

ETHIOPIA

WASH in small and medium towns

AID 9428



Sanitation at Shire E.

PROJECT AID 9428
WASH IN SMALL AND MEDIUM TOWNS
EVALUATION SUMMARY REPORT

This document synthesizes the results of the *ex-post* independent evaluation of the project *WASH in small and medium towns* in Ethiopia (AID 9428) funded by the Italian Ministry of Foreign Affairs and International Cooperation/ Directorate General for Development Co-operation (MAECI/DGCS). The full text is available in the Final Evaluation Report with its annex: Ann. 2 – Photo documentation and Ann. 3 – Questionnaires of the Interviews.

The evaluation service was tendered by the DGCS – Office IX in 2014 and the contract, awarded to CESECO INTERNATIONAL s.r.l., was signed on September 2015.

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1. Introduction

In the context of the *Ethio-Italian Cooperation Framework* 2009-2011, the Italian Government (GoI), through DGCS, and the Ethiopian Government (GoE), through *Ministry of Economy & Finance* (MoFED), agreed on the implementation of a water and sanitation plan to be financed by the GoI, with taxes expenses and land acquisition covered by the GoE.

The Millennium Development Goals (MGDs) compliant plan aimed at easing access to potable water and at providing sanitation services in 5 selected Ethiopian towns. The financing of the initiative was based on an *on-lending agreement* envisaging soft loans from the *Water Resource Development Fund* (WRDF) to be directly transferred to the Town Water Utilities (TWUs), the latter bound to repay the loans through the collection of tariffs, thus creating a virtuous circle due to sustain the WRDF further projects.

On 15/03/2010 the DGCS approved the project “WASH in medium and small towns – AID 9428”, with directive resolution n. 31. The Inter-governmental Agreement (IA) was signed in Addis Ababa (AA) on 07/05/2010.

The project, with a GoI grant of € 6.15 million and around € 3.7 million from the Ethiopian side, is divided in two Components, each one containing different Budget Lines (BL) as shown in Chart. 1. An integration of the Component B was approved in 2013.

Chart 1: Project Components and Budget Lines						
Component A	subject	Fund	1 st Instal (€)	2 nd Instal (€)	3 rd Instal (€)	Total (€)
B.L. 1	<i>Water Work</i>	<i>(Loan)</i>	1,748,000	1,253,000	874,000	3,875,000
B.L. 2	<i>Sanitation</i>	<i>(Loan)</i>	-	325,000	487,000	812,000
B.L. 3	<i>C.B. & T.A.</i>	<i>Grant</i>	406,000	203,000	203,000	812,000
	Tot.		2,154,000	1,781,000	1,565,000	5,500,000
Component B:						
BL.1:	Experts fund	Grant	176,000	168,000	168,000	512,000
BL.2	UTL fund	Grant	75,670	31,170	31,170	138,500
	Tot.		251,670	199,170	199,170	650,000
Del. 188-14/11/13	Additional fund	Grant	-	-	-	55,000

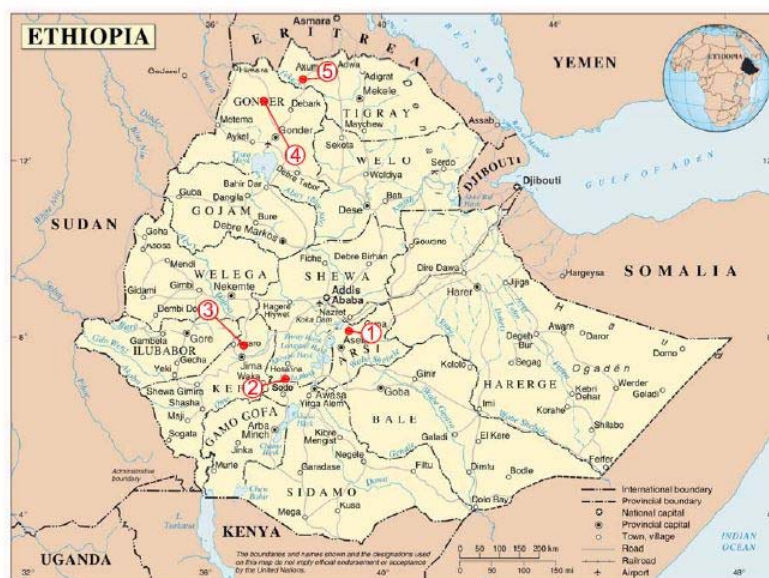
The project implementation was entrusted to the outfits listed in art. 4 of the I.A., the following are the main ones:

- Ministry of Water Resources (MWR)
- Water Resources Development Fund (WRDF), named “*Executive Agency*”
- Regional Water Bureaus (RWB), as *Co-financing Agencies*
- Town Water Utilities (TWUs), the project’s final beneficiaries
- Italian Development Cooperation/Local Technical Unit (IDC/UTL).

