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## Self-supply End-line Evaluation

Report of an end-line evaluation for the Millennium Water Alliance-Ethiopia Programme Self-supply Acceleration pilots

Supporting water sanitation  
and hygiene services for life



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This report provides a summary of the findings of an end-line evaluation of an innovative Self-supply acceleration pilot in five woredas in Oromia and Amhara National Regional States by the Millennium Water Alliance Ethiopia Programme (MWA-EP). The end-line data collection was undertaken by enumerators and IRC staff in September-October 2017. The findings provide basis for both assessment of the outcomes of the pilot and planning of follow up by the alliance. The report was prepared by Lemessa Mekonta, Richard Ward and John Butterworth from IRC Ethiopia on behalf of the MWA-EP and with inputs from Dr Sally Sutton, MWA-EP and the activity partners CARE, CRS/MCS, World Vision and Water.org. Funding was provided by the Conrad N. Hilton Foundation. For further information on the please contact Lemessa Mekonta (coordinator of IRC Self-supply activities, [mekonta@ircwash.org](mailto:mekonta@ircwash.org)) or Melkamu Jaleta (MWA in Ethiopia Country Representative, [melkamu.jaleta@mwawater.org](mailto:melkamu.jaleta@mwawater.org)) and Mussie Tizazu ([tezazu@mwawater.org](mailto:tezazu@mwawater.org)) who coordinated the overall pilot.

Unless otherwise indicated, all figures, illustrations and photos are by IRC.

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Self-supply Acceleration pilot activities within the MWA-EP have been funded by the Conrad N. Hilton Foundation and the activity partners IRC, CARE, CRS, World Vision, Aqua for All and water.org



# Contents

## 1. Contents

<b>TABLES</b> .....	<b>VI</b>
<b>FIGURES</b> .....	<b>VI</b>
<b>ACRONYMS</b> .....	<b>VII</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>VIII</b>
<b>1. INTRODUCTION</b> .....	<b>1</b>
1.1 What are Self-supply and Self-supply acceleration? .....	1
1.2 Summary of programmed MWA-EP activities .....	2
1.3 End-line evaluation .....	3
1.4 Revisions and recommendations at mid-term .....	4
Woreda-level planning of Self-supply acceleration activities .....	4
Markets, finance and business development .....	5
<b>2. END-LINE EVALUATION AIMS AND METHODOLOGY</b> .....	<b>6</b>
2.1 Evaluation questions .....	6
2.2 End-line data collection .....	7
2.3 Key informant interviews (KIIs).....	8
2.4 Report Findings and Structure .....	8
<b>3. RESULTS</b> .....	<b>9</b>
3.1 Uptake of household-led Self-supply in targeted woredas .....	9
Household investment in Self-supply .....	10
Well characteristics and the level of protection .....	10
Contamination risks .....	12
Investments and loan uptake .....	12
Lifting devices and functionality .....	13
Reliability and adequacy .....	14
Households access to information.....	14
Water Quality Safety measures .....	14
Water quality .....	15
<b>4. REVIEW OF PROGRESS IN EACH ACTIVITY AREA</b> .....	<b>18</b>
4.1 Demand creation .....	18
Best Practice .....	19
Challenges .....	19
4.2 Technology introduction .....	20
Best Practices .....	20
Challenges .....	20
4.3 Private sector strengthening.....	21
Best practices .....	22
Challenges .....	23
4.4 Financing (Micro-finance) .....	23
Best Practices .....	24
Challenges .....	24
4.5 Government Support and Monitoring Systems .....	25
Best Practices .....	25
Challenges .....	26

4.6	Other key Informant Responses .....	26
	Factors of success .....	26
	Planning and Learning/ Future Sustainability .....	27
	Woreda and Government Capacities.....	27
<b>5.</b>	<b>CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>28</b>
5.1	Summary Review against objectives as revised at midline.....	28
5.2	Summary Review of progress in Self-supply Acceleration activity areas.....	29
	Demand Creation.....	29
	Technology Options .....	29
	Private sector development .....	30
	Financial Systems (microfinance).....	30
	Government support and Monitoring Systems.....	30
	Coordination and Crosscutting Issues .....	31
	Recommendations.....	31
<b>6.</b>	<b>REFERENCES .....</b>	<b>32</b>
	<b>ANNEX 1: SUMMARY OF KNOWLEDGE PRODUCTS AND PERFORMANCE AGAINST PLANNED TARGETS. 33</b>	
	○ <b>LEARNING RETREAT ON SELF-SUPPLY IN BUTAJIRA CAN BE ACCESSED AT</b>	
	<b>HTTP://WWW.IRCWASH.ORG/BLOG/LEARNING-BUTAJIRA-CAPITAL-SELF-SUPPLY .....</b>	<b>35</b>
	○ <b>MONITORING SELF-SUPPLY CAN BE ACCESSED AT</b>	
	<b>HTTP://WWW.IRCWASH.ORG/RESOURCES/POSTER-MY-WATER-MY-BUSINESS-MONITORING-SELF-</b>	
	<b>SUPPLY-RURAL-ETHIOPIA.....</b>	<b>35</b>
	○ <b>A QUICK SCAN OF THE GROUP-BASED SELF-SUPPLY APPROACH CAN BE ACCESSED AT</b>	
	<b>HTTP://WWW.IRCWASH.ORG/ /BLOG/CAN-GROUP-BASED-SELF-SUPPLY-DELIVER-WHAT-WE-WANT..</b>	<b>35</b>
	○ <b>HOW CAN WE GET MORE PEOPLE TO TREAT THEIR OWN WATER? PROMOTING SELF-SUPPLY:</b>	
	<b>THE CHALLENGES OF IMPLEMENTATION AT THE DISTRICT LEVEL.....</b>	<b>35</b>
	○ <b>HTTP://WWW.IRCWASH.ORG/BLOG/PROMOTING-SELF-SUPPLY-CHALLENGES-</b>	
	<b>IMPLEMENTATION-DISTRICT-LEVEL .....</b>	<b>35</b>
	○ <b>PROMOTING SELF-SUPPLY: THE CHALLENGES OF IMPLEMENTATION AT THE DISTRICT LEVEL</b>	
	<b>35</b>	
	○ <b>HTTP://WWW.IRCWASH.ORG/BLOG/PROMOTING-SELF-SUPPLY-CHALLENGES-</b>	
	<b>IMPLEMENTATION-DISTRICT-LEVEL .....</b>	<b>35</b>
	<b>ANNEX 2: PRIVATE BUSINESSES DEVELOPMENT.....</b>	<b>36</b>
	<b>ANNEX 3. MFI ENGAGEMENT .....</b>	<b>39</b>
	<b>ANNEX 4: DEFINITION OF WEALTH GROUPS FOR PILOT WOREDAS .....</b>	<b>40</b>
	<b>ANNEX 5: UPGRADED AND NEWLY CONSTRUCTED FAMILY WELLS.....</b>	<b>42</b>
	<b>ANNEX 6: MAPS SHOWING LOCATIONS OF BASELINE DATA COLLECTION .....</b>	<b>43</b>
	<b>ANNEX 7: ADDITIONAL QUESTIONS FOR PARTNERS IN ADDITION TO THE BASELINE QUESTIONS</b>	
	<b>INCLUDED: .....</b>	<b>45</b>
	<b>ANNEX 8. LIST OF CONTACTED PEOPLES .....</b>	<b>47</b>
	<b>ANNEX 9: SELF-SUPPLY TECHNOLOGY LADDER USED BY SOME IPS FOR PROMOTION .....</b>	<b>48</b>
	<b>ANNEX 10: CONTENT OF THE SELF-SUPPLY ACCELERATION PLANNING GUIDELINES .....</b>	<b>50</b>
	<b>ANNEX 11: MODIFIED SANITARY SURVEILLANCE TOOLS FOR FAMILY WELLS SCORING .....</b>	<b>51</b>
	<b>ANNEX 12: RESULTS CHAIN FOR SELF-SUPPLY ACCELERATION PILOT (HOUSEHOLD LED APPROACH).....</b>	<b>52</b>
	<b>ANNEX 13: ESTIMATION OF PER CAPITA SUPPORT INVESTMENT FOR MWA-SSA PROJECT TARGET</b>	
	<b>KEBELES IN FIVE KEBELES .....</b>	<b>53</b>

## Tables

Table 1. Revised targets (November 2016) agreed at extraordinary Program Learning Group (PLG) meeting held in Addis Ababa (at the same time the project woredas were reduced to five).....	5
Table 2: End-line survey sample details in the three woredas.....	7
Table 3 Plan and achievement of family wells (upgrading & new construction) in five woredas .....	9
Table 4: Microbiological risk for sample of family wells .....	16
Table 5. Flouride test results (sample of 4 wells) .....	17
Table 6. Summary of the business development .....	22

## Figures

Figure 1: Location of MWA-EP pilot Self-supply acceleration activities .....	viii
Figure 2: Conceptual model of Self-supply Acceleration Process relative to the End-line study period. ....	2
Figure 3: Wells with different levels of protection .....	10
Figure 4: Well mouth cover (sample of 49 wells) .....	11
Figure 5: Lining of wells (sample of 49 wells) .....	11
Figure 6: Seal lining and parapet .....	12
Figure 7: Lifting devices employed on family wells (sample 49 wells) .....	13
Figure 8: Water use from family wells (sample of 49 wells).....	14
Figure 9 Lifting device hygiene management (sample of 49 wells).....	15

## Acronyms

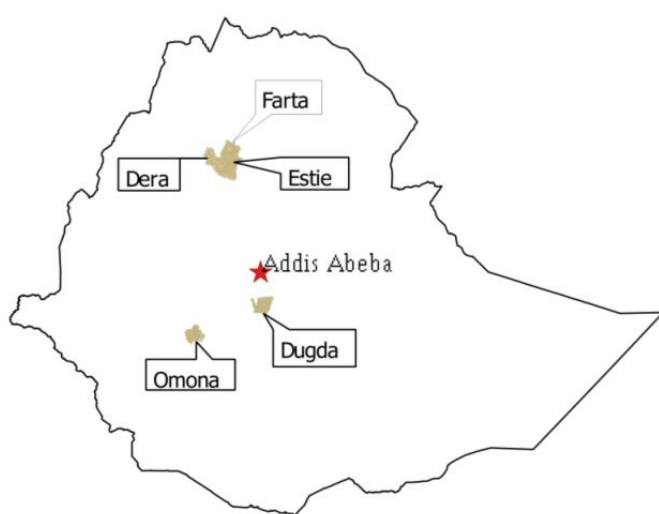
A4A	Aqua 4 All
ACSI	Amhara Credit & Saving Institute
CBT	Compartment Bag Test (for water quality testing)
CRS	Catholic Relief Services
EC	Ethiopian Calendar
EDHS	Ethiopian Demographic and Health survey
ETB	Ethiopian Birr
EWTI	Ethiopian Water Technology Institute
HEWs	Health Extension Workers
HH	Household
HWTS	Household Water Treatment and Safe Storage
IRC	<a href="http://ircwash.org">ircwash.org</a>
MCS	Meki Catholic Secretariat
MFI	Micro-finance institution
MOWIE	Ministry of Water, Irrigation & Electricity
MPN	Most Probable Number (for faecal coliform bacteria counts)
MWA	Millennium Water Alliance
MWA-EP	Millennium Water Alliance Ethiopia Program
NCE	No Cost Extension
NGO	Non-Governmental Organization
OWNP	One WASH National Program
PO	Program Objectives
PSNP	Productive Safety Net Program
SME	Small and Micro Enterprise
SSA	Self-supply Acceleration
WASH	Water, Sanitation and Hygiene

# Executive summary

## 1. Purpose

The following report documents the progress of the MWA –Ethiopia Programme (MWA-EP) on Self-supply Acceleration (SSA) (funded by the Conrad N Hilton Foundation, with additional support from Aqua for all), with special reference to the findings of the end-line evaluation of pilot activities over the last 16 months of the programme. It concerns the process of introducing a new supplementary approach into rural water supply strategy in Ethiopia and reflects the efforts of regional and woreda level government, CARE (Dera, Farta and Estie woredas), World Vision (Omonada woreda), CRS/MCS (Dugda woreda), A4A, Water.Org and IRC amongst others.

**Figure 1: Location of MWA-EP pilot Self-supply acceleration activities**



## 2. Objectives of the pilot

The overall objectives of the pilot were firstly, to develop models for Self-supply acceleration which could be integrated into rural water supply activities in relevant areas, and secondly, to provide adequate information of the impact and potential of the approach (proof of concept) in order to allow for an assessment of whether such integration would be justified at greater scale.

## 3. The process

Support services were established in five woredas to enable households to construct and improve their own water supplies. Two approaches were used: small group supply and household level supply. This report refers chiefly to household level supply activities but also includes comparisons and contrasts with the small group supply approach. (Small group Self-supply was the focus of the first 18 month phase of the programme, and household level supply the focus of the second phase).

The pilot activities focused on developing an enabling environment for those services and nurturing the relevant support necessary for Self-supply to become established and viable into the future. Both approaches involved demand creation in communities, building government



interest and expertise in Self-supply, the offering of potential technology options, strengthening the private sector and the loan portfolio of MFIs, as well as employing their training, social marketing and monitoring capacities. Both are new approaches in Ethiopia and with such a short time period and limited window of opportunity to assess the results, only the early stages of the impact can be fully documented.

