district	Ejere district
Strength of coordination mechanisms	Green	Green	Green	Yellow
Strength of strategic planning at district level	Green	Green	Green	Green
Strength of financing mechanisms	Green	Yellow	Green	Yellow
Strength of institutional arrangement	Green	Green	Yellow	Green
Strength of accountability mechanism	Yellow	Green	Green	Yellow
Strength of monitoring framework at district level	Yellow	Green	Green	Green
Strength of service delivery at district level	Yellow	Yellow	Yellow	Green
Strength in relation to water resources	Green	Yellow	Green	Yellow

Note: Yellow = *fragile but strengthening*; Green = *transitional*

6. CONCLUSION

It can be concluded from the findings of this district sustainability assessment that there is a long way to go to ensure sustainability of hand pumps fitted with boreholes at district level. Stakeholders expected to have influence over the sustainability of water supply systems are lagging behind. In the Ethiopian context, the problem of water is a problem for women and children, and women and child affair office is expected to influence planning and budget decisions regarding maintenance of hand pumps, but this is not happening. This emerges from the low levels of awareness about how borehole failures could affect women and children.

There are overlapping roles and responsibilities that need to be clarified. According to the national water policy, the district water office is responsible for ensuring water supply services whereas the One WASH National Program Implementation Framework gives the role of water supply provision in schools to the education office, and water provision in health facilities to the health office. Such overlapping roles and responsibilities, makes holding institutions to account for low performance a challenge. National water policy guides tariff setting to cover operation and maintenance of rural water system, but this is not happening at the lower level due to the low level of understanding about the policy at district level.

Threats to hand pump functionality are poorly understood at the district level, and it seems that none of the sectors have an interest in identifying and strategizing ways to mitigate them.

There is some level of coordination at the district level but these mechanisms are not systematically used to improve performances. As per the WIF (2013) document, Woreda WASH Team (WWT) is established at district level to serve as a platform for the coordination among stakeholders. This platform is, however, not being used to its potential to improve coordination and collaboration among sectors; but it is still an opportunity for districts. Districts are supposed to prepare Growth and Transformation Plan (GTP) every five years, and there is also GTP for each sector including water. This plan could serve as a master plan to coordinate different sectors under the leadership of the district administrator; but the current practice is that each sector is implementing its own GTP. Planning and calculation of budgets are not based on full lifecycle cost approach – this is mainly because of the low level of understanding of the concept itself, and the fact that fiscal decentralization to districts only covers the salaries of staffs, and meagre resources are retained for operational and capital costs. All four districts lack experience of allocating budget for capital maintenance and direct support costs. This is threatening hand pump functionality at the district level.

Since every sector is following its own plan, there are numerous fragmented project implementations which often exclude provisions for post implementation support to ensure sustainability. As a district, there are no common targets for water supply. While each sector has its own monitoring checklist, there is little collaboration between the sectors to undertake joint monitoring. As a result, there is no aggregated reporting system at district level to track service levels and sustainability. Feedback from communities regarding hand pump functionality is limited to phone calls or reporting to the water office in person; but requests for technical support are only fulfilled immediately if the WASHCOs have enough money to cover the costs of repair and maintenance. If maintenance costs go beyond the capacity of low income communities, this feedback is not usually acted upon or used to inform policy or future WASH planning.

The Water Resources Management Policy is not yet in place at the district level; even though some activities are undertaken by environmental protection and forest, as well as the agriculture

sector. Threats to water resources are poorly understood, and there is no regular monitoring of water resources at district level. This will have adverse effect on the sustainability of water resources in general including hand pumps.

Annex 1. Field notes

Summary of the influence and interest of stakeholders involved in water supply in the districts. Variations across the districts are indicated in the main report, and this table gives the summary of the four districts.

