

# Improving Access to Water, Hygiene and Sanitation and Improving Water Supply Facility Maintenance Services

Ethiopia, Haiti, Madagascar, Malawi, Mozambique and Sierra Leone



## Evaluation Synthesis

*Final Version*

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## Sigles et abréviations

Sigle	Signification
ADC	Area Development Committee
AEP	Adduction d'Eau Potable
AFD	Agence Française de Développement
AM	Area Mechanic
ATPC	Assainissement Total Piloté par la Communauté
BASEDA	Basic Services Development Agency
BE	Bureau de l'Eau (Ethiopie)
BH	Bore Hole
CONGOMA	Council for Non Gouvernemental Organisations in Malawi
CP	Convention Programme
CUE	Comité d'usager de l'eau
DAL	Défécation à l'Air Libre
DHO	District Health Office
DWO	District Water Officer
EHA	Eau, Hygiène et Assainissement
EPM	Enquête périodique auprès des ménages
FDAL	Fin de la Défécation à l'Air Libre
GVH	Group Village Head (sous division du TA au Malawi)
HEW	Health Extension Worker
HSA	Health Surveillance Assistant
HP	Hand Pump
IA	Inter Aide
JICA	Japanese International Cooperation Agency
JMP	Joint Monitoring Program
KAP	Knowledge Aptitude and Practice
MoAIWD	Ministère de l'Eau et de l'Irrigation (Malawi) Ministry of Agriculture, Irrigation and Water Development
MWR	Ministère des Ressources Hydriques (Ethiopie)
OMD	Objectifs du Millénaire pour le Développement
ONG	Organisation Non Gouvernementale
PASPED	Plan for Accelerated and Sustained Development to End Poverty (Ethiopie)
PHAST	Participatory Hygiene And Sanitation Transformation
RCBDIA	Rural Community Based Development Initiative Association
RP	Responsable Programme
RWSN	Rural Water Supply Network
SW	Shallow Well
TA	Traditional Authority (sous division d'un district au Malawi)
VHC	Village Health Committee
VLOM	Village Level Operation and Maintenance
WASH	Water, Sanitation and Hygiene
WMA	Water Monitoring Assistant
WP	Water Point
WPC	Water Point Committee
WWO	Water Woreda Office

The opinions expressed in this document represent the views of the authors and do not necessarily reflect those of Inter Aide.

## A. Introduction / context

This programme is the continuity of a previous convention of two years (from July 2012 to June 2014). It aims at developing and extending the activities in the communities that have not been targeted during the first phase, but also at consolidating the mechanisms implemented for the maintenance of water points, making it sustainable and scaling up its coverage.

The rural areas of the six countries targeted have a high demographic density but no proper access to water and sanitation. These areas are particularly remote, food insecurity is important and there are few public or private initiatives that could deliver basic services to the communities.

The objectives of the convention are:

- **Households have access to safe drinking water and their sanitation environment is improve:**
  - Awareness and training of the families on good hygiene practices, support for the construction of latrines,
  - Follow-up and evaluation of knowledge and practices,
  - Training of community members and leaders for the diffusion of hygiene messages and follow-up of the households,
  - Construction or rehabilitation of water infrastructures,
  - Promotion of household water chlorination,
- **Local trained actors** (communities' groups, private and public actors) are able to ensure a sustainable management of the water points:
  - Training and follow-up of communities groups for water point management and maintenance (water point communities and users' associations),
  - Strengthening and promoting local private stakeholders in rural areas for providing repairs and maintenance services, as well as access to spare parts for water systems,
  - Following the evolution and analyzing the efficiency of the maintenance

Knowledge management is part of the programme and aims at reinforcing the expertise. During this second phase, focus will be made on:

- A continuous monitoring on a longer period of the maintenance services and on the involvement of the main actors: users, water point committees, contractors, public sector.
- A methodology to assess the impact and the uptake of practices by the communities, especially concerning:
  - the evolution of sanitation coverage and renew of latrines by the beneficiaries ;
  - The uptake of good hygiene practices.

**Targeted beneficiaries** 172 500 people (men, women and children) will benefit from activities related to hygiene awareness and improvement of sanitation and access to safe water ;  
1 740 000 people will benefit from the maintenance services for water points.

All the areas targeted have a high demographic density and are socially and economically vulnerable, the situation is also increased by a poor sanitation environment. Inter Aide has a strong expertise in the targeted areas, and it is recognized by most of the local authorities.

**In Ethiopia**, the programme is implemented in 4 zones of the South Region SNNPR (Southern Nations, Nationalities and People's Region): **Wolayta, Dawro, Gamo Gofa and Kembatta**.

**In Haïti**, it is located in the **Département du Centre**, more precisely in the mountainous chain of the "Montagnes Noires" : sections communales of the Commune Boucan-Carré, and the Juanaria section, Hinche Commune and the sections communales of Baille-Tourrible and Cabral, in Thomonde. This is one of the most remote areas of the country.

**In Madagascar**, 3 regions of the eastern coast are targeted: **Analanjorofo in the North**, (including the districts of Fénérive Est - 230 000 hab. and Vavatenina - 150 000 hab.), and **Vatovavy Fitovinany and Atsimo Atsinana in the South** (districts of Manakara and Farafangana) as well as the district of Manjakandriana, (Analamanga region, 100km on the north of Antananarivo).

**In Malawi**, the implementation of the maintenance services is covering 5 districts of the Central Region: Dowa, Kasungu, Mchinji, Ntchisi and Salima, and the district of Phalombe in the South Region. In this district of Phalombe are also conducted hygiene and sanitation promotion, construction and water point rehabilitation.

**In Mozambique**, the programme is located in the **Province of Nampula**, and is targeting the **district of Memba**.

**In Sierra Leone**, activities are ongoing in Bombali district- in the chiefdoms of Sella Limba, Senda Loko, Tembakka, Senda Tendaren and Gbanti Kamaranka – in the north of district.