#### **4. Results**

After an end-line evaluation of the pilot activities, including household survey and key informant interviews with a range of key stakeholders, it is possible to conclude that:

4.1 Partnership and coordination among different specialized actors for common goals of implementing SSA has been clearly demonstrated.

4.2 Advocacy and capacity building on Self-supply acceleration at different levels (mainly at national and woreda levels), has resulted in better buy-in of the concept among communities and government staff.

4.3 Private sector businesses and technical skills were strengthened by the intensive training of 8 larger SMEs (comprising 20 entrepreneurs) through the Challenge Fund. Fifteen (15) smaller enterprises were trained in business management, while utilising existing skills from community water supply construction in CARE, CRS and World Vision intervention areas.

4.4 Two MFIs accepted Self-supply loan applications from households, of which 25 were granted. Fewer loans were taken-up than expected, partly because of lack of demand among the communities and the need for further promotion by the loan providers (and partly due to strict loan provision criteria).

4.5 Woreda staff were prepared to continue without support from partners (including using the tools developed by CARE, which included household demand registration, monitoring templates and bi-weekly reporting).

4.6 Overall, 731 wells were constructed or improved. 57% of these were new constructions; while the remainder were upgraded from existing wells. A small percentage reached the technology level of a rope pump or Afridev pump (3% of the 731 family wells).

4.7 Approximately 18,275<sup>1</sup> people benefitted directly from this pilot and at the time of the survey, 100% of hand-pumps were functional. This increases the accessibility and use of multiple use services (MUS) at household level, with corresponding reductions in workload and increased time for additional productive activities.

4.8 Early adopters tend to be better off, demonstrate more initiative and live in more accessible locations. They help to get Self-supply established in the community and support the sustainability of private sector activities. Such initial support provides time for the concept to reach a critical mass and take off in the wider community.

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<sup>1</sup> Based on the baseline information a given family well is shared by five households each having five family members; hence 25 peoples per one well

4.9. An increasing number of families were undertaking Self-supply improvements as a result of peer-to-peer promotion (beyond those who formally registered their interest at official demand creation events).

4.9 Participation of the poorer members of the community was not fully achieved; partly because they tend not to be the first to pick up new ideas. (Poorer members of the community often rent land and have less incentive to invest in upgrading their water services).

4.10 Much of the improvement work was undertaken by families themselves, disadvantaging female-headed households and the disabled. To include the more remote households and the more disadvantaged is likely to require incentives/ subsidies or an assessment of the degree to which they can be served effectively by sharing with others.

## 5. Challenges

- Self-supply Acceleration is a new, evolving, concept, which takes time to be taken-up and accepted by community members.
- There was a short window of implementation for construction and improvement in both phases of the programme and the impact of changes in approach after the midterm only took effect in the last 3 to 4 months.
- Lack of specific household level guidelines, and the necessary skills and training to undertake incremental improvements, led to some poor investment decisions by households.
- Full subsidy projects operating in the same areas suppressed demand, as did the expectation of receiving subsidised community water supplies (even among non-eligible communities).
- Rope pumps and high-level family well-protection is not recognised as a level of service and so not officially included in coverage estimates
- Rapid staff turn-over in government offices had an impact on institutional knowledge retention and momentum.

## 6. Conclusions

The results of the pilot demonstrate that it is justified to progress further with Self-supply acceleration. The growth in grass roots interest and activity at the household level and the support of private and public sectors (combined with the constraints on achieving universal access by community water supply and small village schemes alone) strongly indicate that Self-supply is a valuable approach to take.

The next phase of any activity needs to include adjustment to maximise the role of the public sector without undue impact on their budgets so that support to Self-supply can be scaled-up over the next three to four years.

## Recommendations

- Formulate technical guidelines on incremental improvements for households, along with lobbying for household level supply to be considered as acceptable coverage.
- Promote or convene inter-Ministry discussions and consensus on levels of subsidy, targeting poorer or more remote/hard to reach households, so that all programs offer a similar level of incentive.
- Develop strategies that target the poor and families not within access of functioning community water supplies, including efforts to address water quality.

- Expand SSA into new woredas/kebeles with adjustments in approach to reflect and address remaining challenges.
- Continue to support to the current pilot woredas/kebeles and design a gradual phasing out of support over three years.
- Work with woreda and regional level government to build up their leadership in Self-supply, including support for triggered woredas, scaling to other woredas, and integration into budgets and monitoring activities.
- Ensure continued technical and business support for SME's, encourage the development of further links to Ethiopia Water Technology Institute (EWTI) and the proposed Smart Centre.
- Continue working with key private sector players after they have reached a certain level of improvement and support their engagement with necessary follow up activities.

## 1. Introduction

Self-supply acceleration (SSA) was included as an innovative activity within the latest phase of the Millennium Water Alliance- Ethiopia Programme (MWA-EP). This was funded primarily by the Conrad N. Hilton Foundation from 2014-2017 (with additional financial support and inputs from Aqua for All).

The Government of Ethiopia has adopted Self-supply as an approach to reach rural and scattered settlements that cannot be reached by traditional community supply<sup>2</sup>. It is estimated that Self-supply, which involves households investing in their own water sources, lifting devices and storage facilities, could potentially serve up to 20% of the population. According to the Ethiopian Demographic and Health Survey (EDHS) 2016, Self-supply served at least 4% of the population nationally with convenient supply. These families use their own well on premises as the main drinking water source. In total, some 28 million people rely on unprotected wells and springs for their water supply.

Self-supply was therefore a recognised service delivery model in Ethiopia under the One WASH National Programme at the outset of the MWA-EP activities (based on existing national policy guidelines and the WASH Implementation Framework). However, it was also recognised that there are no proven models for supporting Self-supply and although Self-supply was something that some households did on their own to access water, there were few ideas or experiences on how government and other sector actors could support or accelerate this and subsequently contribute to sector goals (including universal access).

Given the sources of finance that are available to Self-supply (households own investments) and the potential for Self-supply to cost-effectively fill gaps left by other service delivery models (as well as helping to grow the private sector and jobs) it was recognised that proven models for supporting Self-supply could have significant impact on a national scale.

### 1.1 What are Self-supply and Self-supply acceleration?

Self-supply acceleration involves public and Non-Governmental Organization (NGO) investment in a set of activities that are intended to enable private household investments in new water supply facilities (Self-supply). These facilities are typically privately-owned and situated close to the owner's house, but are often shared with neighbours. Hand-dug wells that provide access to shallow groundwater are the most common type of facility, but Self-supply technologies can also include springs, rainwater harvesting systems and household water treatment and storage. Self-supply facilities may be used for drinking but because of their convenience are also commonly used for a range of other uses including bulk water supply for washing and sanitary purposes, watering of livestock and irrigation. They may be used by some households as the sole water supply, or in conjunction with other water sources such as community water supplies.

Without any proven models within the Ethiopia, the process of introducing and adjusting acceleration models developed in other countries is not a simple or an instant solution. This pilot project is the first step in the process of establishing services to accelerate people through and beyond the lowest, most affordable (but most high-risk) level of technology: an open well with no protection, towards more conventional and safer technologies, such as a range of pumps, wellhead protection and water storage solutions. It also offers the opportunity to assess

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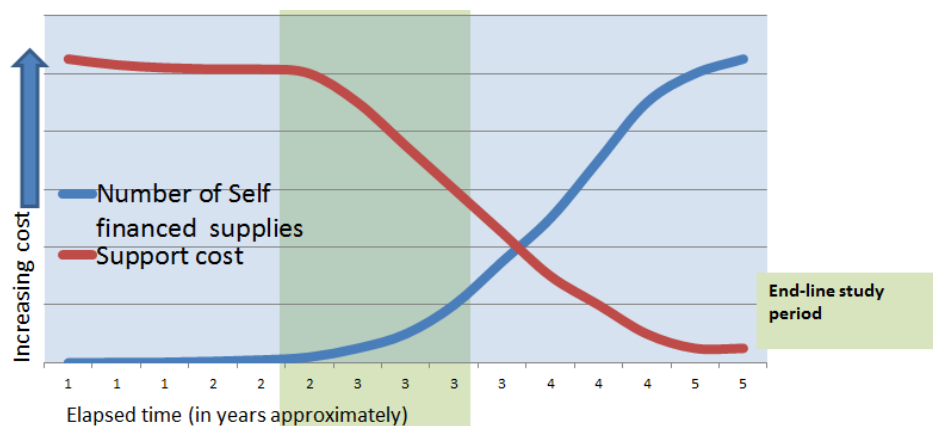
<sup>2</sup> <http://www.ircwash.org/resources/national-policy-guidelines-self-supply-guidelines-support-contribution-improved-self>.

whether such an approach is relevant and acceptable to the rural population and to adjust to the model before expanding it to other areas.

The inclusion of Self-supply support activities into rural water strategy requires a major shift in thinking for all stakeholders, from policy makers to households, and from the private sector to Micro Finance Institutions (MFIs). Moving from a dependency on donors and government funding to “only” facilitating end-user implementation is a significant shift which takes time. Such a shift needs to combine with visualising how household/ small group supplies can best operate alongside accepted community water supplies and fill the gaps these traditional approaches inevitably leave.

There are several stages in the evolution of Self-supply services and demand to a point where it can be sustained almost completely through market forces, and without a need for public funding (Figure 2). The activities reviewed by this end-line study report refer to an early stage in that process. For each pilot area, a continuing level of support will still be needed to get demand to a critical mass where private sector activity is sustainable.

**Figure 2: Conceptual model of Self-supply Acceleration Process relative to the End-line study period**



Introducing concept	Support service development	Critical mass	Fully embedded
Awareness	Social marketing	Increasingly self-sustaining growth	Sustainable
Potential	Early adopters in Self-	Reducing levels of	Higher standards
			Unsupported

## 1.2 Summary of programmed MWA-EP activities

The MWA-EP pilot focused initially on both household and group-led approaches to Self-supply and more effort was initially invested by partners to the group-led approach as it was seen as a quick win for increasing coverage and was a focus of regional governments. Early experiences with the group-led approach were assessed in a paper published by IRC in 2016<sup>3</sup>.

Self-supply was included within the MWA-EP grant under Project Objective 1: ‘To provide sustainable and equitable safe water access to 300,000 people in rural Ethiopia through the construction of new and rehabilitation of existing water schemes.’ Under Objective 1 there were two sub-objectives specific to Self-supply, which were revised in November 2016:

<sup>3</sup> <https://www.ircwash.org/resources/group-self-supply-case-study-implementation-millennium-water-alliance-partners-oromia>

- PO 1.3: Accelerate uptake of household level investment in water through the construction or rehabilitation/upgrading of 1,400<sup>4</sup> Self-supply wells serving 35,000 people; Accelerate uptake of group level investment in water through the construction or rehabilitation/upgrading of 400 Self-supply wells serving 20,000 people.

- PO 1.4. Increase access to credit for water through the issuance of 1,100 loans to support the construction of Self-supply wells.’ (later revised to 166)

MWA initially set targets for both household and community Self-supply modalities and therefore the pilot focused on both household and group-led approaches. However, more effort was initially invested by partners for the group-led approach as it was seen as a way to reach more beneficiaries, quickly increase coverage, and was a focus of local governments. The original target was to reach 55,000 beneficiaries through the development/upgrading of 11,000 household wells. This target remained, but the target details were revised in April 2016 to include shared supplies and separate activities under the group-led Self-supply approach. The targets set in the original grant only took household level investments into account, benefiting a single household of five people. It was found during the baseline that drinking water from most household Self-supply wells was shared, and to that end, the beneficiary count was revised to account for five households (or 25 people) per well. The group-led Self-supply target was therefore set at 400 wells serving 20,000 people, using an average of 10 households per well, or a well serving 50 people, assuming 35,000 to be reached through the group-led approach.

Six primary activities were outlined in the proposal to achieve PO 1.3 and 1.4. These were:

1. Demand creation through promotion/awareness raising;
2. Provision of technology options and advice;
3. Private sector strengthening;
4. Establishment of financial systems to provide loans for Self-supply through microfinance organizations
5. Support for government policies including water quality surveillance; and
6. Establishment of a monitoring system.

A set of guidelines were developed to plan and implement these activities with *woreda* governments<sup>5</sup>.

### 1.3 End-line evaluation

The objective of the end-line evaluation is to assess the results of the Self-supply Acceleration (SSA) pilot activities funded by the Conrad N Hilton Foundation (under grant number 20130474 for the duration July 2014 to November 2017). Data collection for the end-line was led by IRC and undertaken in September and October 2017, within the period of the 4 month extension provided by CNHF to November 2017.

In line with the development of the pilot activities over the course of the programme, the report focuses on outputs, outcomes and intermediate results as set out in the results chain developed

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<sup>4</sup> This was reduced to 1,100 after mid-term review when the number of active Woredas was reduced from seven to five

<sup>5</sup> <http://www.ircwash.org/resources/guidelines-developing-self-supply-acceleration-plan-your-area>

at the mid-term review in 2016.<sup>6</sup> The report concludes with the lessons learnt and recommendations on key issues for success in the next phase.