The project goal, along with the MDGs, is the improvement of the access to safe drinking water and sanitation services in 5 selected Ethiopian towns by means of soft loans managed by the Water Resources Development Fund (WRDF) given through an on—lending agreement to the Town Water Utilities (TWUs) that are in charge of the integrated WASH services. The latter are the beneficiaries of the project. The refunding of the loan is expected through the collection of the water tariffs. Such approach has established a rotation fund to be utilized by the WRDF for performing further actions in other towns according to the Growth and Transformation Plan (GTP- II 2016-2020). The project has been implemented upon the Italian Law 49/87 (art. 15).

The location of the 5 selected towns, listed in Chart. 2.1, is shown in the fig. 2.2.

Chart 2.1: AID 9428 the 5 selected towns		
<i>n.</i>	<i>Town</i>	<i>Region</i>
1	Huruta	Oromia
2	Durame	S.N.N.P.
3	Limu Gennet	Oromia
4	Ghenda Wua	Amara
5	Shire E.	Tigray



1: Huruta; 2: Durame; 3: Limu Gennet; 4: Ghenda W.; 5: Shire E.

Fig. 2.2: AID 9428 - Location of the 5 selected towns

2. General Objective, Specific Objectives, Target Indicators and the Expected Results

The General Objective of the project, (art. 2.1 of the AI), was set on improving access to safe water and sanitation services for the resident population and at the same time on strengthening the National WASH program and promoting the strategic National plan aiming at easing the access to water and to sanitation services for the population according to the Millennium Development Goal n. 7 target 2 adopted by the *Universal Access Plan* of the Ethiopian Government.

The specific objectives of the project, referred to in art. 2 section 2.2 of the AI, was set on easing access to safe water sources and to sanitation services in 5 towns by: i) increasing the water supply; ii) rehabilitating or enhancing the drinkable water distribution network; iii) bettering the public sanitation infrastructures; iv) improving the planning and O&M management capabilities of the TWUs, and v) the loans management capabilities of the WRDF.

The Target Indicators, referred to PID, were:

- 1- A minimum of 20 lcd¹ of safe water available within 0.5 km from their home;
- 2- Time per household dedicated to fetch water is reduced to a maximum of 30 minutes waking;
- 3- 100% of target population supplied with safe water for drinking;
- 4- Water related diseases decrease of 50% from baseline by local health facilities;
- 5- Target towns are open-defecation free, and
- 6- Share of households' income allocated for water provision is reduced to a maximum of 4%.

The Expected Results, referred to in PID (annexed to A.I.), section 2.3, were:

- 1- Water supply networks, properly sized to the target populations, functional and sustainable;
- 2- Public sanitation infrastructures and services upgraded, constructed and management set up;
- 3- Improved capacity of 5 target Town Water Utilities for planning, management and O&M and of WRDF for loans management and delivery of technical assistance to recipients.

The Indicators of the Results

The project indicators, referred to in PID (annexed to AI), section 2.3, were:

- 1- 60% of the target population actually consumes a minimum of 15 lcd as the new water scheme starts working;
- 2- Tariff strategies for sustainability of water schemes are in place and the new billing systems is in use;
- 3- Unaccounted users-for-water less than relevant national targets and international best practices;
- 4- Interruptions of water supply service is less than relevant national targets and international best practices in the first 3 months of new water schemes working period;
- 5- 100% of schools and health facilities in selected areas has adequate latrines with hand washing facilities;
- 6- Municipal and institutional sanitation infrastructures are used and are properly managed;
- 7- Septic tank sludge removal facilities are functional and users pay for the service;
- 8- Integration of water, sanitation and hygiene planning and monitoring at Town Administration level, and

¹ litre per capita day

- 9- TWUs are able to properly perform the water schemes financial management, provide adequate O&M assistance and repay back the loan.