### **Results and activities planned:**

**OBJECTIVE 1: Durably improving hygiene practices, access to safe drinking water and sanitation for the populations living in the rural areas targeted.**

**Result 1: The hygiene knowledge and practices of rural families and the sanitation of villages are improved.**

- Diagnosis and analysis of the sanitary situation, selecting areas to prior.
- Sensitizing the families and involving them in the improvement of the hygienic and sanitation situation.
- Training community leaders for the diffusion of hygiene messages and the follow-up of practices.
- Training and supporting communities for the construction of latrines.
- Following and evaluating the evolution of knowledge and practices, including the use and renew of latrines.

**Result 2: Access to safe drinking water is durably improved**

- Supporting communities for the construction or rehabilitation of protected water points.
- Promoting and following household chlorination.
- Ensuring a technical control of the infrastructures and of the quality of the water delivered.
- Supporting the water institutions for the development of guidelines related to the technical validation of water points.

**OBJECTIVE 2: Reinforcing and improving the services for the management and maintenance of water points.**

**Result 3: Guidelines for the management and the regular maintenance of water systems, financed by the users, are established or reinforced for each water point constructed or rehabilitated.**

- Reinforcing the capacities of communities' groups for the management of water points.
- Following the evolution and the capacities of users and communities' groups to plan and finance maintenance.



**Result 4: Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply.**

- Diagnosis of water coverage and of the status of the water points are established in the areas targeted.
- Masons and contractors are trained for the rehabilitation and maintenance of infrastructures.
- Enhancing the coverage and reinforcing local private actors offering maintenance services to rural communities – repairs, access to spare parts.
- Reinforcing and supporting local private and public actors organizing regular diagnosis of water points.
- Controlling and analyzing the efficiency of the diagnosis process and the corrective actions, the evolution of sales of spare parts and their impact on functionality rate.

<b>Countries</b>	<b>Ethiopia, Haiti, Madagascar, Malawi, Mozambique, et Sierra Leone</b>
<b>Programme</b>	<b>“Improvement of access to water, hygiene and sanitation conditions, strengthening of the services for water points maintenance– Phase II ”</b>
<b>Localization</b>	<b>Inter Aide intervention area</b>
<b>Targeted</b>	Populations without access to drinking water in the regions targeted by Inter Aide
<b>Beneficiaries</b>	1 740 000 people
<b>Interventions</b>	Water and sanitation infrastructure and awareness-raising Capacity Building
<b>Duration</b>	36 month
<b>Budget</b>	Total Budget: 5 372 613 Euro including 2 499 620 euros AFD (46.53%)

## **B. Results Achieved**

### **B.1. Preamble**

During the evaluation exercise, we had difficulties obtaining accurate figures from the Program Convention (PC) due to the lack of standard indicator monitoring tools included in the logical framework by the project managers. The lessons learned coordinator has attempted to collect and correlate data based on the CP indicators, but given the wide range of tools in use (per country and even per area of intervention), it has been difficult to build an accurate picture of the results obtained for each indicator. Project monitoring is being further complicated by the lack of a clear breakdown of the targets to be achieved per country, coupled with the overlapping of several donors working to different timescales, and thus a harmonized monitoring tool is required (to provide sector leaders, project managers, country managers and the lessons learned coordinator with clearer and regular updates on project progress).

It appears vital to increasingly put a Geo-referenced database in place on the projects (tailored to the environment and which will require team training) and then GIS systems (in the future), not only to monitor progress but also to forward geo-referenced data onto the local (and national) authorities. The use of GIS is now an essential part of infrastructure projects. It helps improve the communication of results by providing spatial and temporal information, which is especially useful to an organization such as Inter Aide, which can work within the same regions for several decades. This point is further reviewed in the recommendations.

## B.2. Summary of the Results Achieved

The majority of the results for the defined indicators have been achieved and some have been substantially exceeded. These will be covered in more detail in the final report and some of the provisional data is also included in the annex.

The Convention Program II results have generally been achieved. The technological options used are relevant and sustainable for the majority of the facilities built / rehabilitated in the 6 countries. A few minor adjustments will be required to further protect the environment and ensure the good quality of drainage and some of the finishing work. Detailed recommendations will be set out in the final report.

The results may yet change as the visits and data analysis were carried out in April, but the program will not be completed until the end of June 2017.

RESULTS OBTAINED	Indicators	Ethiopia	Malawi	Madagascar	Sierra Leone	Mozambique	Haiti	TOTAL	Objective CPII	% SUCCESS
<b>Result 1 : The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	People received Awareness campaign	47 453	16 500	9 554	13 250	9 100	2 792	98 649	58 750	168%
	latrines build (subsidy or CLTS)	3 873	3 300	5 826	950	2 387	2 245	18 581	18 650	100%
<b>Result 2 : Access to safe drinking water is durably improved</b>	water point build or rehabilitated	168	49	212	51	26	10	516	529	98%
	Beneficiaries	50 400	41 535	38 617	15 400	12 527	12 715	171 194	172 500	99%
<b>Result 3 : Etablissement / empowerment of O&amp;M model for water supply systems</b>	number of water committee created or empowered	328	69	99	90	29	16	631	529	119%
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	users benefited of maintenance service	292 500	1 050 000	130 000	150 000	26 000	2 800	1 651 300	1 740 000	95%

Rating of the program by the evaluation mission according to the evaluation questions	A	B	C	D
Achievement of results according to indicators	A			
Relevance and viability of maintenance service models	A	B		
Constructive review of the cross-cutting aspects (gender, youth, environmental protection)		B	C	
Effectiveness of processes for internal and external dissemination of practices and models		B	C	
A = Excellent; B = Satisfactory; C = to be strengthened; D = unsatisfactory				
Variability of results according to countries where multi-level scoring				

## B.3. Good Quality and Sustainable Facilities

### B.3.1. Gravity-Fed Systems (Madagascar)

Since it started working in Madagascar in 1994, Inter Aide has mainly installed gravity-fed systems in the Analanjirofo district and installed wells fitted with hand pumps in the Manakara and Farafangana districts.