In the later part of the pilot, activities have focused on building the enabling environment for household Self-supply and the evaluation solely focuses on the household-led approach. Data was collected and analysed to evaluate whether the pilot was successful in achieving the overall strategic objective: proof of concept of an approach to Self-supply acceleration in the five target *woredas*. It also considers the extent to which planned outputs, outcomes and intermediate objectives were achieved, along with critical reflection on the approaches taken as well as adaptations and adjustments made by partners during implementation. These findings aim to assist future efforts to support Self-supply activities by both implementing partners and Ethiopian government agencies. Revisions and recommendations at mid-term

During the first year of the program (July 2014- June 2015), the Self-supply acceleration component reported the following primary achievements:

- The national Self-supply Task Force was revitalized and engaged more partners. MWA-EP/IRC played a vital role in co-organizing this group.
- A Self-supply fair (seminar, exhibition & match making) was held as part of the World Water Day (WWD) event 2015 and raised the profile of the approach nationally
- More regions were engaged through the joint Self-supply Acceleration training held with MoWIE in Adama for regional focal persons, as well as through a Self-supply retreat in Butajira
- Training of MWA-EP members and Project *woredas*' government staffs took place in Bahirdar and Adama
- Design of a Self-supply baseline survey that was successfully tested in Omo Nada *woreda*, Oromia with findings presented during Self-supply fair and the September 2015 PMG meeting in Assosa.
- Publication of Self-supply newsletter, news and blog articles which further increased the profile of the approach.

However, implementation at *woreda* level of Self-supply Acceleration was slower than planned and two critical observations were made:

- That activity planning undertaken by partners were based on outputs in terms of number of wells/beneficiary numbers (including the group led Self-supply model with 50% subsidy) and less attention was given to creating the enabling environment for Self-supply to go to scale. This subsidy approach is valid, but the per capita costs may be high and it may not be scale-able. Household-led Self-supply has the untapped potential which we wanted to demonstrate during the remainder of the programme.
- That limited resources were allocated by partners to Self-supply Acceleration activities at the *woreda* level and Self-supply Acceleration was not given a specific budget-line. As a result of these observations, the following recommendations were made with respect to the main grant activity areas after the mid-term:

#### **Woreda-level planning of Self-supply acceleration activities**

- It was recommended to plan activities that encourage upgrading as well as promoting investment in new individual household facilities (family wells).

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<sup>6</sup> The implementation strategy, particularly, the monitoring approach of the pilot Self-supply Acceleration project was revised during September 15- 17, 2015 PMG meeting held in Assosa. This meeting has also decided to inject an additional financing of 25,000 USD per *woreda* to bring more attention to the household based Self-supply

- The benefits of multiple/mixed use should be considered more prominently when promoting investment in wells, and strategies developed with the participation of agriculture, health and other sectors.
- The potential to contact owners by phone or SMS e.g. to send promotional messages or ask follow-up questions should be considered.
- There is potential opportunity to promote rainwater harvesting and household water treatment. Other kebeles within the woreda could therefore be targeted.

### Markets, finance and business development

- Interventions should further support the enabling environment that already exists in the woredas as there is a gap in business development services to support, especially in relation to on-going support to those who have had initial contact.
- It was recommended to engage private sector representatives in the planning of Self-supply acceleration interventions.
- It was recommended to explore the possibility to extend finance access to poor households, women and women-headed households as well as potential for MFIs to lend to businesses servicing the Self-supply market.
- It was recommended to facilitate business development strategies that focus on both informal and formal businesses and create an improved enabling environment for the informal ones (e.g. towards registration and licensing).
- It was recommended to increase collaboration by all appropriate partners at kebele, woreda, regional and national level to bring together the diverse existing initiatives in this area, and drive ambition and achievement at scale. The existing initiatives are not limited to MWA pilot project but also other partners' effort in developing private businesses and their engagement in both services and products. It is really the coordination and collaboration among different actors to make the initiatives scalable and replicable.

The end-line evaluation will revisit these recommendations and comment on whether and to what extent they were taken up by partners, woreda officials and stakeholders.

**Table 1. Revised targets (November 2016) agreed by Program Learning Group (PLG) meeting held in Addis Ababa (at the same time the project woredas were reduced to five<sup>7</sup>)**

Name of woreda	Lead implementing partner	Target for household led Self-supply (No. households)	Target beneficiaries (5 members per household)	Target beneficiaries counting (5 households)	Target no. of loans at (15% of total targeted households)
Dera	CARE	300	1500	7500	45
Omo Nada	World Vision	200	1000	5000	30
Dugda	CRS	300	1500	7500	45
Farta	CARE	150	750	3750	23

<sup>7</sup> The initial pilot woredas were seven (Kalu, Kelela, Omonada, Farta, Estie, Dera and Dugda). After the baseline survey, Kalu and Kelela woredas were dropped mainly for two reasons: less shallow groundwater potential and less practices of family wells but ponds in Kalu; and many stocks of pumps (treadle pump and rope pump) at woreda government Office for which no one was interested to take even for free from the woreda (Kelela)



Estie	CARE	150	750	3750	23
Total		1100	5500	27500	166

The adjustments to the program leave less than half of the three year period for piloting, and effectively mean reliance on the income of only one harvest to fund up-grading and new construction by households.

## 2. End-line evaluation aims and methodology

The aims of the Self-supply end-line evaluation are:

1. To update the baseline of existing Self-supply facilities and their performance against which the achievements of the Self-supply Acceleration pilot can be assessed;
2. To provide information for the development and continuation of Self-supply acceleration activities in future programming;
3. To encourage engagement of critical stakeholders in Self-supply acceleration and to strengthen their skills and knowledge.
4. To provide insight into overall programme learning questions, with a focus on strengths, weaknesses and challenges,

### 2.1 Evaluation questions

The original evaluation design was to answer the following questions at the end of the Self-supply acceleration pilot using a mixture of quantitative survey and qualitative Key Informant Interview (KII) methods. There were five primary question areas:

- How many privately owned Self-supply facilities were constructed or improved during the project timeframe, and how many people benefited? To what degree (level of technology, level of protection) were facilities built or improved? *(After the mid-term, the target was revised to 1100 family wells (both upgrading and new construction) after dropping two woredas- Kalu and Kelela)*
- How has microbial water quality (*E. coli*) changed during the project timeframe and can this be related to project interventions? *The target is ultimately zero or low risk water supplies, but the interest is to show whether Self-supply acceleration can achieve progressive improvements and narrow the gap in water quality performance with communal supplies.*
- How much public/NGO investment has been made in Self-supply acceleration, and how much household investment has been leveraged by this investment? *Anticipated investment is expected to be the range US\$ 10-20 per capita within the targeted kebeles; it is expected to leverage double that investment by households.*
- How many households have taken Micro-finance institution (MFI) loans or used other sources of finance to make these investments? *The initial target was for an uptake of 1,100 loans but was later revised to 166 loans after dropping Kalu and Kelela woredas.*
- What is the degree of engagement of private sector businesses in providing products and services for Self-supply? *The pilot aims to increase the number of businesses offering goods and services of different types (well digging/drilling, protection, pumps, Household Water Treatment and Safe Storage (HWTS) etc.), and support the growth of these businesses and the markets served. The target is at least two strengthened businesses operating in each woreda.*

## 2.2 End-line data collection

The development of the survey sample for the end-line differed from the approach taken with the baseline. The surveyed areas at the time of the baseline survey were selected from priority locations where the greatest impact was expected to occur. Within these locations, a baseline of existing Self-supply facilities was established so that the construction of new or upgrading of existing wells could be monitored, and changes in parameters such as water quality assessed. However, it was always understood that the market-focused nature of Self-supply Acceleration might mean it was possible (even likely) that substantial outcomes could be also located outside the areas surveyed in the baseline, which the end-line would seek to capture.

Rather than replicating the *kebele* and village-wide surveys of the baseline, or visiting a sample of wells from the baseline, the end-line survey took its sample from the participant lists maintained by implementing partners. Partners worked through well-documented processes to record the potential ‘customers’ for Self-supply related products and services (such as rope pumps or upgrading by artisans). The development of these lists therefore provided an alternative information source as the basis for end-line survey sampling. Before finalising the sample, an assessment was made of the lists to confirm whether they were reliable and up to date. Households which had followed up to implement a Self-supply intervention were then selected randomly from the verified lists of households.

With respect to water quality, the end-line survey also considered microbial contamination (using E-coli as an indicator) and, where applicable, fluoride contamination. Overall, sample sizes are small and the results should only be considered indicative and a basis for further investigation. The sampling of new and upgraded wells for fluoride should ideally assess whether these sources place users at more or lower risk than alternative sources, but this was not possible within the scope of a limited survey. In addition to water quality tests, understanding the behaviours of households in the utilization of multiple sources and drinking water risk contributed to the overall water quality assessment.

In addition to the quantitative survey (household and water quality) detail discussions on the pilot were conducted with the respective Self-supply Task Forces<sup>8</sup>, involving different woreda government offices and implementing partners. The regular updates/reports and minutes of the MWA SSA Steering committee meeting at Addis Ababa level were another source of information.

Finally, the draft report of the survey has been circulated to all partners and half-day workshop was organized for comments and feedbacks to finalize the report.

**Table 2: End-line survey sample details in the three woredas**

Woreda	End-line survey kebeles	Sample households (No.)	KIIs (No.)	Business enterprise survey (No.)	MFI interviews	Water quality tests (No.)	Remarks
Farta	Kanat	22	3	2	1	7	WQ tests for E.coli

<sup>8</sup> The woreda Self-supply Task force/Team is chaired by Woreda administrator or its delegate; it involves woreda administration, Agriculture, Water, Health, Women and Children affairs, Finance, Small and Micro Enterprise Agency, MFI, Implementing partner (NGO), etc. The Task Force is the one who is responsible for the planning and implementation of the pilot Self-supply Acceleration at woreda level

	Sahira	6					
	Wukiro	11					
Subtotal	3	39					
Dugda	Bekele Girissa	5		2	1		
Subtotal	1	5				3	WQ tests for Fluoride
Omonada	Waqጥola	1	1	1			
	Burqa Asendabo	2					
	Biso Gombo	2				1	WQ tests for Fluoride
Subtotal	3	5					
Total	7	49	4	5	2	11	

## 2.3 Key informant interviews (KIIs)

KIIs were a key source of information for the end-line, especially with respect to the more evaluative learning questions. Key informant interviews with local officials (Woreda Health Office, Water Office, Agriculture office) and professionals (rope pump technicians, artisans etc.) were used to collect information on the estimated number of Self-supply facilities as well as the presence of relevant business types and financial institutions active in the woreda. To ensure consistent information gathering and questioning, updated baseline KII templates were used when speaking to partners and government officials (see Annex 7), with Akvo Flow being used with artisans and financial institutions. *The Partner and Government Informant surveys* were updated to include additional questions to reflect the interests of the end-line survey. (A full list of KII interview questions is included in Annex 9)

## 2.4 Report Findings and Structure

Findings and data that updated the baseline survey are presented in section 3: *Results*. This includes basic socioeconomic data from households and water quality test results. The findings of the report that draw on Household survey and KII data are then discussed thematically to cover the *Project Objectives* in Section 4: *Review of Progress in each Activity Area*.

As detailed above, these Objectives break down into 6 activities:

1. Demand creation through promotion/awareness raising;
2. Provision of technology options and advice;
3. Private sector strengthening;
4. Establishment of financial systems to provide loans for Self-supply through microfinance organizations
5. Support for government policies including water quality surveillance; and
6. Establishment of a monitoring system.

Each thematic activity is discussed in turn, referencing data and information from the three main programme partners. A general overview of achievements and progress is presented, followed by best practices, challenges, and recommendations in relation to each activity. After this, some standout responses from key informant interviews are highlighted, with respect to factors of success, planning and government capacity. Section 5 deals with *Conclusions and Recommendations*.

## 3. Results

### 3.1 Uptake of household-led Self-supply in targeted woredas

The total number of new or upgraded family wells in the five project woredas was 731. Of these 57% were newly constructed and 43% upgraded against a revised target of 1100 (i.e. 66%). Rates of achievement against plan were somewhat higher in the three south Gondor woredas and similar in the two Oromia woredas (see Table 3).

**Table 3 Plan and achievement of family wells (upgrading & new construction) in five woredas**

Woreda	Target in revised plan		Achievement by October 2017						Remark
	Family wells (No.)	Loans (No.)	Upgraded well	New well	Total family wells	% target	Loans	% target	
Farta	150	23	147	288	435	73	10	11	3 loans
Dera	300	45							7 loans
Estie	150	23							
Dugda	300	45	64	117	181	60	15	33	
Omonada	200	30	105	10	115	58	-	-	
Total	1100	166	316	415	731	66	25	15	

Some reported family wells were not disaggregated into “upgraded” and “newly constructed”. Wells reported after June 30, 2017 were therefore considered as upgraded since new construction during rainy season is not possible.

The number of loans issued was substantially lower than planned (15% of the target). Loans that were extended by MFIs for Self-supply investments (Metemamen in Dugda woreda and Amhara Credit and Saving Institution in Dera, Farta and Estie woredas) required considerable advocacy and influencing work with MFIs.

### Household investment in Self-supply

The survey assessed the profile of the households investing in Self-supply facilities with respect to wealth, education and gender (although the total sample was small (49 households)). Only 2% households were among the poorest of households (disaggregated according to government census wealth categories), while 76% were in the middle wealth group and 22% in the richest wealth group. This suggests that inclusion of the poorest households requires further investigation, and the targeting of interventions need further consideration to be inclusive. The average family size of the surveyed households was slightly more than six (6.4 persons per household). Education levels are low amongst Self-supply facility owners, with 76% of men and 78% of women having no formal education.