3. The project activities

The implementation process envisaged the following activities:

1. Preparation of the Feasibility Studies and water wells tests by the WRBs;
2. Tender for the selection of consultants put out by the MWE;
3. Preparation of the final designs by the select consultants;
4. Tender for the selection of Works supervisors put out by the WRPF;
5. Tender for the selection of contractors put out by the WRPF;
6. Commencement date, established by the Supervision/Engineer;
7. Construction works by select contractors;
8. Supply of equipment by the WRPF to the TWUs;
9. Acceptance and Handover certificates of the works and the supplies by the TWUs;
10. Capacity Building and technical assistance to the TWUs and
11. Monitoring and Audit.

Here below the main works and activities at the project sites are listed:

Water Supply sector (B.L.1)

- 1.1 In-take from springs: Huruta;
- 1.2 Borehole fields: Durame, Limu G.; Shire E., Ghenda W.;
- 1.3 Pumping Stations and main pipes: Durame, Limu G.; Shire E., Ghenda W.;
- 1.4 Transmission and delivery pipes: Huruta, Durame, Limu G.; Shire E., Ghenda W.;
- 1.5 Municipal water tanks: Huruta, Durame, Limu G.; Shire E., Ghenda W.;
- 1.6 Final consumer water supply networks and public fountains: Huruta, Durame, Limu G.; Shire E., Ghenda W. and
- 1.7 Means of transport supply (Pick-up + Minibus) supply of any other stuff.

Sanitation sector (B.L.2)

- 2.1 Public latrines: Huruta, Durame, Limu G.; Shire E., Ghenda W. and
- 2.2 Sludge drying tanks: (Huruta, Durame, Limu G.; Shire E., Ghenda W.);

Capacity Building and Technical Assistance (B.L.3)

- 3.1 Capacity Building: management and administration skills and expertise at the TWUs;
- 3.2 TA and hardware and software “billing” supply;
- 3.3 Supply of welders for HDPE pipes and chlorination plant;
- 3.4 Design and works supervision and
- 3.5 Monitoring and Audit.

The project started on 05/10/2010 with an original duration of 3 years. Some administrative hurdles in the local tendering for the assignment of the engineering contracts and the lengthy custom procedures as well as technical problems during the works and in the dealings with the Work supervision have delayed the completion of the project by over 3 years. Thus its duration has been the double of the

planned time. The project has been completed in December 2015 when some procured goods and supplies had not yet been delivered to the TWUs. The final hand-over to the TWUs has shifted to April 2016 as a consequence of some claims by the beneficiaries on the performed works.

The Evaluation of the project was assigned to this firm through a tender and the evaluation contract signed on 24/09/2015.

4. The Evaluation Report

The Evaluation Report (ER), along the DGCS guidelines, is made of the following sections:

1. Section A: The framework and context;
2. Section B: The Project;
3. Section C: The Evaluation;
4. Section D: The project analysis;
5. Section E: Lessons learnt and recommendations.

Section A includes a short presentation of the intervention area and of the Ethiopian socio-economy as well as the national water policies, described and listed along their date a time sequence.

Section B includes the preliminary phases of the project identification, formulation and bilateral contractual agreements; it also presents the framing of the project and the financial resources assigned to each budget lines. It lists the Goals, Indicators and Results. It synthesizes the *procurements* and *tenders* of the project design, supervision, building works, *Capacity Building*, *Audit* and Monitoring with their planned and final budget allocations. It shortly presents the *on-lending agreement* for the grant refunding.

Section C presents the project evaluation, starting with the planned activities and it describes the findings of the field surveys of the project sites and works in the selected towns, the issues at stake in the works construction and management. It presents the interviews of the stakeholders and it analyses the composition and the management system of the TWUs and the increase in the water fees. On the basis of the stakeholders' interviews, it analyses the percentage of results achievements vs the planned indicators of the objectives and results in each surveyed town.

Section D presents the project analysis along the OECD/DAC criteria: Relevance, Efficiency, Effectiveness, Impact and Sustainability of the project.

Section E presents the lessons learnt validated on the basis of the field visits, meetings and interviews, and lists the recommendations for the implementation of similar WASH projects.