The facilities are of very good quality (water catchment system, tank, supply and distribution pipes, standpipes) with just a few minor improvements required to the drainage system, the finishing coatings and erosion protection installations (trenches, spring protection area). The field visit revealed that, 15 years after their initial construction, the facilities have been correctly sized and have a lifespan that far exceeds the design size used.

### B.3.2. Gravity-Fed Systems (Ethiopia)

Since it started working in the country in 1989, Inter Aide has predominantly installed gravity-fed systems in Ethiopia. These spring harnessing systems generally consist of a water catchment system, a water supply pipe, sometimes distribution installations, occasionally a tank, and water points that include a standpipe, wash-house and drinking trough.

Overall, the facilities have been simplified as much as possible and are extremely robust, and the free-flow system used (lack of taps) helps to considerably reduce breakdowns.

### B.3.3. Water Points (Malawi)

*The main positive aspects are as follows:*

- Quality of the engineering structures, which last for years and years.
- The water points, which all have a platform and protective fence around a hand pump, are based on standard models and provide very good sustainability.
- The gate at the entrance prevents animals from accessing the water point.

*The main negative aspects are as follows:*

- Water points could be better tailored to the communities' needs: construction of a drinking trough or wash-house.

### B.3.4. Latrines

#### *a) Ethiopia*

In Ethiopia, Inter Aide does not build latrines but instead conducts awareness-raising to ensure there is latrine coverage of 80% before constructing water points. Activities are carried out to encourage beneficiaries to build their own latrines.

Inter Aide has nevertheless contributed materials (cement, rebar) to support the construction of around a dozen latrines in schools.

#### *b) Malawi*

As in Ethiopia, Inter Aide does not construct latrines in Malawi but instead sets up activities to trigger the need for latrines among beneficiaries and encourage them to build their own. Inter Aide does however provide labor and cement to support the construction of SanPlat slabs in Malawi. The types of latrine built vary in accordance with the beneficiaries' needs and resources: traditional latrines (without a SanPlat slab), improved latrines, alternate-pit latrines (composting and re-use).

#### *c) Madagascar*

The SANPLAT slabs are subsidized (at 75%) and constructed before the water supply facilities are installed. They are of good quality. The approach has successfully provided



sustainable coverage (large pits and good quality slabs). Coverage is good but utilization could be improved.

## B.4. Hygiene and Sanitation Awareness-Raising Activities that Focus on Knowledge and Attitudes

The hygiene and sanitation awareness-raising methods used in the three projects are entirely relevant and have had a measurable impact on the populations' knowledge. In areas where open defecation remains a priority issue (Ethiopia and Malawi), the use of CLTS tools appears to be producing results, although there is no information yet available on the sustainability of latrines and their renewal rate within current areas. The latrine utilization and handwashing behavior change results could no doubt be improved by additional training and the improved monitoring of facilitators.

Evaluators' Opinion	Ethiopia	Malawi	Madagascar
<b>Village facilitation methodology</b>	The facilitators usually combine PHAST and CLTS approaches by adapting the techniques to the communities.	The facilitators usually combine PHAST and CLTS approaches by adapting the techniques to the communities.	The facilitators predominantly use the PHAST approach.
<b>Facilitation tools</b>	A3 booklet in Amharic. The pictures and text are not suitable for activities with groups of more than 10 people.	A4 sheets with pictures specific to Malawi. The pictures are large and easy to understand.	Posters for the approaches, fewer tools for awareness-raising.
<b>Sanitation coverage achieved</b>	Generally 100%, but it would be useful to conduct more comprehensive and robust surveys.	Generally, coverage of 70 to 80% has been achieved.	Generally, coverage of 80% to 90% has been achieved.
<b>Behavior change</b>	A survey in Daramalo revealed that, 4 years after the activities, coverage has increased from its previous rate of 74% to 80%.	A survey in Maluwa-Ndungunya revealed that, 5 years later, coverage has increased from 61% (before the activities) to 95%.	Knowledge of the messages has increased but this has not necessarily led to a change in attitudes. There have also been no surveys to assess behavior change as such (effects and impacts).
<b>Strengths of the approaches implemented</b>	Involvement of Health Extension Workers (HEW) who are continually active within the communities.	The facilitation program put in place is based on real local community demand.	Large-scale beneficiary involvement (obligation) and the knowledge acquired.

Evaluators' Opinion	Ethiopia	Malawi	Madagascar
<b>Weaknesses of the approaches implemented</b>	Lack of systematic surveys means it is not possible to fully assess behavior change or its sustainability.	The authorities play little part in the activities, despite Inter Aide initiating meetings and regular communication. There are health workers based permanently within the communities, but they have little involvement in the program. There is a duplication of messages with other agencies working within the area. High facilitator turnover means greater facilitation technique training is required.	A large number of activities are conducted over a given period, but very little support is provided thereafter. Focus is on management rather than on hygiene awareness-raising.
<b>Transfer to local outreach workers</b>	Transfer to the HEW.	There is unfortunately to transfer to the local health workers.	Hygiene outreach workers are trained during the construction phase but are provided with no subsequent support.
<b>Post-intervention monitoring</b>	No systematic post-intervention robust surveys (quality and use of latrines, handwashing).	Surveys are systematically carried out 2 years after the intervention. It could also be useful to conduct surveys after 4 years, i.e. the time it takes to fill the latrine pits.	Surveys conducted during commissioning of the water supply facilities and following construction reveal trends that would benefit from a more in-depth analysis and new analyses 12 months later. It would be useful to conduct surveys on latrine use (observation), water consumption trends and assimilation of awareness-raising lessons in order to transform awareness-raising activities into behavior change.