Well ownership amongst female-headed households was found to very low. Only 6% of the new or upgraded surveyed facilities are owned by women or female-headed households (the comparable figure was 9% for the baseline survey). The average percentage of female-headed households in rural areas may be 23% according to the 2011 Demographic and Health Survey. The proportion of female well owners is therefore nearly four times less than would be expected extrapolating from this statistic. There were only three female headed households in the randomly selected sample of 49 households. Similarly to the case of wealth exclusion, this finding merits further investigation and suggests that targeted interventions may be required to make Self-supply uptake more inclusive with respect to gender and disadvantaged groups.

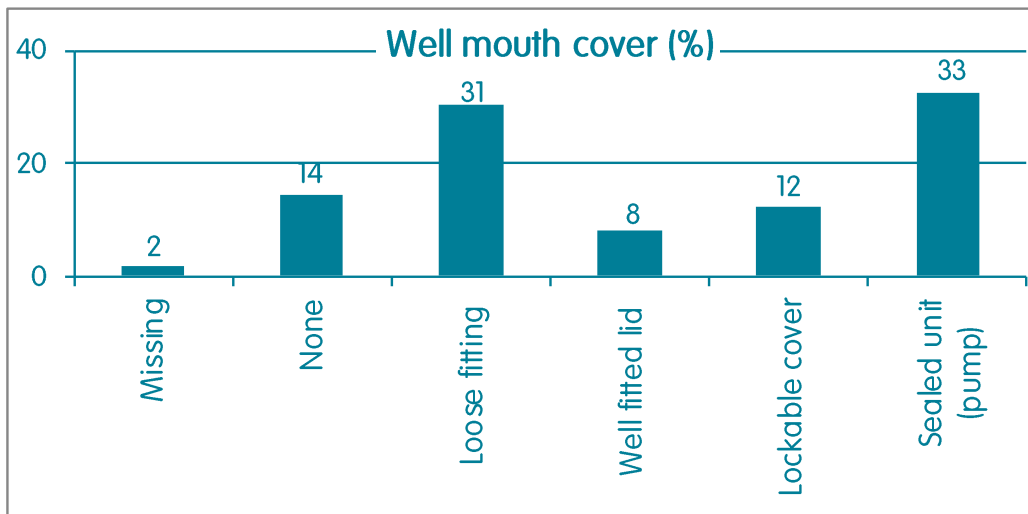
### Well characteristics and the level of protection

The minimum and maximum depth of the surveyed wells was between 8 and 24 meters, with an average depth of 13 meters. Around 80% of the wells had a depth of 15 meters or less. About a third of the surveyed wells have a sealed unit/pump (rope pump or afridev hand pump); while almost half (45%) had either no well mouth cover or only a loose fitting cover (Figure 3).

**Figure 3: Wells with different levels of protection**

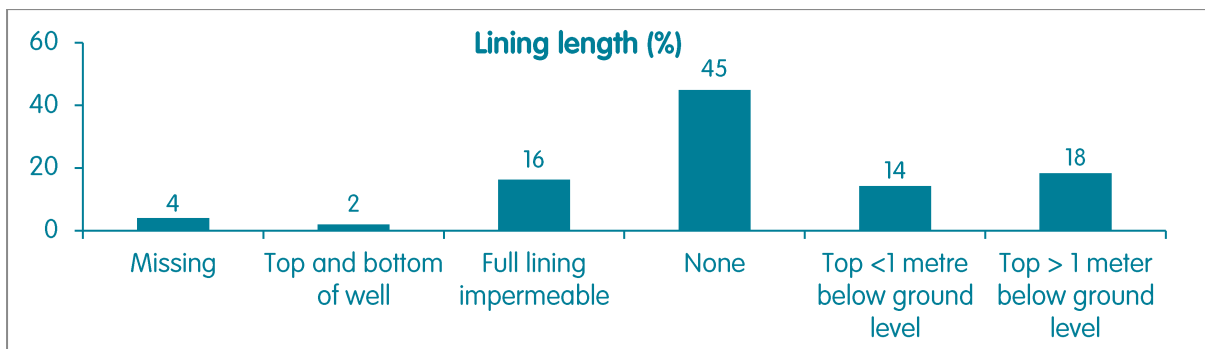


**Figure 4: Well mouth cover (sample of 49 wells)**



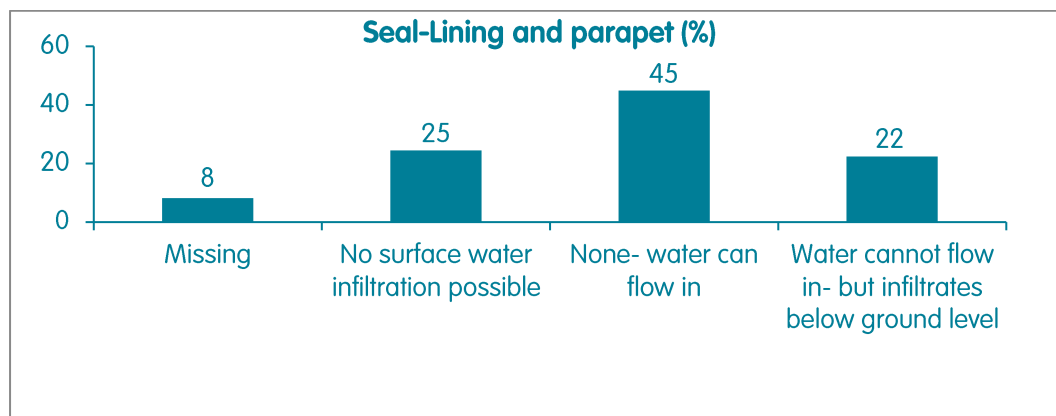
It is important to recognise that a primary objective of the pilot was to get people on the Self-supply ladder with further improvements to be encouraged at a later point. In addition, some contamination may be present regardless of the level of protection of each well. However, the newly constructed /upgraded wells performed relatively poorly on water quality. Around half (51%) of the wells surveyed had no well mouth protective wall or a permeable wall. Three-quarters of wells had a mouth either level or below the ground, meaning surface runoff was likely to enter the well during the rainy season. Only one quarter had mouths raised about the ground. Around half the wells (53%) had some form of apron, made of either compacted soil or an impermeable surface, but the rest had either no apron (22%) or were surfaced with wood or cracked concrete and stone. Most (65%) of the wells lacked any form of drainage, and only 2% had a functional soak-away.

**Figure 5: Lining of wells (sample of 49 wells)**



**Slightly less than half of the surveyed wells (45%) have no internal lining, while 16% are fully lined (Figure 5). Masonry with mortar is the most common lining material followed by wood and dry stone. There are also wells lined with bricks and concrete rings.**

**Figure 6: Seal lining and parapet**



Only a quarter of the surveyed wells have an appropriate seal to protect surface water infiltration (Figure 6).

### Contamination risks

Nearly 98% of the family well owners have their own latrine but most are basic and only 39% of those latrines have a concrete or cleanable slab. It is commonplace that there is a latrine within 30 meters distance (41%) of wells, but rare for it to be within 10 metres. Where they are within ten metres they were all found to be down-gradient of the well. Site hygiene is generally poor, reflecting lack of good advice. There was solid or faecal waste observed within a 30 meters radius of most wells (52%). Standing water around the well during the rainy season is another indicator of potential contamination. Nearly half of the surveyed wells (43%) have standing water within 30 meters distance during the rainy season. The majority of the wells surveyed (82%) had not experienced collapsing, although they are of recent age so this risk should not be fully discounted. (This may also explain why families were not currently lining their wells, or felt the need to). The overall scoring of well protection using a modified sanitary inspection method (Sutton, S., et. al., 2012) shows that none of the surveyed family wells were fully-protected (Annex 12). Around 51% of the surveyed wells were semi-protected and the rest un-protected (This method of evaluation is considered a reliable proxy indicator of microbiological contamination).

### Investments and loan uptake

The level of investment made in cash for upgrading Self-supply facilities ranged from zero (families using their own labour) to ETB 5000 (183 USD), with an average of ETB 2,021 (74 USD). Family well owners were able to estimate the costs invested in new wells for only 12 wells out of the 49 sampled during the end-line survey. The estimated cost ranged from ETB 820 to ETB 30,000 with an average of ETB 5182 (189 USD). By considering the average level of cash investment (189 USD for upgrading (316 wells) and 74 USD for new construction (415 wells)), an estimated total of 90,434 USD has been invested by households to newly construct or upgrade the 731 wells in five pilot woredas. If investment by households is compared to the investment made by the support programme (125,000 USD for five woredas) it reveals a ratio between household and programme investment of 1:1.38 dollars, which is in-line with the estimate shown in Figure 2 on page 2 (above).

With respect to loan provision, the majority of the surveyed households (39) were from Farta woreda, where paying for services and products is not common and only 10% of the sampled

households (5 households) had received loans from MFIs. Based on reports from implementing partners, the overall number of the households who have received loans from MFIs in the five project woredas was 25 (15 from the CRS intervention woreda and 10 from the CARE intervention woredas)). The two MFIs who have provided loans to households are Metemamen (private MFI operating in Dugda woreda) and Amhara Credit and Saving Institute (ACSI), a government affiliated MFI operating in Amhara National Regional State.

Metemamen in Dugda provided two different loan packages:

- 4500 ETB for those who want to have new hand dug wells installed with rope pumps (the rope pump was priced at 2500 ETB with borrowers using the remaining 2000 ETB for hand dug well construction). An unintended smart subsidy via MCS was put in place to keep the price of the rope pump low, which meant that the retail price was less than the cost of manufacture (actual cost being around 3,800 ETB in Dugda area as per the discussion with the manufacturer).
- 6500 ETB for those who want to have manually drilled wells with direct action pumps. The estimated price of the manually drilled well in the area is 4000 ETB, while the price of the direct action pump is 5750 ETB. Hence the total cost is around 9,750 ETB, out of which the borrower would be expected to cover 3250 ETB from his/her own resources. Only one out of fifteen borrowers in Dugda has received a loan for manually drilled well with Direct action pump.

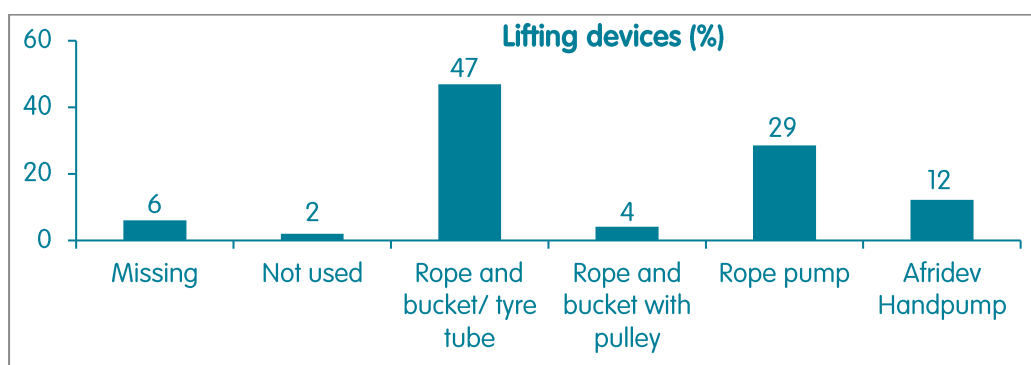
The survey included questions on the initial investments made for the construction of household facilities, as well as costs incurred for improvements and maintenance. The majority of the surveyed wells (67%) were constructed in 2016 (2009 Ethiopian Calendar (EC)) while 12% were constructed the year before. In total, 79% of the wells surveyed during the end-line survey were constructed after the baseline survey.

The level of well protection (meaning well lining, headwork and lifting device installation) can be used as a proxy indicator for the level of investment made by households. Although all households made some investment during initial well construction, these were generally low-cost actions requiring limited capital.

### Lifting devices and functionality

Of those wells surveyed, lifting devices varied from rope and bucket through to rope pump and even Afridev hand pumps. A rope and bucket was preferred by 47% of households followed by a rope pump (29%) and Afridev hand pumps (12%). Around 69% lifting devices were functioning well while 24% were functioning badly or not at all.

**Figure 7: Lifting devices employed on family wells (sample 49 wells)**

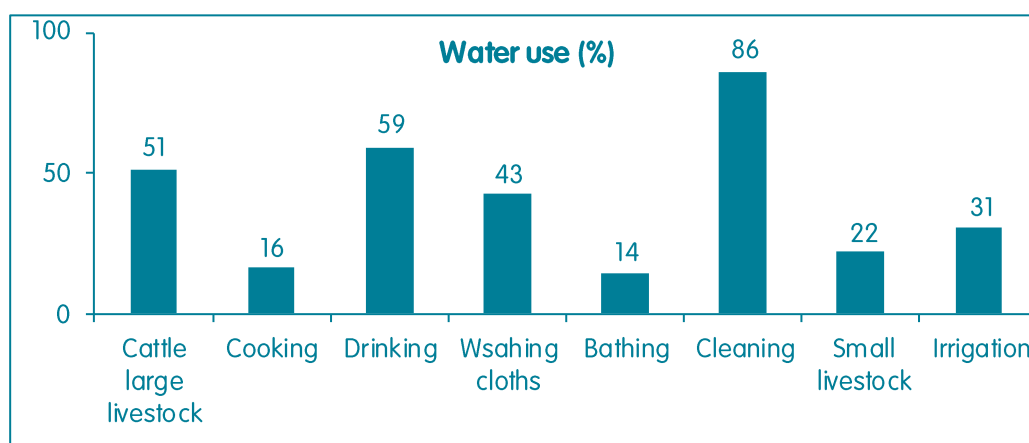




## Reliability and adequacy

Almost all the surveyed family wells are used for multiple purposes. Fifty-nine percent (59%) of the well owners use them for drinking occasionally, while about 29% of the well owners use their private supply as their main source of drinking water. There are also some (4% of the well owners) that use their neighbour's wells as the main drinking water source. Water for hygiene and sanitation is the leading use however. About a third of the wells are used for irrigation. Approximately 35% of the family wells are shared with an average of five additional households, excluding the well owner, with the average number of households sharing a water source being over 10.