5. The Evaluation activities

After the *Desk analysis* and the approval of the *Inception Report* by the DGCS, the Evaluation team has undertaken the field mission in Ethiopia between November 28th and December 19th, 2015. The Team

met the main players of the project in Addis Ababa and attended the final Workshop on the *Capacity Building* event organized by the UTL. According to the Inception Report, the Evaluation Team visited four selected towns (see the photo documentation in Annex 2): Huruta, Durame, Shire E., Limu G,. The Team has visited the work sites and interviewed the stakeholders of the project by using the questionnaires included in Annex 3, summarized in Chart 3.

Chart 3: Number and typology of the interviews						
Town	Householder	Hosp./Clin.	Sch/Univ.	Institution.	Comm.	Tot.
Huruta	7	1	1	1	1	11
Durame	10	2	2	1	1	16
Shire E.	8	-	-	-	1	9
Limu G.	10	1	2	1	-	14
Total	35	4	5	3	3	50

The Final Evaluation Report presents the reports of the site visits.

The engineering works performed follows a basic scheme, the only main difference being the source of water supply system that in Huruta is from uphill springs while in the other four towns from aquifers through deep boreholes equipped with submergible pumps.

The performed civil works are listed here below:

- Intake works from springs or boreholes;
- Transmission pipes from the water source to the header tanks, in PVC;
- RCC header tanks;
- Chlorination plants;
- Water distribution networks with HDPE pipes, from the tank to the user connections;
- Break pressure tank;
- Delivery points to the users;
- Public water points (fountains);
- Aqua privy public latrines and showers;
- Sludge drying tank.

In the target towns, excluding Shire, the project envisaged the construction of new buildings for the TWU offices, mechanical workshops, spare part stores and toilets.

Within the project each TWU was supplied with:

- a pick up Toyota;
- a motorbike;
- a set of equipments and tools for hydraulic interventions;
- Polyethylene (HDPE) pipes, spare parts and fittings;
- Polyethylene (HDPE) pipe welding machine.

The site visits have verified that the proposed works have been completed and that they are running. There are some critical issues not yet solved in the management of these works. For instance the

latrines in Huruta and Durame were still out of order due to the failed agreement between TWU and the Municipality on their managing.

Still critical is the situation at Shire E. site where the two boreholes, barely equipped, dried up rapidly compromising the addition water supply in a town suffered particularly water shortage, aggravated by a impressive population grown. Despite the expected result n. 5, no sanitation works have been carried out at any schools without fulfilling the Ministry of Education’s standards. The latrines have been built in the marketplaces and bus stations, highly appreciated by the population. The sludge collection has been put in place in Shire town only. A confirmation of the shortage of public sanitation services is the observation by the 100% of the interviewed people because the open air defecation is still going on. Chart 4 presents the main data on the project water works.

Chart 4: Water works’ characteristics								
Town	Water Source (n)	Pump. stat. (n)	Trasm. Pipe Lt(m)/DNmm	Tank n. /m ³	Distribution network (m)	New users (n)	Water points (n)	W.C. (n)
Huruta	Spring/3	0	5,687/150	1/500	16,180	644	5	1
Durame	well/2+2	1+1	1,667/125 1,221/125	2/300	21,735	1,500	13	2
Shire E.	well/2	1	16,000/150	1/1,000	19,500	1,005	0	3
Limu G.	well/2	1	2,752/150	1/300	17,300	769	11	2

About the water tariff, it has to be highlighted that the increase in the water services fees performed by the TWUs in order to refund the loan as per the *on-lending agreement* is excessive for the lower belt of water consumption up to 3 m³/month per household (fulfilling the water demand of 20 lcd). It has recorded an increase of over 100% of the previous water fee. Such increase challenges the economic capacities of the weaker segments of the population. The highest water services fee increases have been recorded in Huruta (150-206%), followed by Durame (100-47%). Shire is the only town where the water services fee have decreased for the lower consumption belts (from -20 to -25%) while + 125% for the higher ones. Limu water service fees are more affordable, ranging between 83% and 12.5%.

6. The Project Analysis

The project analysis was done according to the 5 OECD/DAC criteria (Relevance, Efficiency, Effectiveness, Impact and Sustainability) and is completed with the analysis of its realizations.

The analysis is based on the information retrieved from the project desk analysis, from the site visits and from the interviews carried out during the field mission (questionnaires can be found in Annex 3).