## C. Maintenance models: well-recognized relevance and viability that needs to be improved

Inter Aide has tested a number of management and maintenance approaches during the many years of working in the intervention areas. Over time, the current models have proven to be relevant for the intervention environments concerned. The limitations stem from the institutional framework and Inter Aide has been working on developing transitional procedures to be used until this institutional framework is improved. As Inter Aide's long-term presence, high quality activities and scale-up has transformed the organization into a key stakeholder in most of its intervention areas, it appears vital to step up advocacy efforts with local and central institutions and stakeholders. This would make it possible to build on and expand the use of the approaches and tools developed, as well as help advance work to define national strategies and texts to improve recognition, legitimacy and dissemination.

## C.I. Relevance of the Management and Maintenance Models

The management and maintenance models put in place in the project countries are relevant and viable given each area's inherent risks.

Evaluators' Opinion	Ethiopia	Malawi	Madagascar
<b>Scale of the maintenance systems</b>	65 federations supported in 9 woredas.	169 mechanics trained on maintenance.	Through its overall approach providing contracting authority support to communes, the scope of Inter Aide's support is not restricted only to the IA facilities built (130 gravity-fed systems). IA also supports commune technicians with the maintenance of all the commune's facilities.
<b>Number of facilities covered and number of beneficiaries</b>	Around 328 water points and about 98,400 beneficiaries.	9,726 water points and around 3,495,000 beneficiaries.	Depending on the motivation of each mayor, there is a management and maintenance model in place for all facilities within the intervention area. Due to the size of the area (12 communes in 3 districts), some of the less motivated communes are only given temporary support.
<b>Level of maintenance approach buy-in</b>	The federations appear to have accepted the approach, although external interventions remain the most effective motivation.	All water point committees are familiar with the maintenance system and their assigned mechanic.	Most of the committees and mayors have accepted the management and maintenance model. Some stakeholders are failing to fully perform their support role and are adversely affecting the buy-in of all the partners.
<b>Maintenance system costs</b>	The maintenance system is entirely funded through association fees.	The local mechanics are paid entirely by the water point committees.	The full cost of system can be covered by user contributions and the fees paid to the commune contracting authority.
<b>Maintenance system effectiveness</b>	The federations are in their infancy and are yet to be fully tested. However, the initial results are encouraging.	The visibility of the system and increasing professional development of the local repair technicians is creating a positive momentum for the maintenance process.	The financial viability of the commune technical department remains an issue following the changes that have occurred since the end of 2015 (elections), and greater professional development needs to be ensured. Around 85% of costs are covered on average but only 40% of water users' committees finance the WASH municipal agent.

Evaluators' Opinion	Ethiopia	Malawi	Madagascar
<b>Maintenance system strengths</b>	The federation members are from the communities and thus are directly affected by any problems with the water points.	Entrepreneurship and professional development both drive good maintenance. Visibility of the system at community and sector level.	The majority of the mayors and committees have accepted the model (water code awaiting parliamentary approval) and the process to improve professional development will legitimize the position of the municipality water agent and reinforce their role supporting the committees.
<b>Maintenance system weaknesses</b>	No economies of scale; improvement work is conducted at the Kebeles level. New construction work remains the driver that motivates the associations and federations.	Inter Aide's total withdrawal appears almost impossible; the only option available seems to be minimum long-term assistance.	Lack of long-term available and motivated staff to fill the municipality water agent roles. Failure to provide support to the committees for a period of time will make it difficult to later put the management model in place.

The three projects have each put maintenance systems in place that are properly adapted to their environment; the effectiveness of these systems is good and the impacts of this can already be seen in Malawi and Madagascar. It is now necessary to continue to develop and improve the approaches used.

The requirement to monitor and assess the impacts of the management and maintenance system means that regular data collection mechanisms need to be put in place to provide information on hand pump functionality and enable the technical departments to assess the gravity-fed systems (as is partly the case in Madagascar). Efforts to increase the professional development of the technical services are worthwhile and sufficient support should continue to be provided in order to demonstrate these efforts' effectiveness and relevance (recognition by politicians and thus kept in place between mandates). Some of the tools introduced were too complex for non-professionals to use. An effective strategy for the next few years would involve increasing professional development and simplifying the tools used.

In order to ensure sustainability and enable handover to the local authorities after a given time, it is important that these authorities are closely involved in these mechanisms (information-sharing workshops, data transfer, etc.), as is the case in Ethiopia and Madagascar. In Malawi, Inter Aide has initiated its withdrawal; however, it appears somewhat ambitious to expect local institutions to completely take over activities. Withdrawal strategies are being tested and are providing interesting results.

In Sierra Leone, although local repair technicians appear to have been quite quickly put in place, the lack of local retailers (shops working with suppliers of spare parts for hand pumps) is hampering the expansion and sustainability of the maintenance systems.

In Mozambique, the partner Ozuwela, which acts as a cooperative supplying spare parts, is progressively expanding its maintenance activities (including on other types of facility) while also forging new partnerships (funding from other NGOs).

Improvements in Inter Aide's data transfer (data quality, introduction of GIS) should help empower the local authorities.

## C.2. System Sustainability

Generally speaking, the management and maintenance models should ultimately be viable as long as Inter Aide continues to help improve the professional development of local

authority staff for a number of years to come. The fragility of the institutional framework, coupled with the lack or distance of the regional technical agencies, means sustainability will be difficult to achieve within the current environment. Scale-up and national-level lesson sharing could help to influence national sector policy and strategies. Without this institutional leverage, sustainability will remain a considerable challenge. Implementing the plans currently under discussion, as well as sharing / disseminating good practices at the central level, should influence all sector stakeholders, both local authorities and other development agencies.

The maintenance systems set up in Ethiopia and Malawi are based on national policy and are aligned to current institutional plans. This has a real impact on the legitimacy of the stakeholders appointed and trained. However, the fact that Inter Aide continues to work within the same intervention areas over a number of years tends to suggest a certain level of dependence on the part of the communities. The withdrawal process appears to pose a significant challenge and it will be important to define clear and specific strategies to ensure a successful handover to local stakeholders and institutions.