**Figure 8: Water use from family wells (sample of 49 wells)**



The majority (92%) of the family wells are said to be functional throughout the year and only 2% of the family wells have a down time of more than three months. Although in some places shallow wells are vulnerable to low rainfall and climatic variability, only 12% of the family wells experience water shortage during some parts of a year, while 76% of the well owners have enough water both for a family and their neighbours throughout the year.

## Households access to information

Households usually receive information from multiple sources when constructing their own well or upgrading it. For the sampled households, the leading information source was the local NGO (71% of responses) followed by a neighbour or friend (47%). The replication of Self-supply through copying from neighbours appears high as has been observed in other countries. An interesting point to note here that there are households who haven't participated in awareness creation/promotion have nevertheless constructed their wells after the baseline survey and this may show how promotion in one area can influence those outside the programme implementation areas. Some 14% of wells surveyed in the end-line were not registered initially.

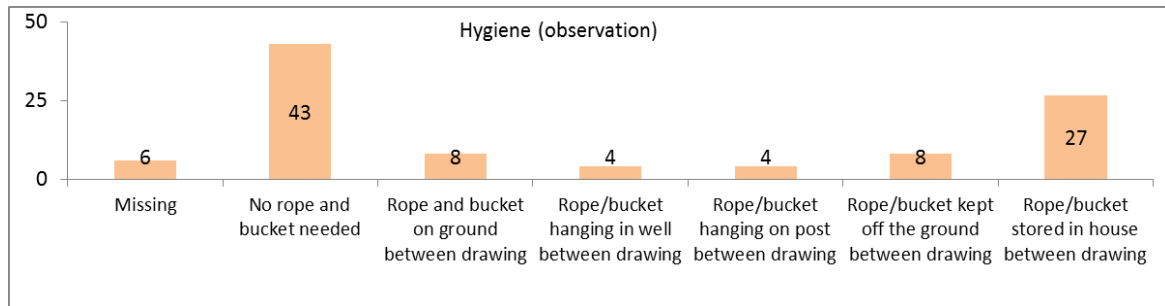
After demand creation activities, most households (94%) received a follow-up visit or support by NGO staff or government or private businesses; while 6% of the households did not receive any follow-up support. Fifty-seven percent (57%) of the households had three or more follow up interactions.

## Water Quality Safety measures

Wells without proper head-works, or at least a cover, present an obvious safety risk to users and children. Such risks can be reduced through improvements and use of better lifting devices such as a pulley or rope pump. A further risk of contamination is related to water collection and the

handling of the rope and bucket or other lifting devices. Slightly more than a quarter of households (27%) were observed to store their rope and bucket in the house between drawing water; while 8% keep the rope and bucket on ground between drawing.

**Figure 9 Lifting device hygiene management (sample of 49 wells)**





In terms of household water treatment (HWT) there appear to have been several HWT promotion campaigns in the selected woredas. Over a quarter of households largely their drinking water from community water supplies, which have chlorine dispensers attached. A further 23% treat their water with chlorine after collection and 15% use a household water filter. This is perhaps an unusually high level of water treatment in rural areas but it shows what can be achieved. (HWT promotion formed a separate element of piloting carried out by Aqua for All, and will be reported separately in more detail).

### Water quality

Only seven water samples were taken and tested for E-Coli. With such a small sample, results are only illustrative. In addition four samples (three from Dugda and one from Omonada woreda) were tested for fluoride, again providing only illustrative results. Faecal coliform levels were unacceptable in 5/7 samples tested, yet the supplies were well-protected from contamination. The results of the microbiological water quality tests do not match with the level of well protection and the surrounding cleanliness, or proximity of latrines. Tests and discussions reveal a common issue across all intervention areas; that water sources are not disinfected after upgrading with a well-head construction or pump installation. Site hygiene is however also an issue, with none of the family wells protected by a fence or barrier from incursion by animals or livestock. Fifty-one percent (51%) were semi-protected with some form of very basic or incomplete barrier, while forty-nine percent (49%) were completely unprotected.

Table 4: Microbiological risk for sample of family wells

Sample code	MPN/100ml	Health risk category	Photos
KAN 01	100	Very high risk/ unsafe	
KAN 04	1.5	Intermediate risk/ probably safe	
KAN 03		High risk/ unsafe	
KAN 06	48.3	High risk/ unsafe	
KAN 07	100	Very high risk/ unsafe	

KAN 02	9.6	Intermediate risk/ possibly safe	
KAN 05	100	Very high risk/ unsafe	

In addition to E-coli analysis, fluoride has been tested for three family wells in Dugda and one family well in Omonada. These results, which show fluoride levels above the World Health Organization recommended level of 1.5 mg/L, illustrate the importance of further assessment of water quality risks, and understanding the impact of Self-supply patterns of use of different water sources for drinking and the associated risks.

**Table 5. Fluoride test results (sample of 4 wells)**

Woreda	Kebele	F <sup>-</sup> (mg/L) <sup>9</sup>	Well owner	Remark
Dugda	Bekele Girissa	8.4	Fitala Gudata	Dental, skeletal & non-skeletal fluorosis <sup>10</sup>
Dugda	Bekele Girissa	5.5	Beriso Rago	Dental, skeletal & non-skeletal fluorosis
Dugda	Bekele Girissa	6.3	Boru Hamda	Dental, skeletal & non-skeletal fluorosis
Omonada	Biso Gombo	2.3	Gali A/Macha	Acceptable in Ethiopia

<sup>9</sup> The permissible Fluoride concentration for drinking water according to the Ethiopian standard is 3mg/L; while WHO standard is 1.5mg/L

<sup>10</sup> Dental fluorosis is the formation of paper white areas and deep brown or black stains; skeletal fluorosis includes constraint of movement of joints, deformity of legs, rigidity in spine and neck, stiffness and rheumatism as well as permanent skeletal rigidity; non-skeletal fluorosis includes the abnormality of kidneys function and parathyroid glands. Health risk The severity of fluorosis depends on Concentration of fluoride, Length of time of ingestion, Climate, Nutritional habit and enhances fluorosis

## 4. Review of progress in each activity area

The Household surveys also revealed a number of additional trends that are of specific interest for the end-line evaluation and future planning. The first is that the proportion of female well owners who undertook SSA are nearly four times less than would be expected as compared to the general population numbers in the woredas. Although the small survey size must be taken into consideration, these results suggest that more female-headed households should have undertaken SSA upgrades to their facilities. Therefore, for future work more emphasis may need to be given to supporting female well owners.

The second is that the level of decontamination needed after construction was a potentially overlooked element of support that would have had significant impact on water quality, as would an emphasis on improved well protection to deter surface contamination. As can be seen above, all sampled wells demonstrated poor water quality, and well protection via enclosure was generally inadequate or non-existent.

However, it is also clear that the renewed focus on household led SSA was able to generate relatively fast impact as well as influence beyond the programme areas. Of the wells surveyed during the end-line, 79% were constructed after the baseline survey and a significant increase in activity was noted after the mid-term. Additionally, 47% of respondents cited a friend or neighbour as their primary information source, indicating a clear potential for impact outside of the formal implementation communities.

Drawing on additional insights from Key Informant interview response, as well as the data from visiting implementing households, the progress in each of the activity areas will now be considered in more detail. For each activity area, a summary is provided of the approaches taken, and best practice examples and challenges are highlighted in each case.

### 4.1 Demand creation

Although Self-supply has been adopted as an official route to water access as part of the effort towards universal water supply coverage by the Ethiopian government, the profile of the approach (both among communities, NGOs and government staff) is still considered to be low compared to other service delivery (really infrastructure development) models. Demand creation also refers to the need for associated goods and services provided by artisans and small-scale businesses, as well as the demand for new or improved water supply hardware. Implementing partners faced the task of not only advising communities of their activities and gaining interest and support as would be the case with a traditional intervention, but of also promoting a potentially new and multifaceted concept to people who were traditionally used to NGOs providing subsidised hardware in a straightforward way. This created unique challenges. Nevertheless, programme design and its evolution after the mid-term review anticipated many of these potential challenges across the focus woredas, and it was evident that the implementing partners were able to demonstrate concrete examples of successful demand creation and proof of concept for Self-supply.

Because of each implementing partner's independence, experience and strong appreciation of local differences between each woreda, methods to undertake demand creation were varied. It was typical across all implementing partners to follow the lead of Woreda staff and engage with Kebele leaders, who would call community meetings and/or house to house visits (e.g. CRS/MCS in Dugda woreda) where Self-supply was profiled and registrations of potential interested households taken. Targeting of Kebeles was undertaken prior to this via analysis of

the baseline surveys and in consultation with woreda and kebele officials. As seen earlier, a total of 731 households were recorded as implementing Self-supply facilities across all five woredas meaning 18,275 potential beneficiaries have had access to Self-supply facilities as a result (based on an average of 5 households using a source).

### Best Practice

All partners demonstrated high quality community engagement activities and engaged in follow up work with households that had expressed an interest in Self-supply. This was a labour intensive process as it involved spending time with individual households and repeat visits to track progress and assist with technology choice and installation. As shown by the household surveys, 94% of households received follow up support after Demand Creation events, while 57% had three or more visits. Where most successful, partners had the active support of Woreda staff and Kebele level officials and health workers. Successful community sensitisation also involved efforts by artisans who would promote their services to households. In Farta, CARE employed artisans (rope-pump manufacturers) to follow up on their demand creation activities, which also strengthened the market for related goods and services. In Omo-Nada, rope pump mechanics played a significant role in community level demand creation and were then active in marketing their products by employing staff to visit the kebeles and support households.

High impact, low frequency initiatives were also successful in creating demand. A standout example was the drama performances commissioned by CARE and performed by South Gonder Zone artists. These proved extremely popular and resulted in over 1,000 people registering their interest in Self-supply improvements. There was also regional interest in rolling out the approach from local officials. The drama performances included music, role play and songs about the benefits of improved water supply.

During interviews, the majority of artisans reported sufficient demand for their services to justify the effort, and they thought the market was "small, but growing". It was notable however that the majority ran their water business alongside another associated consumer goods provision, such as general construction or metal window and door welding and only the relatively well established spare parts merchants or traders seen in the main woreda towns were able to generate significant turnover.

### Challenges

The most significant challenge faced by all national partners was the newness of the Self-supply concept to both themselves and the communities, as well as to woreda level government staff. Subsidy issues were central to this challenge and the sheer weight of precedent and expectation that came with this had to be dealt with to successfully create demand in a subsidy free context. Partners therefore had a "harder sell" in both raw financial terms as well as in the immediate benefit they were bringing to the community (no subsidy). As will be elaborated below, the combination of activities carried out in the communities placed partners in a more facilitator style position, where perhaps previously they were seen as hands on implementers with an immediate impact. Creating demand in this way via a longer-term process was therefore potentially a step outside their comfort zone. It is estimated that around 20% of registered participants at major community events would follow through with some form of Self-supply improvements. Maintaining long-term household commitment and genuine follow through on expressed interest in making Self-supply improvements was also a challenge however, even though 94% of respondents indicated they received follow up activity. Multiple visits to households were required to first verify initial interest, advice on technology choice, financial advice, facilitate installation, maintenance and repair.

## 4.2 Technology introduction

The range of technology options offered by the Self-supply acceleration approach is designed to be flexible enough to allow all households to potentially make a positive modification to their water supply service, no matter the financial situation the household is in, or the available technology options. At the most basic level, this starts with covering an open source shallow well to decrease or prevent surface contamination. After this a raised covering (such as an oil barrel) can be incorporated to provide greater protection against contamination and to provide a further degree of safety for children etc. If appropriate or necessary, the well itself can be deepened or strengthened. Lifting devices can be added in line with the level of use and the financial means of the household as well. All these options were demonstrated in various instances, although as the households results show, there were some deficiencies in final implementation standards by households, especially enclosure and disinfection. In principle, after demand creation, households should be able to make an informed and rational choice about the best technology choice for them at their particular point on the service level ladder in relation their financial means. Pitching the most appropriate technology options to households therefore is a critical step of any Self-supply Acceleration activity. The type of technology and level of protection is a primary evaluation question (methodology, page 5). Across the six technology categories, a total of 731 wells were built or improved over the course of the programme (Table 3, page 10). A review of interventions by technology type compiled by the evaluation team across woredas in South Gondor revealed that with respect to new wells, 20% were in the brackets of 4 to 6, while 80% of new wells were with technology types 1 to 3.