RELEVANCE: the project agrees with the federal water policies, with the economy development lines (GTP) and with the MDGs, particularly with the priorities of the water sector of the PASDEP. It also agrees with the frame work of the *2013-WaSH Implementation Framework* (WIF) in terms of decentralization directly involving the local TWUs under the direction of the WRDF. The objectives,

the indicators and the expected results of the project agreed with the targets of the “One Water Sanitation and Hygiene National Program – 2013” that aimed at a 98.5% safe running water covering and a 84% for sanitation services. More in detail it must be pointed out that only partially the 6 target indicators have been met, as shown in Chart 5.1.

Chart 5.1: Indicators of the objectives	Hu	Du	Sh	Li
1. 20 lpd water demand	YES	NO	YES	YES
2. Fetching water time < 30”	YES	YES	YES	YES
3. 100% supplied with safe fresh water	YES	YES	YES	YES
4. 50%Water diseases reduction	YES	YES	YES	YES
5. Open defecation free in the town	NO	NO	NO	NO
6. Water costs 4%.	NO	YES	NO	YES
Tot. (Positive/YES)	4	4	4	5

The 3 expected results have been met although the related to the sanitation structures n. 2, shows some criticalities, particularly in Huruta and Durame towns, where the new latrines are not working yet. More in detail the meeting of the 9 result indicators, perhaps a little bit of overtly ambitious at their start, show some problems as shown in Chart 5.2.

Chart 5.2: Indicators of the expected results	Hu	Du	Sh	Li
1. 60% of population supplied with 15 lpd	YES	YES	YES	YES
2. <i>Billing</i> on service	NO	NO	NO	NO
3. Unaccounted users < nat. average	YES	YES	YES	YES
4. Water service interruption < nat. average	YES	NO	NO	YES
5. 100% of schools with improved latrines	NO	NO	NO	NO
6. Public latrines on service	NO	NO	YES	YES
7. Sludge removal on service	NO	NO	YES	YES
8. Service Monitoring	YES	YES	YES	YES
9. TWU well organized and credit reimbursement	NO	NO	NO	-
Tot. Positive/YES	4	4	5	6

The present situation does not diminish the relevance of the project that agrees with the federal targets but shows the difficulties of a transformation process in the water sector to be solved next following the Recommendations listed in the last section of this report too.

What missed in the project formulation and in the project framework are the gender issues, particularly in this WASH interventions which see the women directly involved in the family water supply and management and more sensitive on sanitation facilities in the schools, in the marketplaces and in the working places.

Furthermore the sanitation sector, but in Shire, is a particularly delicate one although changes from the past habits are already visible and looked after by the population. Indicator n. 5 is very critical: its target pointing to a diffusion of the sanitation services in 100% of schools, also in line with the Ministry of Education standards.

The exam of the “Project Implementation Document” (PID), attached to the IA, carried out by the UTL experts in collaboration with the WRDF, shows that a thorough analysis was made in each of its

part although it could appear that the expected results have been maybe too ambitious both in reference to the limited budget and the pre-existent situation of the sanitation in rural Ethiopia.

One phase of the *project cycle* to be bettered is that of the designing that, as more in detail discussed in Section E of the Evaluation Report, could envisage a sort of technical and administrative validation of the final/detailed design before the construction tender phase involving the TWUs, as final beneficiaries, and the Client too in order to minimize delays risks in the construction phase.

The final evaluation for the relevance ranks as “fair”.

EFFICIENCY: pretty efficient has been the project in the initial phases of formulation and defining the project implementation agreements even because well compliant with the Ethiopian Water Policies. The project was efficient in its aim of carrying out in all of the 5 selected sites the full works realization process, although with the criticalities that have delayed the project. The doubled time duration remains the main issue influencing the efficiency judgment even if this project could be considered as a *pilot WASH project* in the innovative decentralization process involving WRDF and TWUs, both newcomers in the WASH project implementation. As the monitoring Semi Annual Reports (SARs) states, custom procedures and selection of the engineering service providers have delayed the project together with variations/changes of the proposed works due to poor design in the first place, but also to not collaborative or absent works supervision and unsuitable financially weak contractors. The time duration of 3 years for such WASH projects can be confirmed. According also to the debate of the Workshop presentation held on 05/07/16 at DGCS premises the final evaluation on the efficiency ranks as “sufficient” only.

EFFECTIVENESS: the project was effective and incisive in its effort to follow the addresses of the national policies in the WASH sector, fairly effective (70/100) to achieve the project objectives but insufficient to reach the expected results, with different scores varying from Limu G. with the highest score and Huruta and Durame sharing the lowest ones (Chart. 5.3).