Evaluators' Opinion	Ethiopia	Malawi	Madagascar
<b>Committees' water point management</b>	Effective management with a supporting body. Committees can have considerable longevity, even without monitoring, but they need a body to provide them with methodological support.		Effective management as long as Inter Aide is there and supports the municipality water agent
<b>Partnerships set up with local institutions</b>	RCBDIA seems to be a good alternative should the government refuse to renew authorization to work in certain areas.	Baseda could constitute an exit strategy for Inter Aide for certain districts.	Management delegation contract developed by IA for the committee and commune.
<b>Network of local mechanics and repair technicians</b>	Local repair technicians from the community are not made full use of due to their high number and lack of work.	The local mechanics' network is highly developed and supported by regulatory instruments.	The hydraulic technicians trained during the construction phase are supported by the municipality water agent
<b>Spare part supply chain</b>	Difficult to implement as some communities are very remote. The market is not sufficiently developed to encourage the private sector.	The certified shop system appears to work effectively and ensures spare parts are available across the district.	A spare parts kit is purchased by the committee during the preparatory phase then funding is included in the annual budget for replacing the parts available in the district's shops.



<b>Maintenance system management structure</b>	The associations and federations model appears to be working well in the Inter Aide intervention areas; the stakeholders are all trained and familiar with their role.	Under a strict maintenance program, the mechanics are supported by the management committees. Unfortunately, some of these committees are highly disorganized and poorly trained.	Management committee supported by the commune (contracting authority) via a commune officer. IA is involved to help improve the professional development of the WASH technical department. The exit strategy has not yet been implemented.
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### C.3. A Pilot Approach for Water Chlorination at Home

The water chlorination at home activity should not serve as a substitute for minimum protection at the water point when required.

**In Malawi**, cholera epidemics have prompted sector stakeholders to set up local supply chains to provide bottles of bleach. However, the beneficiaries do not seem prepared to systematically treat the water they consume due to its high price (of the bleach) and the low prevalence of waterborne diseases in the southern region. Inter Aide wants to expand its awareness-raising activities with communities through the local repair technicians and certified shops.

**In Sierra Leone**, Inter Aide is supporting communities without access to facilities (wells) to set up 'mini' chlorination committees. In practice, these consist of one to two people placed in charge of chlorination and of purchasing bottles from the local shops. There is a factory that produces chlorine locally and the district's 14 shops are stocked with chlorine through the main shop located in the district capital. Water chlorination at home was initiated in 2011 through a pilot that targeted 300 communities. A comprehensive survey has been conducted in partnership with Inter Aide that revealed that around 80% of the households targeted chlorinate their water every two days.

**In Haiti**, the results for water chlorination at home are somewhat mixed: Inter Aide supports and trains retailers who distribute a product made in the Dominican Republic that is available from wholesalers located in the main towns. There is no regular demand for chlorine, which is predominantly purchased only during the rainy season if there is a risk of epidemics. Furthermore, the development of a sustainable market is currently being hampered by the initiatives of other NGOs who distribute chlorine free-of-charge. The estimated proportion of households using chlorine at home continues to remain low: 30% in Thomonde, 10-15% in Juanaria and only 5-10% in Bouli-Boucan Carré.

**In Mozambique**, chlorine is sold under the Certeza brand name through a small number of shops. Inter Aide is planning to ramp up its promotion of water treatment at home, particularly in communities that use alternative water sources (springs).

**In Madagascar**, the activity was launched only a few months ago and it is still too early to provide feedback on the approach.

The main challenge for scaling up this activity involves expanding protection of the water points, which will require a larger budget.

Regular monitoring of these communities needs to be carried out to ensure the water is an acceptable quality (turbidity and residual chlorine levels).

**Overall, water chlorination is an alternative that provides a solution to families with no other water treatment option. This type of approach has been used for a number of years by other agencies, including in the same target countries. It would be useful to share experience and lessons learned before proceeding with scale-up. Quality**

controls have been carried out prior to their widespread distribution. Follow up is needed.

## D. Cross-Cutting Approaches to be Improved

### D.1. Gender

There are a few initiatives in place to include a gender-based approach in projects; however, these are not necessarily systematic and no specific tools have been developed. Interesting initiatives have been implemented in Malawi involving female repair technicians, mixed gender pairs of facilitators and ensuring women are involved in the committees. Specific meetings have been held to discuss awareness-raising or the chore of fetching water. In Madagascar, women regularly occupy the position of treasurer in the committees and work as hygiene outreach workers, but this is due more to the leadership qualities of these women (developed by the facilitators) than to any specific gender-based approach. Hygiene promotion at home, which is traditionally carried out by women, highlights their day-to-day tasks and increases their legitimacy within the household; however, additional activities could also be put in place. In Ethiopia and Madagascar, women (who have a set number of seats in the federations / committees) often play only minor roles and the most responsible positions are usually held by men. Gender does not currently form part of the assessment into the improvements resulting from the supposed gains made from the increased availability of water, improved health and hygiene conditions and the time saved.

The program is not able to systematically highlight women's contribution or their empowerment. Specific monitoring tools could be developed to assess these aspects during the subsequent phase.

### D.2. Integration of Young People

The extent of young people's participation and integration in the various activities carried out by the decision-making bodies is not specifically assessed (no age-related data is collected). During the visits, we noted that there were young people sitting on the committees and working as repair technicians; however, we were unable to obtain more quantitative data.

It is clear that the management and maintenance activities implemented could help to empower young people and create employment opportunities (commune officers, repair technicians, spare parts retailers, etc.). Although the program helps to develop young people and provide them with jobs, it is not possible to assess the impact of youth exodus or the many socio-economic factors that fall outside the scope of Inter Aide's work.

### D.3. Environmental Protection

The program is improving use of the water resource while preserving the water pumping sites. The volumes of water withdrawn for human consumption are relatively low compared to the water available. There is thus little risk of groundwater depletion from human consumption. Protection areas are set up around the water harnessing areas and erosion control measures are put in place to further protect the sites. The water points all have a drainage apron to prevent water contamination and ensure there is no standing water around the water point by enabling it to drain away. However, further effort is required to improve erosion control (and drainage around the facilities) and a wider-scale study of the catchment basins needs to be carried out to identify climate change-related risks.