### Best Practices

The ladder approach was central to the methodology in the Self-supply Acceleration Training and this was conveyed effectively to households during the multiple demand creation events. It was particularly well adapted and employed by CARE in Farta, Dera and Estie woredas (Annex 10). At the top of the ladder are improved rope pumps and the larger Afridev pumps. While it is questionable whether Afridev handpumps are the most cost-effective solution for individual households, it was notable that some households decided to make that commitment, each costing around 25,000–30,000 Birr (920–1100 USD) including well construction and afridev installation. This positively demonstrates both financial means and willingness to pay among households. After this, rope pumps were by far the most common ‘big ticket item’ among those households that chose to significantly upgrade their means of supply. The number of reported by implementing partners rope pump installed family wells were 11 in Dugda, 10 in Omonada and 9 in Farta. Given the prevalence of demand for mixed-use, mid-level volume consumption as well as their lower cost, this technology option was often highlighted as “the most appropriate” technology choice to those households looking to make an investment. Another reason to explain their relative popularity is the consideration that rope pump manufacturing was a major component of the private sector strengthening component of the programme, which may have led to this technology being given more emphasis when demand creation took place. The end-line survey team saw several instances of functioning rope pumps installed by local artisans under the programme and quality of build and installation was generally good. User satisfaction was also high, with anecdotal reports of disease reduction and improvements in health.

### Challenges

The primary challenges facing partners with respect to technology choice related to follow up and maintenance as well as facilitating appropriate household choice in a timely manner. A further challenge was household technical awareness and interest in critical technical issues, even seemingly basic ones, such as well cleaning. Technical support to improvements at the lower end of the ladder (these being the majority of the improvements seen) may merit greater

attention, especially to reduce environmental health risks. Although services surveyed in the end-line were functional and providing sufficient water quantity, as shown in the household results section above, quality testing did reveal contamination in even the most high-cost Afridev installations in Farta. A common reason for this was thought to be lack of well disinfection after installation and/or lack of regular chlorine treatment of the source, but this could also be reflective of wide ranging water quality issues in Ethiopia that goes beyond SSA. According to the National Rapid Assessment of Drinking-Water Quality in 2004- 2005, for example, only 72% of the improved water supply sources (irrespective of the rural-urban setting and technologies) complies with WHO standard in terms microbiological water quality; such high non-compliance of microbiological water quality for improved drinking water supply sources still exists according to different studies.

Shortages of chlorine were reported by government staff, although given the simplicity of this step this would be an easily avoidable situation. Responses from Woreda level government staff highlighted the recognition that the more complex Self-supply activities are potentially difficult for households to implement without greater technical support and guidance than was made available. Instances of time-lag between well drilling and lining were also mentioned, which led to collapse or less than ideal quality installation, often as a way to reduce costs.

Choices made to install a hand-pump were sometimes linked to insufficient attention first to adequate well protection, and so were likely to lead to the potential water quality benefits of the handpump not being achieved. How best to provide advice to households on cost effective solutions and incremental steps may need re-assessment. It may also be necessary to broaden the options to households who do have the recourses to invest in Afridev pumps to include motorised or solar systems, which may be more appropriate than the Afridev.

There were also instances where the technology choice was perhaps not the most economical for households and other solutions could have been taken up, although the range of the market for suppliers of goods or services could have also had an upward effect on costs. Well digging and internal lining in Omonada was quoted at costing over 30,000 Birr and included brick wall reinforcement and a raised well top, and these prices were potentially high. Particularly with the case of Afridev pumps, it could be possible that technology choice is woven into more conspicuous forms of consumption and demonstrations of household wealth.

Levels of investment per capita for the programme are hard to estimate accurately and would be distorted by the inclusion of two extremes: the smaller number of more expensive options and use of own labour for well construction (minimum cost). If the average investment for upgrading and new construction of the 731 wells is considered, then the average investment per household would be 124 USD. NGOs formally invested 25,000 USD per Woreda in the later part of the programme, but initial activities were funded from other budget lines. By considering a total population of 118, 644 in the 23 intervention kebeles from five woredas then of the average investment per capita was 1.63 USD for the program.

### **4.3 Private sector strengthening**

Private Sector strengthening refers to training, organizing experience sharing visits, coaching and mentoring activities provided by local partners, including challenge fund grant recipients (A full list of grant recipients is provided in Appendix 2). The aim of private sector strengthening with respect to Self-supply Acceleration is to develop vocational business skills while also promoting the potential of the local Self-supply market for goods and services. Recipients of the training and coaching activities included artisan collectives, rope pump manufacturers, carpenters, spare parts suppliers, store-owners and maintenance engineers, and well diggers. A



further aim of the training was to encourage proper registration and financial management practices in those businesses. Overall, the immediate results of the private sector strengthening were solid, with recipients of trainings still in business and generally optimistic about the market for Self-supply services. Table 6, below, gives a summary of the total business development activities, including the eight Challenge Fund Grant Recipients, which were estimated (by Aqua for All) to have benefitted over 4,400 households.

**Table 6. Summary of the business development**

Woreda	Challenge fund grantees	Other businesses	Artisans (pump installers & masons)
Farta	<ul style="list-style-type: none"> <li>1 Rope pump manufacturer, installer &amp; mender (individual)</li> <li>1 Spare parts supplier (individual)</li> </ul>		2 per kebele (12 in six kebeles)
Dera	<ul style="list-style-type: none"> <li>2 sanitation products &amp; water related products including masonry works</li> <li>1 Spare parts supplier (individual)</li> </ul>		2 per kebele (12 in six kebeles)
Dugda	<ul style="list-style-type: none"> <li>1 Manual well driller</li> <li>1 rope pump manufacturer, installer &amp; mender (individual)</li> </ul>		
Estie	<ul style="list-style-type: none"> <li>1 Rope pump Manufacturer, installer &amp; mender</li> </ul>		2 per kebele (8 in four kebeles)
Omonada		1 Rope pump manufacturer, installer & mender (Enterprise)	7 Enterprises with 35 members

### Best practices

The private sector plays a critical role in Self-supply acceleration – without government subsidy and direct involvement they become the primary provider of goods and services to the community. Relationships are governed by price, quality of services and the financial viability on both sides. The end-line team saw several instances of successful and proactive business practice, including significant independent promotion of Self-supply to communities outside the programme woredas. It was especially notable that The Challenge Fund entrepreneur promotion activities (Especially Roboth Metal and Wood) have led to independent Self-supply installations occurring outside the registered lists and are making significant gains and improvements in their business operations and services. This is demonstrative of increased demand and recognition of that demand as a potential customer base. The impact of the Self-supply wells on the wellbeing and livelihood of the households that have opted to purchase them is also significant and this will no doubt have a correlative impact across the community. Anecdotal remarks on significant reductions in the frequency of disease and illness, as well as more effective use of water for crop irrigation and animal husbandry, were common amongst the respondents

The private sector was also integrated from the beginning of the programme into demand creation activities, which increased the exposure of masons, well diggers, pump mechanics, and spare part dealers to the communities. While highlighted here as a best practice, this has to be balanced with a word of caution as to not overly skew technology choice options in favour of what the private sector can provide. The *timing* of the introduction of business interests to the

community should therefore be carefully considered so as to not have overdue influence on household technology choices, as well taking place at seasonal times of the year where the community will have the financial resources and ability to undertake the necessary improvements. Improving implementing partner's abilities to effectively present all possible technology choices and financial products to households at the most effective time (independently of the suppliers themselves) is therefore an area for potential emphasis.

## Challenges

The main challenge for the private sector is (still) consistent market demand for Self-supply goods and services and, ultimately, profitability. The latter is linked to the aforementioned issue of subsidy and a related willingness of households to pay full market cost for hardware. For example, the profit margin on rope pumps was considered to be low in relation to their cost and the price households could or would afford to pay for them. Adding to this is the fact that a rope pump is a fairly time-consuming item to construct and the sourcing of some critical components is restricted to single suppliers in Addis. Although rope pumps are an appropriate technology choice in both form and function, without the further development of their component supply chain they may remain a low volume sales item. No better indication of this outcome could be demonstrated than the fact that all the rope pump manufacturers had branched into other related fields, providing doors, beds, windows and other higher frequency demand goods.

As discussed, correct and transparent pricing was also an issue in some instances. In Dugda there was use of smart subsidy to make rope pumps more affordable to households (reducing them from a cost of 3,800 to 2,500 Birr). This makes some sense and it is common practice in many businesses to encourage early adopters by offering an "introductory price", however, there are question marks over the sustainability of this practice and what happens when the subsidy runs out. A risk is that suppliers will simply switch to a more viable product which consumers can afford.

Overall, there were no surveyed businesses that exclusively concentrated on the provision of WASH services, meaning that all businesses engaged in supplying other sectors, such as bed, door or window installation, general construction services, or basic vehicle maintenance. This is indicative of the versatility and strengths of those businesses, but also of the relatively small size of the WASH market – which was seen as "sufficient" and "growing" to merit the effort and involvement, but is not yet large enough to support single focus businesses. Further support to these businesses, to embed and encourage continuing involvement in serving the emerging market for WASH services and products would be valuable in order to capitalise on investments already made in training

## 4.4 Financing (Micro-finance)

Demand creation, guidance on technology choice and the strengthening of the private sector may have less impact if households are not able to pay for appropriate Self-supply improvements. Theoretically, according Self-supply Acceleration guidelines, the range of incremental Self-supply options should mean that financial means is not a barrier to some improvement. Nevertheless, communities in the programme woredas are considered to be some of the conventionally poorest in the country and significant Self-supply improvements require a significant financial investment. A potential solution is to offer microfinance to households to enable them to borrow the funds to carry out Self-supply improvements. As will be shown below, the uptake of microfinance across the communities was low and the gap between theory and practice in this element of the programme appears to be the widest.

## Best Practices

Apart from using resources from own saving and other traditional saving methods, two microfinance institutions have begun to provide loan for Self-supply/private family wells: Amhara Credit and Saving Institute in Amhara National Regional State, and Metemamen in Dugda woreda. Both received assistance from Water.org to conduct market assessments, product development and other technical assistance, based around the Water Credit model. During the project period, a total of 25 loans were provided to households either for upgrading or new construction of wells. Loans are offered on a yearly basis from 4,500 to 25,000 Birr and an interest rate of 18% across the board. There was no variation in the rates and terms offered to potential loan customers and practices mirrored those already well-established in the more mainstream agricultural sector.

## Challenges

Because of the low numbers of loans made and their relatively recent timing, it is difficult to present conclusive findings beyond recommending that more time is required to investigate the appropriateness and efficacy of microfinance in these areas. However, end-line survey interviews with Key Informants revealed a mixed response to the provision of loans to members of the community and mixed cultural attitudes to debt and finance that undoubtedly have an impact on the scope of microfinance to make more significant inroads.

One issue to consider is that the social attitude towards taking on debt in communities across all regions is contradictory and conservative, and in Muslim areas of the country it is more openly prohibited. Overall, to be in debt carries negative connotations and community members prefer to save money amongst themselves. Self-supply Acceleration demand creation should be value neutral on whether microfinance is offered, in the place of other saving or financing methods. If appropriate and preferred by the community, saving should not be discouraged in place of taking up loans. Another belief is that a lender may never collect on his loan, may die or the recipient may escape their payments through wit or chance and therefore loans are to be taken advantage of. While possible in some rare instances, this is not a helpful attitude to begin to counter the more conservative approach to taking up microfinance. In predominantly Muslim areas of Oromia, the uptake of Microfinance is not encouraged. No 'Islamic Bank' options for observant community members were offered by the microfinance institutions, so in these areas, the impact was reduced.

The viability of microfinance to the lender depends largely on the security attached to loans and of means of enforcing repayment. While key microfinance informants were able to offer clear outlines of the loans on offer (typically 18% interest, three to five-year repayment terms, yearly or six-monthly instalments, and an upper limit of 25,000 Birr) there was no security on the loan or method of enforcing payment, signifying that agreements were based heavily on trust. This arrangement was validated by cross-referencing this statement with local partners, who confirmed that the negative moral impact of not repaying a loan was heavily emphasised at demand creation events as an attempt to increase the security of the loan and the likelihood of repayment. Uptake was also reduced by the MFIs themselves because of this issue. In the case of Metemamen, 95 Households applied and the applications of 80 of these were unsuccessful, mainly because of lack of surety for repayment. This suggests that a system beyond conventional micro-loans is needed to reach poorer households.

Another challenge was the correct pitching of loans to the communities as one of several options, not the preferred or only option. According to responses to questions regarding the demand and need for microfinance, all HH's registered for SS acceleration in the woreda were in

need of loans. This should not be the case if the levels of the SS ladder are presented equally and all households are given the option and incentive to make low cost incremental improvements to their water sources (as well as higher cost investments where appropriate). It is possible that in an effort to define and *incentivise* Self-supply to a subsidy accustomed audience, there was an overemphasis on the more expensive solutions, *with the potential loan acting as a compensatory financial incentive in lieu of subsidy*.

## 4.5 Government Support and Monitoring Systems

Government support under the MWA Self-supply Acceleration programme included capacity building, formation of the Self-supply Acceleration Steering Committee, and guidance on the formation of strategic plan to implement Self-supply acceleration activities in an on-going manner. The ultimate aim, as defined by the mid-term review, was to embed permanent capacities and activities into woreda staff's duties at kebele level, to improve cooperation and collaboration between relevant woreda departments and, thus, to provide a demonstration example for other Woreda administrations that Self-supply acceleration is a feasible approach that they may wish to replicate. Across all Woredas, key informant interviews confirmed that the support received by woreda staff was regarded as critical and well received, with Self-supply approaches taken up as a long term part of WASH service provision activities. It was reported by key informant interviews that woreda staff had sufficient understanding of the Self-supply concept to continue with demand creation and household support activities on-going without further NGO involvement (although that involvement would always be welcome in order to help scale up and improve reach).