Chart 5.3: Indicators of Objectives and of the expected results Score percentage			
Town	Objectives	Results	Average
<i>Huruta</i>	66/100	44/100	55/100
<i>Durame</i>	66/100	44/100	55/100
<i>Shire</i>	66/100	55/100	60/100
<i>Limu G.</i>	84/100	66/100	75/100
overall	70/100	50/100	60/100

A greater effectiveness should be also looked after in future projects supporting the decentralization process now ongoing in Ethiopia by a more direct involvement of the TWU in the whole project cycle. With such an aim in mind, a revision of the composition of the Boards of the TWUs would be advisable supporting merging forms among the towns so to strengthen the underlying financial

structure itself that would better sustain the upgrade of the service as a whole, technical and administrative management included. A greater participation of the consumers in the boards – presently there are just 2 consumer’s representatives in a total of 9 members – should also be encouraged through the institution of free associations of water users as 100% of the interviewed declared. In some TWU boards the presence was noted of too many municipalities’ representatives that, on the one hand, ease the decision process but, on the other, can limit the freedom of the outfit itself and its managing orientation. Women presence in the TWU boards should be encouraged too.

The effectiveness must also be strengthened by the speeding up and by the homogenization of the Project Cycle due to the works similarity and repetitive as well, allowing a standard approach for the services tender procedures, procurements, technical specifications for works and supplies. The WRDF could be the most suitable technical player to start such *standardization* of the WASH implementation process. All of the donors involved in WASH projects should join in this task setting up, for instance, a panel of qualified experts with the aim of supporting the WRDP in such process.

In conclusion, the final evaluation for the effectiveness ranks as “Fair/sufficient”.

IMPACT: the WASH project has had a positive impact in influencing many aspects of the daily life of the population. Appreciation for the work done was expressed warmly during the field visits and the interviews. On the other hand the ascertained increases of the water tariffs, linked to the TWU financial pledge, seem unaffordable in the small rural towns. The increases for the lowest consumption segment of 3 m³/month reached the 150% in Huruta, the 100% in Durame and the 83% in Limu – only in Shire a decrease of 20% has been registered. Based on a WB survey quoted in the *Guidelines for TWUs Tariff Setting* (MoWE – 2013) - tariffs increases, particularly when they reach the 100% or more, are unaffordable for the poorest group of the population. According to the federal water policies, the minimum consumption level of 3 m³/month, 20 lcd destined to standard 5 people families, should be assured to each household, regardless of their income. The WB survey capped to 5% of the family income the maximum outlay for the water service provision to be affordable for the consumers.

Another aspect that impacts on the quality of life of the population is the location of the fountains/WPs. Such location should be carefully studied in the design phase – and not during the construction of the works. Barycentric locations at no more than 1-2 km distance (30 minutes walk), preferably located uphill, in order to ease the downward trip with a filled yellow *jerrycan* of 25 litres, should be designed more carefully.

Generally speaking, such *small* works pose no threat to the environment impacts but water losses and waste of fuels should be carefully avoided inserting always float valves at the tank inlets and analysing renewable energy sources for the boreholes and micro-hydro at the break pressure tanks.

The doubled duration of the project schedule has had a negative impact to the people in terms of benefit delay for quantity and quality water supply.

The health benefits for the target population is good in term of water diseases reduction, in particularly in Durame town.

In conclusion, the final evaluation for the impact ranks as “Fair”.

SUSTAINABILITY: the project sustainability is based on two main conditions i) the financial and economic sustainability of the project, and ii) the technical sustainability of the design choices.

Financial and economic sustainability: it is based on the possibility of implementing same projects in other towns by the rotating funding fed by the redemption of the soft loan, as per the “on-lending agreement” signed between the TWUs and the WRDF, through the tariffs collection. As already noted, in order to sustain the financial pledge, the tariffs have undergone too high increases, not easily affordable in the rural areas. Furthermore, there still lingers a misunderstanding among the costumers regarding the loan that some of them consider a free grant. The TWUs that bear the redemption pledge should be more involved in the project choices that inevitably fall upon the consumers. In all of the surveyed sites, the difficulty of the TWUs in the loan redemption has surfaced.