Latrine construction techniques comply with the specific standards in place to prevent contamination of the water table.

## **E. Effectiveness of Internal and External Communication to be Improved**

### **E.1. Activities to Share the Lessons Learned from the Approaches and Dissemination of the Models**

In Malawi and Madagascar, large-scale information-sharing and communication efforts are carried out with other stakeholders working within the areas. Meetings are held with institutions and NGOs to share ideas and improve coordination.

This helps to harmonize practices and prevent duplications of effort, although this is only totally effective if all other stakeholders are fully on board.

In Ethiopia, there is little communication on Inter Aide's activities. Thus, even though the systems set up provide sustainable solutions, these systems need to be better communicated and shared with other NGOs/stakeholders in the area to enable replication. Similarly, the federation-supported maintenance system is producing interesting results and it would be useful to organize workshops on this with other NGOs/stakeholders.

Furthermore, AFD has shown a keen interest in helping Inter Aide to disseminate its practices and experiences.

More attention needs to be paid to externally communicating the lessons learned at international conferences and forums and in publications. There are also several regional networks and events that could be used as platforms for disseminating best practice (RWSN in East Africa, for instance).

A more effective knowledge-sharing and management strategy would enable Inter Aide to disseminate its lessons learned more widely and provide a practical perspective of the approaches that work well within Inter Aide's areas of intervention.

### **E.2. The Added-Value of Sharing Practices and Lessons Learned**

#### **E.2.1. In the Countries Visited**

In Malawi, the government has largely based its development of national guidelines and training manuals on the Inter Aide maintenance approach.

In Ethiopia, advocacy efforts still need to be conducted with regional institutions to raise their awareness of the unsuitability of the association model, which is not directly appropriate for complex gravity-fed systems.

In Madagascar, some stakeholders have reused the lesson-sharing tools to conduct workshops on the commune contracting authority model. Stakeholders recognize the high quality of the tools and lessons learned.

#### **E.2.2. On-Line Survey**

As part of the evaluation exercise, an on-line survey was issued on 24/03 to 142 people on Inter Aide's and Hydroconseil's contact lists, all of whom work (or have worked) in the WASH sector within the project countries. A questionnaire was created for the 6 countries, each of which contained a list of 'key information'.

The aim of the questionnaires - containing 5 to 7 questions – was to assess:

- The extent to which stakeholders are aware of the sites facilitated by Inter Aide (Pratiques network and country blogs) and whether they use these sites;
- Which of the tools developed by Inter Aide are used the most frequently and for what purpose;
- Stakeholders' opinion of the various tools;
- The extent to which the documents published by Inter Aide are consulted through other platforms (pS-Eau, RWSN, etc.);
- Any feedback on the knowledge-sharing workshops held in Madagascar and Malawi on water point maintenance;
- Feedback collected to improve the tools developed by Inter Aide for dissemination.

On 5 May, 28 responses had been received, equating to a medium response rate of 20%

Countries	Number of survey question send in 24/03	Number of answer received 05/05	Rate of answer by countries %
Madagascar	35	7	20%
Ethiopia	19	4	21%
Malawi	28	6	21%
Mozambique	13	3	23%
Haïti	23	6	26%
Sierra Leone	24	2	8%
<b>Total</b>	<b>142</b>	<b>28</b>	<b>20%</b>

Although the low response rate makes it impossible to produce robust statistics, a number of trends can be identified, including:

- The "Pratiques" network seems relatively well-known (by just over two-thirds of those surveyed across all the project countries), as do the country blogs (in the country concerned); the documents published by Inter Aide appear to be fairly well disseminated by the partners networks and particularly through the pS-Eau platform;
- The most commonly used tools are: i) the "Pratiques" technical sheets; ii) the lesson-sharing or summary documents on the blogs; and iii) the procedure manuals;
- The people that have already used these tools generally have a good to very good opinion of the tools' quality and relevance, and consider them useful for their work; overall, the lesson-sharing efforts are welcomed;
- The tools developed by Inter Aide are mainly used for: i) training and capacity-building; ii) developing facility management approaches; and iii) developing projects or developing specific water sector tools; however, the Inter Aide tools are seldom used for developing sector standards or documents.

Some of the feedback provided through the surveys is worthy of further consideration and can be summarized as follows:

- There is already an (overly) extensive amount of WASH-related information available and there is an expectation for this to be summarized and made more accessible to field practitioners;
- The tools need to be simplified so that more people can use them;
- Some people would like to see small explanatory videos in addition to the current tools;
- Inter Aide could work in an advisory role with stakeholders wanting to implement or adapt the tools;
- The links with other platforms in the sectors of intervention could be enhanced to improve the pooling of resources.

## **F. Lessons Learned**

### **F.1.1. Community-Based Approach**

The community-based and participatory approaches have been mostly effective, with some differences due to the different implementation environments. As coverage continues to increase over time, the approach needs to keep evolving to achieve coverage of 100%, which would ensure the viability of the management and maintenance models. A good community-based approach is not enough to guarantee sustainable access to water and sanitation, which remains just one link in the overall chain.

In the coastal villages of Mozambique, where the level of involvement varies, due notably to fishing activities, Inter Aide has adopted a more neighborhood-based approach.

Haiti remains a specific case where the approach often focuses on households (individual awareness-raising sessions) rather than on village committees and thus its success is dependent on buy-in at the family level.

### **F.1.2. Hygiene and Sanitation Education**

Hygiene and sanitation education has effectively improved the local people's knowledge and attitudes by focusing on developing supporting materials for awareness-raising. However, as Inter Aide is a long-term stakeholder, it would be useful to continue to adapt the approaches and tools used (facilitation and monitoring of behaviors) in order to assess the impacts on behavior.

### **F.1.3. Water Supply Facilities**

Inter Aide's many years' experience of working in the 6 countries has enabled it to adapt the technologies used over time, both to optimize the cost per beneficiary and ensure the facilities installed are sustainable and of good quality.