The approach taken by all partners was to support woreda staff in their functions and provide additional resource, guidance and capacity in their dealings with community members who wished to improve their household services. This included costs and logistical support for woreda staff to attend demand creation events (transport) as well as costs for training and related material. Monitoring system strengthening was a key element of government support and was highlighted as a focus point after the mid-term. A balance had to be struck in each location between implementors working via their own approaches and linking with government processes and procedures in a way that led to capacity building in house. Within the confines of the existing financial constraints felt by woreda staff, these efforts were largely successful. Similarly to the task of demand creation, government support also included a degree of advocacy that Self-supply was a valid option in the face of a predominantly subsidy led approach.

### Best Practices

In all Woredas, the Self-supply Task-Forces were set up and in operation, meeting at least quarterly, and the Self-supply focal person was actively engaged with them to assist coordination of their activities. In two out of three woredas, government staff also engaged in monitoring of the Self-supply households, often via Kebele Health extension workers, which was demonstrative of increased collaboration between water and health departments. It was commonplace among partners to acknowledge that political support was the key to the success of Self-supply Acceleration activities. MCS emphasised the success they had had in convincing Woreda staff that the approach would work, after initially overcoming doubts themselves. At Woreda level, the lateral coordination among different departments, including the implementing partner, could be considered as one of the more positive outcomes of the programme. In addition, at national level, the pilot project has enabled different NGOs and the Ministry to partner and exchange information through the establishment of a regular learning platform. CARE prepared a monitoring tool for use by the Kebele Administrators which collected data at the household level as well as information of their progress on their SS implementation plan.

Local artisans also use the tool (translated) which they then report to CARE and the Water Administration Office. The zonal report was then compiled and shared by CARE. (The information is updated bi-weekly and the monitoring form is separate from other Kebele monitoring activities).

## Challenges

Identifying discrete challenges for individual woreda departments is complex as all have their own dynamic beyond Self-supply Acceleration, including their regular tasks and responsibilities, which are also pressing. It was also the case that in parts of Oromia especially, the unfolding security situation had a negative impact on the amount of time woreda staff was able to dedicate to these tasks. However, several general observations point to similar problems facing all woredas. Staff turnover was known to have had an impact on knowledge retention. This is an ongoing problem, although re-training and constant contact with CARE, MCS and World Vision over the programme helped to ameliorate this. The second is overcoming lack of resources. When questioned about continuing Self-supply Acceleration after the theoretical withdrawal of NGO partners, all woreda representatives indicated that they would continue Self-supply Acceleration activities, albeit at a potentially reduced scale. With relation to monitoring, securing Self-supply as a recognised category of improved service remains one of the major challenges, not just for woreda level monitoring, but for national level monitoring protocol as well. Woreda staff were able to give estimates on the number of household wells, but there was no uniform method for incorporating these figures into regional level reporting.

## 4.6 Other key Informant Responses

Several members of the programme and key stakeholders were interviewed as part of the end-line, including with specific questions relating to the success and failures of the programme, challenges and next steps. Below, anonymously, we present standout responses to those questions, recorded after KIIs with partners, in order to further highlight and emphasise issues that relate to lessons learnt over the programme.

### Factors of success

**Q: What in your opinion were the major factors that influenced the success or failure of these (Self-supply Acceleration) activities?**

*Difficult to rank, but the key factors are felt to be community demand, then supply chain, then availability of finance. Without political support the process would also not be viable. There were some managerial and communicative difficulties with timing of challenge grant releases and the capacity to confidently offer the "full range" of technology options to households, which also related to the supply chain strength and to the access to loans. Getting the MFs interested and convinced of the viability of SS was also a challenge.*

*In some of the kebeles chosen for Self-supply Acceleration interventions, other organisations (local NGOs) would also be operating subsidy led approaches. This would negatively impact the uptake of SS by households who would wait for a free rope pump before progressing with their investments. While rational and logical from the beneficiary perspective, it was felt, fairly, that this undermined the SS approach and concept and overall results SS uptake was slower*

## Planning and Learning/ Future Sustainability

**Q: How would you re plan or re focus these activities in future on the basis of your experiences of the Self-supply Acceleration so far?**

{We} learned a lot from the pilot and could modify their approach ongoing. There are households who are progressing - and a final review and re-planning for them in subsequent years is needed. Promotional activities are planned to continue in new kebeles. We would also like to evaluate the performance of Woreda officials. (The Woreda officials - are reviewed at the end of the year (via a competition at zonal level)).

SS ladder levels 5 and 6 are included in the official Kebele monitoring. A future aim would be to include lower levels. Another aim would be to re-plan the team coordination on Self-supply and to expand coverage to additional Kebles. 35,000 USD per woreda per year is planned but more would be useful in order to maximise the number of intervention kebeles to increase all subsequent activities.

There was too much focus on rope pumps as the singular technology choice. There would be the need for greater regional government involvement to promote Self-supply Acceleration in the Woreda.

Some roles and responsibilities between the MWA partners, and the government could be made clearer by the use of better MoUs and clearer task differentiation between partners. A compression of activities and expectations can cascade down to local partners after other MWA activities were resolved, which is challenging

## Woreda and Government Capacities

**Q: What more could be done to improve or scale up their capabilities?**

{We} support... the government to promote and support Self-supply. However, in order to promote SS by themselves, we need to hand over the promotional activities to the Woreda. But sufficient momentum has to come from the national and federal level to make this happen. Top down pressure needs to be applied by the government to regions. They will plan, but without the capacity and budget, they will not implement.

They have learnt a great deal from the association and the wider training. Staff turnover at the lower levels continues to hamper the retention of skills and capabilities, but this has been anticipated this and seem able to reiterate and retrain new staff as effectively as possible.

## 5. Conclusions and recommendations

### 5.1 Summary Review against objectives as revised at midline

Midline Woreda-level planning of Self-supply acceleration activities	End-line Finding
It was recommended to plan activities that encourage upgrading as well as promoting investment in new facilities.	Balance between new and improved facilities is unclear. Some new facilities could have been better completed. Majority of smaller upgrades were on the lower end of the Self-supply Acceleration ladder
These benefits of multiple/mixed use should be considered more prominently when promoting investment in wells, and strategies developed with the participation of agriculture, health and other sectors.	There was clear evidence from the household surveys that multiple and mixed use was appreciated and widely taken advantage of
The potential to contact owners by phone or SMS e.g. to send promotional messages or ask follow-up questions should be considered.	Used largely in follow up activities after registration but not for promotional messaging
There is potentially opportunity to promote rainwater harvesting and household water treatment. Other kebeles within the woreda could therefore be targeted.	This was not implemented to the knowledge of the end-line review
Markets, finance and business development	
Interventions should build on the enabling environment that already exists in the woredas as there is a gap in business development services to fill.	Artisans reported that they had benefitted from trainings and guidance from partners, but that more support was necessary
It was recommended to engage business representatives in the planning of Self-supply acceleration interventions.	This was demonstrated strongly in Dugda, where business representatives attended demand creation events
It was recommended to explore the possibility to extend finance access to poor households, women and women-headed households. as well as potential for MFIs to lend to businesses servicing the Self-supply market.	A small number of loans were made, but not sufficient to explore this potential recommendation
It was recommended to facilitate business development strategies that focus on both informal and formal businesses and create an improved enabling environment for the informal ones (e.g. towards registration and licensing).	The majority of businesses interviewed were registered and had carried out business strategies.
It was recommended to engage in collective action at kebele, woreda, regional and country level to bring	This was achieved at Kebele and woreda level, though further regional and national

together the diverse existing initiatives in this area, and drive ambition and achievement at scale.

coordination was cited as necessary by partners

## 5.2 Summary Review of progress in Self-supply Acceleration activity areas

### Demand Creation

- It was clear from the mid-line that household Self-supply Acceleration was a new and potentially challenging concept to promote to stakeholders of all types, including government staff. However, concrete evidence of successful and direct demand creation as well as peer to peer promotion has been demonstrated by partners.
- This highlights the value of demonstration sites and events, the impact of innovative approaches to community engagements, such a drama, and the value of personal relationships and persistence in following up registrations of interest, as well as the positive and independent agency of community members.
- The greatest gains were found where Self-supply Acceleration options were promoted by both NGO and woreda representatives and activities and responsibilities for Self-supply Acceleration activities were shared and coordinated.
- A total of 731 wells were built or improved over the course of the programme, around 60% of the target. A significant increase in activity after the midline and into the no cost extension period was reported and reflects the building momentum around Self-supply initiated by the partners
- More could be undertaken in future on developing technology demonstration sites to get the buy-in of the concept; or the use of early adopters as change agents in the demand creation. The concept of critical mass concept (5- 10% of the mass to influence the other) could be applied after those who were registered have committed their promise.

### Technology Options

- Not only technology types but also technology introduction approach is important, as well as the timing of that introduction, both in relation to the time of year, and the level of involvement of the private sector.
- In the Self-supply Acceleration project woredas different technology types were promoted and developed, such as manual well drilling in Dugda, and new lifting devices (mainly rope pump) in all project woredas. Household water treatment products were also piloted in Dera.
- In general, only limited technology choices were available in the project woredas during the project duration. This was due to a number of factors relating to supply chain and availability of spare parts, the viability of artisanal businesses and the choices of households.
- Using figures available in South Gondor the majority of improvements seen were in the lower cost categories of the SSA ladder although a number of higher cost investments were made as well. Where these high cost investments were made, a broader range of high level technology options, beyond Afridev pumps, could also be considered
- Technology pricing appears to be a critical issue that is tied up with the financial viability of the enabling environment services.
- Water quality issues were apparent if the correct installation and cleaning processes were not followed. It was not possible to ascertain whether SSA activities had an impact on narrowing the gap between community supplies and water quality performance of traditional household wells. It should be noted that household surveys revealed that environmental health and contamination problems are still common (such as standing water and faecal contamination within 30 meters)



- In relation, additional consideration should be given to the most basic technical guidance material to households, with respect to incremental improvements and cleaning, so that the felt impact of low cost improvements can be as effective and immediate as possible.

### Private sector development

- The Challenge Fund entrepreneurs have led to independent Self-supply installations occurring outside the registered lists and are making significant gains and improvements in their business operation.
- Overall, the immediate results of the private sector strengthening are solid, with recipients of trainings still in business and generally optimistic about the market for Self-supply services. Coordination with partners yields noticeable benefits. A total of 16 businesses or enterprise groups received training, offering a range of goods and services, and over 30 individual artisans across the pilot kebeles.
- There are question marks over the sustainability of any indirect subsidies to this process and what happens when such subsidy runs out. There is a risk is that suppliers will simply switch to a more viable product which consumers can better afford.
- Better availability of critical spare parts outside of Addis Ababa would make businesses more viable and should be investigated with leading Rope Pump Suppliers.
- As the majority of improvements were seen at the lower end of the SSA ladder, it could be worth considering whether attending to the needs of households who want to undertake basic upgrades (such as raising the head of the well, constructing a barrier to protect the well from animals) could be better considered and whether there is viability in linking artisans to households to undertake the most basic improvements well.

### Financial Systems (microfinance)

- End-line survey interviews with Key Informants revealed a mixed response to the provision of loans to members of the community and mixed cultural attitudes to debt and finance.
- During the project period a total of 25 loans were provided to households either for upgrading or new construction of wells. This is significantly below target but does reflect the fact that the majority of the improvements were low cost. Government need to facilitate water supply and sanitation loan services at household level at least with those Micro Finances affiliated with government. The sector need to get equal loan service opportunities from MFIs
- Self-supply Acceleration demand creation should be value neutral on whether microfinance is offered in the place of other saving or financing methods. If appropriate and preferred by the community, saving should not be discouraged in place of taking up loans.
- It is possible that in an effort to define and incentivise Self-supply to a subsidy accustomed audience, there was an overemphasis on the more expensive solutions, with the potential loan acting as a compensatory financial incentive in lieu of subsidy
- The level of overall average investment per capita by households is estimated to be 20 USD<sup>11</sup> per capita.

### Government support and Monitoring Systems

- In all woredas, the Self-supply Task-Forces were set up and in operation, meeting at least quarterly, and the Self-supply focal person was actively engaged with them to assist coordination of their activities

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<sup>11</sup> The total investments made by households both in upgrading and new construction of the 731 family wells was 90,434 USD excluding family's labour and local material input

- In two out of the three woredas, government staff also engaged in monitoring of the Self-supply households, often via Kebele Health extension workers, which was demonstrative of increased collaboration between water and health departments
- Staff turnover was known to have had an impact on knowledge retention. This is an on-going problem, although re-training and constant contact with partners over the programme helped to ameliorate this
- Securing Self-supply as a recognised category of improved service remains one of the major challenges, not just for Woreda level monitoring, but for national level monitoring protocol as well

### Coordination and Crosscutting Issues

- The proportion of female well owners who undertook Self-supply Acceleration is nearly four times less than would be expected from the general population numbers in the woredas. This suggests that more should be carried out in future to ensure female-headed households have access to and are encouraged to undertake Self-supply Acceleration upgrades to their facilities.
- The potential for Self-supply Acceleration approaches to trigger improvements in household wells through peer to peer demonstration and assistance is clear and should be exploited and built upon in future efforts.
- The need for increased coordination and focus at regional and national levels to demonstrate the success of Self-supply Acceleration approaches with an aim of potential scaling up is necessary to consolidate and build on the lessons from the pilot.
- Collective responsibility for Self-supply Acceleration activities is better than a single focal point taking up the burden across NGO and woreda organisations. More active participation of woreda task forces and the integration of Self-supply Acceleration into other WASH and health related activities should be explored.