The rotating funding based on the on-lending agreement; together with the decentralization policy represent an excellent combination. This approach should be sustained involving much more the TWUs in all the phases of the project cycle. The economic sustainability could be improved through the Capacity Building with practical courses for engineers and plumbers to manage WASH works and O&M. The lack of skilled plumbers in the medium towns like Durame and Shire is a great concern for the population. The TWUs could provide these “private” services to the people in order to increase the budget.

Technical sustainability: the best choices in the WS network designs are those that place at the top the following issues:

- *The maximization of the works lifespan;*
- *The minimization of the water losses and dispersion especially in case of energy fed systems;*
- *The minimization of O&M costs.*

Wash projects are implemented in different sites and conditions but envisage a similar range of works and interventions. It would then be advisable to work out a Technical Manual containing typology standards for civil works and supplies, provided with check lists orienting the project choices. Such manual would also be helpful in the implementation of the WASH over the whole Ethiopia that is now underway. Some examples were listed in the Evaluation Report.

The sustainability evaluation ranks as “Fair/Sufficient”, but also in this case taking into account what is suggested in the Evaluation Report: i) tariff revision of the lower compunction belt ($<3 \text{ m}^3/\text{s}$) for the

disadvantaged people; ii) more stringent clauses in order to assure the on time reimbursement of the on-lending agreement instalments; iii) protection systems of the equipments and plants; iv) other minor issues listed in the Report, and v) a more practical Capacity Building dedicated to Engineers and plumbers education.

OVERALL EVALUATION: For each selected town the overall evaluation of the OECD/DAC criteria, based on the score: *Excellent, Very good, Fair, Sufficient, Insufficient and Scarce*, is summarized in Chart 5.4. The average evaluation of the whole project marks between “Fair” and “Sufficient”.

Chart 5.4: Overall evaluation criteria						
Town	Relevance	Efficiency	Effectiveness	Impact	Sustainability	TOTAL
Huruta	Fair	Suff.	Fair	Fair	Fair	FAIR
Durame	Fair	Suff.	Insuff.	Suff.	Insuff.	SUFFIC.
Shire	Fair	Suff.	Insuff.	Insuff.	Insuff.	INSUFF.
Limu G.	Fair	Suff.	Fair	Fair	Fair	FAIR
Overall	FAIR	SUFFIC.	SUFFIC.	FAIR	SUFFIC.	F/S

In conclusion, it must be highlighted WASH projects in Ethiopia, by all means, have a big one influencing many aspects of the daily life of the population: healthcare, economy, quality of life etc. Such deep impact emerged during the field visits and the interviews when the importance was perceived by the Team of the presence of just a simple running water tap in a compound that greatly changed the life of the families and particularly of the women that are generally in charge for the collection of water. The warm appreciation of the project efforts by the population has been unanimous and the need for investments on the WASH facilities and services always stressed out during the interviews.

7. Lessons learnt and Recommendations

The lessons learnt in the course of the present evaluation can be summarized as follows:

1. Decentralization: technical and managerial decentralization works very well in such small, low budget interventions with a strong social impact: it speeds up the project realization and makes aware the final beneficiaries (TWUs) of the responsibilities in the management of the works. The process could strongly benefit from the standardization of the Project cycle.
2. Soft loan redemption: the on lending agreement, oriented to feed the rotating fund, is a virtuous circle in itself, but it must be more thoroughly studied in reference to the sustainability of the redemption plan, as well as more detailed information to the community of the consumers.
3. TWU organization: the visited TWUs have well impressed but they need to increase their technical expertise and skill. They furthermore are to strengthen their managing independency. The board should include a stronger presence of the civil society and costumers through free Water User Association.