The chlorination at home approach introduced in some of the countries (or areas) could be used to provide an alternative solution when there are no sustainable technological options available. However, a number of precautions need to be taken (products certified by the Ministry of Health) and medium-term support is still required to improve the visibility of this approach.

In Haiti, it is vital that awareness-raising be carried out on systematically using chlorine to treat surface water as chlorination of water at home remains rare and varies according to the season. This awareness-raising is also required in areas where some groundwater facilities are unsuitable for use all year round (Sierra Leone).

### **F.1.4. Management and Maintenance Systems**

The management and maintenance models are aligned to the specific country's institutional frameworks and are adjusted as required when these institutional frameworks restrict the models' viability. Inter Aide has successfully adapted these models in most of the project countries as part of a transitional phase while awaiting institutions' ruling on these systems. The systems have been working for an extremely long time in Ethiopia without intervention from IA as this country has a propensity for discipline and organization.

However, in both Madagascar and Malawi, these systems work well only as long as Inter Aide continues to provide support to the committees and technical departments. In addition, rehabilitating or building new facilities often stimulates stakeholders' motivation. Inter Aide's withdrawal from certain areas will be a real challenge and thus further work is required to more clearly define and test exit strategies, which in turn will be affected by the changes to



the evolving institutional frameworks. Exit strategies are scalable and work needs to be carried out at the more macro, central level in order to influence institutional partners. In Malawi, the exit strategy has already been initiated.

### **F.1.5. Institutional Approach and Coordination**

Inter Aide works to coordinate activities with institutional partners and other stakeholders within these intervention areas. Relationships with institutional partners are generally good and constantly improving. It remains vital to continue to focus efforts on improving the autonomy of the sectors.

### **F.1.6. Lessons Learned and Lesson-Sharing**

Inter Aide has been sharing its lessons learned through the Pratiques network for a long time now. Since the scale-up of certain programs, the lessons learned from the management and maintenance models have also been shared. Workshops are held in the intervention areas with institutional partners and stakeholders. These workshops provide Inter Aide with greater legitimacy and should help to influence institutions' adaptation of the institutional framework (strategy, policy, water code, action plan, etc.). The donors should also help Inter Aide in their advocacy role.

## **G. Initial Recommendations**

This synthesis covers the general recommendations only. The final report will include more specific recommendations for each context.

### **G.1.1. General**

#### ***a) Monitoring Tools***

- Harmonization of the monitoring tools used for the projects conducted under the same Convention Program is required (with some adjustments to tailor these to specific environments) in order to reduce the time spent looking for and validating data, time that could be better spent on studies to identify lessons learned and on sharing experiences.
- Given the large number of facilities constructed over the years, it would be useful to increase the use of harmonized georeferenced database to monitor projects in areas where the partners have the IT tools required or in countries where there is a national database that is used for decision-making (for scale-up, etc.). GIS would be great in the future to be implemented based on georeferenced database.

#### ***b) Sharing / Communication / Advocacy***

- As outlined above, GIS tools would make it easier to share data with local authorities (as is the case in Madagascar) and would provide communication tools for improving the sharing of experiences and conducting more effective advocacy campaigns.
- It is necessary to continue to organize discussion and lesson-sharing workshops to improve other stakeholders' 'practices and influence decision-makers, notably in relation to the management and maintenance models, which play a key role in ensuring sustainability.
- The blogs developed for Ethiopia, Madagascar and Malawi provide added value for information-sharing; however, these need to be more frequently managed and be updated by the project managers in these countries, rather than by a staff member from head office.

- The donors are key advocacy stakeholders. Joint efforts by Inter Aide and its donors (notably AFD and the EU where relevant) would help influence local politicians through practical experience.

### ***c) Lessons Learned and Internal Training***

Inter Aide has strong technical, strategic and hygiene and sanitation-related skills. It would be useful to introduce internal knowledge transfer within teams (senior to junior team members), between countries or during sector heads' visits to head office. Initiatives have already been implemented in the past and expanding this type of practice (at both head office and field levels) would help build team loyalty and provide new input for improving the models and further developing the approaches used.

## **G.1.2. Management and Maintenance Models**

- Plans to improve professional development in Madagascar and Malawi need to be continued. The municipality contracting authority approach is relevant and needs to be enhanced, as does municipality water agent support. At the same time, the monitoring tools and user committee tools all need to be made easier. More time and Inter Aide human resources need to be invested in supporting the committees and the commune water and sanitation technicians over a period of several years, initially focusing on the most dynamic communes/areas to create leverage.
- Medium-term support of the institutional models in place will help increase legitimacy and sustainability, at the same time as introducing best practice to be shared with institutional partners and other stakeholders.
- Working in conjunction with local partners could help with the development of complementary approaches and ensure cost-effective sustainability following Inter Aide's withdrawal.
- In the communes / areas with high water coverage and where the technical solutions for improving this coverage remain complex (cost/benefits), it would be useful to focus on Inter Aide's withdrawal strategies only once the sustainability of the systems has been guaranteed.

## **G.1.3. Cross-Cutting Aspects**

### ***a) Gender***

- A systematic gender-based approach that includes appropriate indicators would help improve assessment of women's empowerment and development under the projects.
- An internal gender-based approach that includes both male and female facilitators would also help to tailor hygiene awareness-raising activities to different audiences (as successfully initiated in Malawi).
- Highlighting successful examples of women's involvement in committees or appointment to more strategic positions could help to influence other communities.

### ***b) Young People***

- More frequent hygiene and environmental awareness-raising in school would provide added value and ensure children become familiar with hygiene and environmental protection issues at a younger age, thus resulting in more sustainable behavior change.
- A formal knowledge transfer between senior and junior staff, particularly among the facilitators, would improve the effectiveness of hygiene and sanitation awareness-raising activities.
- Specific monitoring tools for assessing young people's involvement in the program would help better identify their contribution and the impacts of the program on youth exodus.