Stakeholder	Influence	Interest
District council	It has high influence in ensuring sustainability of HP based water system because it is the highest body that decides on budget (if aware of HP, budget standing committee can recommend CapManEx and Direct Support Costs), and evaluates performance of all sectors.	It has high interest for sustainable access to clean water because they are representatives of the community, and they are there for the interest of their constituencies.
District administration	It has high influence to ensure sustainable access to HP based water system because he/she can influence other sectors that fail to use their budget and can allocate for maintenance; he/she is responsible to hold sector leads to account for their poor performance. Beside as an administrator he/she can mobilize community to raise money for maintenance.	He/she has high interest for sustainable access to clean water because this should be among the goal of the administrator
District water office	It has high influence to ensure sustainability of HP based water system because the office has direct responsibility to plan and budget based on full life cycle cost and defend the finance and the councils at different stages to support the budget; it can mobilize community to raise money for maintenance and provide unreserved technical supports to community structures; and it can look for spare parts from upper structures and timely fix problems of non-functionality.	It has high interest for sustainable access to clean water as this is the main objective of the water office.
District health office	It is supposed to have high influence in ensuring sustainable access to HP based water system BUT not working towards this at the moment; the office should have played a regulatory role to ensure quality water supply to the community but it is not working on this; the office has direct role to ensure environmental sanitation that contribute to water quality.	The office has high interest for sustainable access to clean water because this is contributing to creation of healthy and productive communities.
District education office	Currently education office is mainly focussing on ensuring academic performance with low emphasize on enabling environments like ensuring sustainable access to clean water,	The office has high interest for sustainable access to clean water as this helps children to attend

Stakeholder	Influence	Interest
	sanitation and hygiene in schools. Hence, the office has low influence in ensuring sustainability of HP based water system.	schools, and parents to send their children to school.
District women and child affairs	Since the office is not strongly working as it should be on issues associated with women, children and water supply, it has low influence in terms of ensuring sustainability of HP based water system. The office should have politicized the HP failures as causes for sexual harassments of women and girls, but this is missed and hence putting low influence.	The office has high interest for sustainable access to clean water nearby home as this is a solution for the problem of women and children that are associated with fetching water from distant and unsafe places.
District agriculture office	It has high influence in increasing sustainability of HP based water system – it is involved in watershed management practices and social conservation activities – that have direct contribution for increasing the groundwater potential which in turn has positive implication on sustainability of HP fitted to boreholes.	The office has high interest for ensuring sustainability of HPs fitted to boreholes as the purpose of soil conservation and watershed management activities are to increase groundwater potential that has direct implication on sustainable HP
District environmental protection & forest office	It has high influence in ensuring sustainability of HP based water system – it promotes environmental protection, and is involved in tree planting to create green environment. This has dual effect – improve groundwater potential and improve quality of water – that have direct implication on sustainability of water sources in general and HP based water system in particular.	The office has high interest for sustainable access to water as this is among the purposes it stands for.
District finance office	It has high influence to ensure sustainability of HPs fitted to boreholes – if aware of problems with HPs the office can support and recommend full life cycle costs (CapEx, OpEx, CapManEx and Direct Support Costs) for approval; the office is responsible to monitor budget utilization as per the plan and by so doing the office can influence budget decisions if it observes the lowest performance in the previous year.	The office has high interest for sustainable access to clean water, as this is the end of budget allocation regarding water supply.
WASH NGOs	It has high influence in ensuring sustainability of HP based water system – involved in creating awareness of the wider community, which brings a sense of ownership of the water system so that they protect and keep it for their	WASH NGOs are always advocates of sustainability; and they like water supply services to be sustainable.

Stakeholder	Influence	Interest
	own use; they build technical and managerial capacities of WASHCOs and caretakers that have long term effect on sustainability; they establish management structure, and create linkage with upper structures for external support; provide hand tools for minor maintenance; sometimes provide fast moving spare parts for use at the beginning when their revenue is too small to buy – these have positive implications on sustainability of HPs fitted with boreholes.	
Community	Community has high influence on sustainability on HPs fitted with boreholes – nothing could be sustained without community ownership. They own it, protect and keep it as their own asset; as per the water policy, community is fully responsible for managing the water system, covering the costs of operation and maintenance; and organizing minor maintenances.	Community have high interest for sustainability of water system; they want to get water when needed without interruption as it is the major part of their daily necessities.
Spare part suppliers	There are two types of spare part suppliers – government owned and private suppliers. Government spare part suppliers have high influence to sustain HPs fitted to boreholes – community get quality spare parts within proximity that avoids extra costs, and facilitate timely maintenance. Private suppliers if genuine would have high influence to sustain HPs BUT they are usually profit oriented and supply low quality spare parts that negatively influence sustainability of HPs.	Government Spare Part Suppliers have high interest for ensuring sustainability of HPs BUT private suppliers have high interest for selling more spare parts that boosts their income rather than ensuring HP sustainability.
Artisans	Artisans have high influence on sustainability of HPs – districts reported that they are the ones which recommends the items to be purchased during the construction (usually focusing on low quality materials), and also during maintenance. Hence, their influence is negative to sustainability – they perform low quality works so that they would come again to gain more income.	Artisans have high interest to make frequent maintenance, and low interest for sustainability of HPs; as they are profit oriented.

Annex 2. Additional photos

Selected photos of group discussions