4. Gender issue: The TWU employed women rate shows a pretty good figure ranging between a maximum of 62% in Huruta and a minimum of 16.2% at Durame, with an overall average of 35%, such percentages include the O&M workers that women can't perform easily. Women are very little involved in the Board, where men dominate. Women and men almost equally are in the associations in charge of the Water Points and Toilettes.
5. Preliminary studies: water demand analysis, demography projections, Feasibility Studies and water tests should be conducted at a higher level than the TWUs (*Regional or Zone Water Bureau*) and should be made according to national University or Ministry prepared standards, always fully approved before the project start.
6. Supplies and materials: in the design phase it should always be considered that supplies, materials and maintenance services are locally irretrievable and must be therefore ordered from major far away cities.
7. Sanitation: in the sanitation works, some of the latrines are still out of order due to the lack of agreement between TWU and Municipality. The latter should be signed in advance, always before the design phase. Even the location of them must be agreed during the design phase.
8. Toilets and Fountains management: in this service the civil society, women groups particularly, should be directly involved also through a *Performing Chart* of the services, to be prepared.
9. Design: both the design and the works supervision are essential professional services. During the mission, these services showed some technical deficiencies (lacking of minor works drawings and construction details) causing delays. The technical drawings and technical specifications should be improved in quality and definition too.
10. Works supervision: as the TWUs reported, the work supervision daily presence at the construction sites has been poor.
11. Protection facilities of the works: the electro-mechanical equipments (boreholes, pumping station/Booster) and the rising pipes resulted to lack the protection system both against the varied elastic flow (water hammers and depressions) and the lighting shocks.
12. Tank: at the tank inlet, the lack of the float valve to arrest the flow at the full level must be always foreseen in order to reduce water losses and energy dispersions and, consequently, the energy bill for the TWU.
13. Tariffs: the increases that the on-lending Agreement generated result to be too high and unsustainable especially for the low bracket of consumption (up to 3 m³/month). A basic supply of water should instead be assured to all the population with a threshold increase according to the *Guidelines 2013*.

The recommendations for the forthcoming WASH projects can be summarized as follows:

1. Standardization of the process: taking into account the similarity and the high number of the WASH works to be implemented in the following years in order to meet the OWNPN targets, the standardization of the whole process is highly advisable, in all of the project's aspects: engineering services, specifications, procurement, works and supplies. Such standardization would also help the TWUs in taking more technical and administrative confidence in WASH interventions also allowing them to play a more decisional role in the whole project cycle.
2. On lending Agreement: the redemption mechanism should envisage more stringent rules in order to assure the on time reimbursement of the instalments.
3. Gender issue: the women participation should be encouraged, in the TWU Boards in particularly.
4. Economic stimulus: with the aim of boosting their professional growth, the TWU key staff should be economically motivated on the basis of a performance based evaluation. In this way the TWU would more effectively respond to the challenges posed by the project cycle and prevent them, once enough trained and skilled, from leaving their places for more lucrative jobs.
5. Designing: resistance and durability of the works and of the supplies are always to be rated in the first place. Minor work's drawings should also be always included in the final designs.
6. Validation of the design: a technical validation of the final designs should be envisaged before launching the tender. The Consultant payment of the balance should be done upon the design validation.
7. Works supervision: backed by the TWUs, the use of plastic pipes, largely utilized in the pressurized pipe networks, needs a careful check of the underground laying (bedding/surround/backfilling) stages to assure cross static stability according to the Technical Specifications. During such activity the works supervisors must be therefore present at the work site. Such daily presence, to be included in the contract, could be assured by junior resident engineers.
8. Audit: as seen, it was really too poor and certainly not up to the international standards due also to the too poor outlay earmarked for such activity.
9. Tariffs: in line with the directives of the on-lending Agreement, that became necessary in order to meet the financial obligations of the TWUs, the water fee should agree with the federal *Guidelines*², assuring the service also to disadvantage consumers using not more than 3 m³/month (fulfilling a water demand of 20 lcd for the 5 family people), in line with the right to water access of the federal Water Policy.

² GoE- Ministry of Water and Energy: *National Guideline for Urban Water Utilities Tariff Setting* – March 2013

10. Sanitation: in accordance with the standards of the Ministry of Education that takes into account the poor situation of the sanitation services in schools and universities, each one of the future WASH interventions should also envisage the placing of at least one sanitation service in one school site.
11. Tanks: all tanks and break pressure chambers should be provided with float valves to stop the inlet flow once the tank is filled up, avoiding water losses and energy costs.
12. Protection of the systems: the electro-mechanic equipments (borehole and pumping station/Booster) and main pipes should always be provided with protection systems against the water hammer/depression effects and lightning shocks.
13. Public fountains: their location should be decided together with the municipality before or during the design phase. The water points should be placed within a maximum of 1-2 km radius (30 minutes walk) preferably selecting an uphill location in order to ease the transport downhill of the filled jerrycan.
14. Sand filters: the use of such very simple and cheap tools should be encouraged envisaging their sale at a wholesale price and supporting their employment in the intervention's adjoining areas.
15. IT equipment: hardware and software must be always provided with a UPS (uninterruptible power supply) against electric shock/blackouts and holders/covers protecting from dusts coming from the unpaved road.

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