### ***c) Environmental Protection***

- Broader consideration of the spring protection area through observation of the catchment basin environment upstream of the facilities would improve prior identification of runoff risks.
- Long-term monitoring of spring flow rates would help to better determine climate change-related risks (some initiatives already address this). These measures should also lead to the development of a more integrated water resource approach at the basin level.
- Working in conjunction with stakeholders working on community environmental issues or with schools would help address reforestation by ensuring land management is also taken into account. It would be useful to combine school awareness-raising with setting up a village plant nursery.
- Better supported erosion control measures are required around the water point protection areas (and also along the pipelines following the contour lines).

## H. Annex: Results achieved by countries

### H.1.1. Ethiopia

The program started in July 14 and is active in 9 Woredas targeted. The result achieved during the Program Convention from July 2014 to July 2017:

RESULTS ACHIEVED	9 Woredas in 4 zones	
<b>Result 1 : The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	<b>168</b>	Communities received awareness campaign
	<b>47 453</b>	Hygiene education beneficiaries
	<b>3 873</b>	Latrines build
<b>Result 2 : Access to safe drinking water is durably improved</b>	<b>168</b>	Water points build or rehabilitated
	<b>50 400</b>	beneficiaries
<b>Result 3 : Establishment / empowerment of O&amp;M model for water supply systems</b>	<b>328</b>	associations created or empowered
	<b>65</b>	federations created or empowered
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	<b>130</b>	Local maintenance agent trained
	<b>292 500</b>	Users benefited for maintenance service

### H.1.2. Malawi

The program is active in 6 district targeted: Dowa, Salima, Kasungu, Ntchisi, Nchinji and Phalombe. The result achieved during the Program Convention from July 2014 to July 2017:

RESULTS ACHIEVED	6 district	
<b>Result 1 : The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	<b>69</b>	Communities received awareness campaign
	<b>16 500</b>	Hygiene education beneficiaries
	<b>3 300</b>	Latrines build
<b>Result 2 : Access to safe drinking water is durably improved</b>	<b>49</b>	Water points build or rehabilitated
	<b>41 535</b>	beneficiaries
<b>Result 3 : Establishment / empowerment of O&amp;M model for water supply systems</b>	<b>49</b>	associations created or empowered
	<b>69</b>	Number of water committee created or empowered
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	<b>167</b>	Local maintenance agent trained
	<b>9 726</b>	Number of infrastructure integrated in preventive maintenance initiative
	<b>83</b>	Number of store with spare part
	<b>1 237</b>	Number of maintenance contracts
	<b>1 050 000</b>	Users benefited for maintenance service

### H.1.3. Madagascar

The programme is active in the district of Fénérive Est and Vavatenina of the Analanjirofo region, the district of Farafangana of the Atsimo Atsinana region, and the district of Manakara in the Vatovavy Fitovinany region. The result achieved during the Program Convention from July 2014 to July 2017:

RESULTS ACHIEVED	9 Woredas in 4 zones	
<b>Result 1: The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	99	Communities received awareness campaign
	9 554	Hygiene education beneficiaries
	5 826	Latrines build
<b>Result 2 : Access to safe drinking water is durably improved</b>	212 +23	Water points build or rehabilitated
	36 000	beneficiaries
<b>Result 3 : Establishment / empowerment of O&amp;M model for water supply systems</b>	99	water committee created or empowered
	99	Number of hygiene committee created or empowered
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	212	Local maintenance agent trained
	99	Number of maintenance contracts
	130 000	Users benefited for maintenance service

### H.1.4. Sierra Leone

The programme is active in 6 of the 15 chiefdoms North district of Bombali. The result achieved during the Program Convention from July 2014 to July 2017:

RESULTS ACHIEVED	9 Woredas in 4 zones	
<b>Result 1: The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	90	Communities received awareness campaign
	13 250	Hygiene education beneficiaries
	950	Latrines build
<b>Result 2 : Access to safe drinking water is durably improved</b>	90	Water points build or rehabilitated
	15 400	beneficiaries
<b>Result 3 : Establishment / empowerment of O&amp;M model for water supply systems</b>	26	water committee created or empowered
	90	Number of hygiene committee created or empowered
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	600	Local maintenance agent trained
	16	Number of maintenance contracts
	150 000	Users benefited for maintenance service

### H.1.5. Mozambique

The programme is active in the district of Memba and Nacala a Velha. The result achieved during the Program Convention from July 2014 to July 2017:

RESULTS ACHIEVED	9 Woredas in 4 zones	
<b>Result 1: The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	29	Communities received awareness campaign
	12 527	Hygiene education beneficiaries
	2387	Latrines build
<b>Result 2 : Access to safe drinking water is durably improved</b>	26	Water points build or rehabilitated
	9100	beneficiaries
<b>Result 3 : Establishment / empowerment of O&amp;M model for water supply systems</b>	29	water committee created or empowered
		Number of hygiene committee created or empowered
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	87	Number of infrastructure integrated in preventive maintenance initiative
	6	Number of maintenance contracts
	26 000	Users benefited for maintenance service



### H.1.6. Haïti

The programme is active in the municipality of Juanaria, Bouli and Thomonde. The result achieved during the Program Convention from July 2014 to July 2017:

RESULTS ACHIEVED	3 municipalities	
<b>Result 1: The hygiene knowledge and practices of rural families and the sanitation of villages are improved.</b>	<b>12715</b>	Hygiene education beneficiaries
	<b>2245</b>	Latrines build
<b>Result 2 : Access to safe drinking water is durably improved</b>	<b>10</b>	Water points build or rehabilitated
	<b>2792</b>	beneficiaries
<b>Result 3 : Establishment / empowerment of O&amp;M model for water supply systems</b>	<b>16</b>	water committee created or empowered
	<b>10</b>	Number of hygiene committee created or empowered
<b>Result 4 : Networks and services (institutional or privates) for maintenance are established in order to address efficiently the needs to maintain water supply</b>	<b>10</b>	Number of maintenance contracts
	<b>2800</b>	Users benefited for maintenance service