### Recommendations

- **Formulation of technical guidelines on incremental improvements, and lobbying for a household level of supply to be regarded as acceptable coverage.** This is especially important in two respects. The first is to ensure that households know how to progress up the ladder and undertake lower level improvements safely and effectively, inclusive of making improvements to water quality. The second is to recognise and monitor household supply to further establish the approach at scale and open up the possibility of targeting harder to reach and more vulnerable households.
- **Inter-Ministry discussions and consensus on levels of subsidy, so that all programs offer a similar level of incentive which maximises long-term beneficiary numbers.** This relates especially to highly disadvantaged and/or remote households, whom the market (private sector) is unwilling to reach.
- **Development of strategies which target the poor and families not within access of functioning community water supplies.** This can be via subsidy – but also relates to specific demand and awareness creation activity, peer to peer learning and the promotion of SSA as a way to counter weaknesses in the community water approach (where excessive distances and trip numbers make 25L per day service levels difficult to achieve)
- **Continued lower level support to the present focal woredas/ kebeles and design of gradual phasing out of outside support over three years.** The momentum built up in the programme woredas should not be lost by a rapid removal of support, especially when the SSA approach depends heavily on an initial period of demand creation and support to businesses to create an environment where SSA can be undertaken more easily

- **Expansion into new woredas with adjustments in approach to reflect remaining challenges.** The timing of demand creation activities should be linked to the time of year when communities have sufficient funds to act on commitments.
- **Work with woreda and regional level government to build up their leadership in Self-supply low level support for triggered woredas, integration into budgets and monitoring.** The functioning of the Woreda level SSA task Forces should be revisited and reenergised to encourage collaboration between kebele level health workers, water officers and their respective monitoring and health promotion activities. At a regional level, commitments to SSA should be given additional focus and political profile
- Agreement on modus operandi for scaling up of introduction of Self-supply to all relevant areas of the region.
- **Ensure that the support given to the businesses and artisans under the programme is no undone by a lack of follow-up support, where required.** Development of further links to Ethiopia Water Technology Institute (EWTI) and new ones to the proposed Smart Centre to ensure technical and business support for SME's
- **Continue working with the identified private sector players** – as they have reached a certain level of improvement and need continued engagement with follow up activities

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# Annex 1: Summary of knowledge products and performance against planned targets

## 1.1. knowledge products

Publication	Link
Policy guidelines	<a href="https://www.ircwash.org/resources/national-policy-guidelines-Self-supply-guidelines-support-contribution-improved-self">https://www.ircwash.org/resources/national-policy-guidelines-Self-supply-guidelines-support-contribution-improved-self</a>
Planning guidelines	<a href="http://www.ircwash.org/resources/guidelines-developing-Self-supply-acceleration-plan-your-area">http://www.ircwash.org/resources/guidelines-developing-Self-supply-acceleration-plan-your-area</a>
Training guidelines	<a href="https://www.ircwash.org/resources/glows-training-module-learning-about-Self-supply">https://www.ircwash.org/resources/glows-training-module-learning-about-Self-supply</a>
Baseline report	<a href="http://www.ircwash.org/resources/Self-supply-seven-woredas">http://www.ircwash.org/resources/Self-supply-seven-woredas</a>
Case studies and briefing notes	<a href="https://www.ircwash.org/resources/group-Self-supply-case-study-implementation-millennium-water-alliance-partners-oromia-and">https://www.ircwash.org/resources/group-Self-supply-case-study-implementation-millennium-water-alliance-partners-oromia-and</a> <a href="https://www.ircwash.org/resources/Self-supply-formal-service-delivery-model-rural-water-ethiopia-ambition-approaches">https://www.ircwash.org/resources/Self-supply-formal-service-delivery-model-rural-water-ethiopia-ambition-approaches</a>
Conference and journal papers	<a href="https://www.ircwash.org/resources/great-expectations-Self-supply-formal-service-delivery-model-rural-water-ethiopia">https://www.ircwash.org/resources/great-expectations-Self-supply-formal-service-delivery-model-rural-water-ethiopia</a> <a href="http://www.water-alternatives.org/index.php/volume6/v6issue3/225-a6-3-5/file">www.water-alternatives.org/index.php/volume6/v6issue3/225-a6-3-5/file</a>
Poster (on baseline)	<a href="https://www.ircwash.org/blog/pilots-and-going-scale">https://www.ircwash.org/blog/pilots-and-going-scale</a>
Business catalogue	<a href="https://www.ircwash.org/sites/default/files/self_supply_business_catologue.pdf">https://www.ircwash.org/sites/default/files/self_supply_business_catologue.pdf</a>
Blogs	<a href="https://www.ircwash.org/blog/promoting-Self-supply-challenges-implementation-district-level">https://www.ircwash.org/blog/promoting-Self-supply-challenges-implementation-district-level</a> <a href="https://www.ircwash.org/blog/how-can-we-get-more-people-treat-their-own-water">https://www.ircwash.org/blog/how-can-we-get-more-people-treat-their-own-water</a> <a href="https://www.ircwash.org/blog/triggering-Self-supply">https://www.ircwash.org/blog/triggering-Self-supply</a> <a href="https://www.ircwash.org/blog/accelerating-Self-supply-more-water-and-more-jobs">https://www.ircwash.org/blog/accelerating-Self-supply-more-water-and-more-jobs</a> <a href="https://www.ircwash.org/blog/planning-Self-supply-acceleration-woreda-level-ethiopia-what-are-issues-address">https://www.ircwash.org/blog/planning-Self-supply-acceleration-woreda-level-ethiopia-what-are-issues-address</a>

	<a href="https://www.ircwash.org/blog/can-group-based-Self-supply-deliver-what-we-want">https://www.ircwash.org/blog/can-group-based-Self-supply-deliver-what-we-want</a> <a href="https://www.ircwash.org/blog/learning-butajira-capital-Self-supply">https://www.ircwash.org/blog/learning-butajira-capital-Self-supply</a> <a href="https://www.ircwash.org/blog/where-ethiopia-going-Self-supply-acceleration">https://www.ircwash.org/blog/where-ethiopia-going-Self-supply-acceleration</a> <a href="https://www.ircwash.org/blog/more-we-explore-better-insight-we-get-Self-supply-potential">https://www.ircwash.org/blog/more-we-explore-better-insight-we-get-Self-supply-potential</a>
News articles	<a href="https://www.ircwash.org/news/Self-supply-fair-2016-coming-addis-ababa">https://www.ircwash.org/news/Self-supply-fair-2016-coming-addis-ababa</a> <a href="https://www.ircwash.org/news/Self-supply-strengthen-link-between-wash-and-food-security">https://www.ircwash.org/news/Self-supply-strengthen-link-between-wash-and-food-security</a> <a href="https://www.ircwash.org/news/my-water-my-business">https://www.ircwash.org/news/my-water-my-business</a> <a href="https://www.ircwash.org/news/millennium-water-alliance-kicks-its-second-phase-and-Self-supply-acceleration-activities">https://www.ircwash.org/news/millennium-water-alliance-kicks-its-second-phase-and-Self-supply-acceleration-activities</a>

## 1.2. Performance against planned targets

Indicator	Cumulative Outputs Achieved July 2014-June 2017		
	Planned	Completed	Remarks
Baseline Reports produced for Self-supply Acceleration	1	1	Consolidated baseline report produced and finalized for the 7 project woredas
End line Reports produced for Self-supply Acceleration	1	1	
PMG meetings held ( the current PAG & PLG)	6	6	
Communications strategy documents for Self-supply with supporting materials produced	1	1	Briefing note was produced and circulated based on the Omo Nada woreda Self-supply baseline survey; and another briefing note prepared for group Self-supply
Draft documents of national implementation guidelines for Self-supply acceleration produced	3	1	
Examples of innovations, failures, and best practices from implementation documented	3	-	

Indicator	Cumulative Outputs Achieved July 2014-June 2017		
	Planned	Completed	Remarks
Posts contributed to GoE Self-supply website	-		<ul style="list-style-type: none"> <li>○ Learning retreat on Self-supply in Butajira can be accessed at <a href="http://www.ircwash.org/blog/learning-butajira-capital-Self-supply">http://www.ircwash.org/blog/learning-butajira-capital-Self-supply</a></li> <li>○ Monitoring Self-supply can be accessed at <a href="http://www.ircwash.org/resources/poster-my-water-my-business-monitoring-Self-supply-rural-ethiopia">http://www.ircwash.org/resources/poster-my-water-my-business-monitoring-Self-supply-rural-ethiopia</a>.</li> <li>○ A quick scan of the group-based Self-supply approach can be accessed at <a href="http://www.ircwash.org/blog/can-group-based-Self-supply-deliver-what-we-want">http://www.ircwash.org/blog/can-group-based-Self-supply-deliver-what-we-want</a>.</li> <li>○ How can we get more people to treat their own water? Promoting Self-supply: the</li> </ul>
Joint presentations, publications, webinars, workshops held with the GoE	6	3	<ul style="list-style-type: none"> <li>• Two papers submitted to RWSN forum 2016</li> <li>• Poster on Omonada baseline survey result presented at UNC- <a href="http://www.ircwash.org/resources/poster-my-water-my-business-monitoring-Self-supply-rural-ethiopia">http://www.ircwash.org/resources/poster-my-water-my-business-monitoring-Self-supply-rural-ethiopia</a></li> <li>• One abstract submitted to IAH congress that was held during 4<sup>th</sup> week of September 2016 in France, but not presented</li> <li>• Self-supply acceleration activities in Ethiopia prepared under the Self-supply Task Force and presented at MSF 7 organized in Dec. 2015 at Hilton Hotel, in Addis Ababa. This include: Historical development of Self-supply acceleration, institutionalization, experiences and current development</li> </ul>
Annual learning retreats with cadre of Self-supply experts held	3	1	A learning retreat on Self-supply involving regional Self-supply focals and MWA Ethiopia partners staffs was held in Butajira from September 07- 09, 2015 <a href="http://www.ircwash.org/blog/learning-butajira-capital-Self-supply">http://www.ircwash.org/blog/learning-butajira-capital-Self-supply</a>
High-level learning events on Self-supply with national and regional participation	2	2	National Self-supply seminars conducted twice during World Water Day of 2015 and 2016
Regular updates on advocacy/policy activities related to MWA-EP posted on MWA website, Twitter, and other media		7	Bi monthly publication of Self-supply newsletter under the Self-supply Task Force with the lead of JICA/WAS-RoPSS project and supported by MWA/IRC until October 2016; since November 2016, the frequency of publication has been
Case studies on innovations in Self-supply acceleration produced	3	1	Case study on group-led Self-supply conducted and result shared as a briefing note.
Case studies on outcomes and impacts of implementation of Self-supply produced	3	-	

## Annex 2: Private businesses development

As one of the key activities of the pilot project, private business development for supplies of products and services to household has been worked on. The number and type of the private businesses developed and supported are summarized here.

### Artisans

- Implementing partners have trained many artisans before the pilot project of the Self-supply acceleration in the different project woredas; the existing private businesses were the focus in addition to identifying and engaging the new businesses during the pilot project to capacitate them for services and supplies of household self-supplies. The existing private businesses engaged in the entire WASH activities were identified during the baseline survey. For example, World Vision has trained eight enterprises (artisans) before the pilot project. This has been captured during the business enterprise survey of the baseline survey
- Similarly, three days trainings for entrepreneurs from Omondada woreda were given for eight enterprises having 39 members in Omondada during June 13– 15, 2017).

### Challenge fund:

- As an incentive or motivation to private business development, A4A has designed the so called “Challenge fund” where interested local bidders competed for a grant with a range of fund from 1000 USD to a maximum of 7500 USD per applicant with a total grant amount of 50,000 USD. Many businesses have applied for the grant out of which eight enterprises (comprising 20 entrepreneurs) have won the grant from four woredas (Dera, Farta and Estie from CARE intervention areas, and Dugda from CRS/MCS area); no applicant from World Vision intervention woreda (Omondada).
- The process through which the challenge fund grantees went through were: advertisement for the fund at woreda level, registration of the applicants, orientation of the registered applicants by implementing partners and the respective woredas on the process of the application, receiving full application/proposal from the applicants by the implementing partners, first round screening of the applicants at woreda level by the respective woredas and the implementing partners, sending the application to Addis level partners, evaluation of the application by a committee from MWA, A4A and IRC, submission of the evaluation report to A4A for decision, due diligence check of the selected applicants through filed visit by A4A (to check applicants situation against their application); finally, eight applicants were selected and awarded the grant
- The challenge fund grantees received multiple trainings business skill development trainings and technical trainings:
  - Business skill trainings for 20 individuals organized under 8 enterprises along with two focal persons from implementing partners took three days training in Debretabor during **April 26 – 28, 2017**. The entrepreneurs were organized on spring development, rope pump manufacturing, and hand dug well construction
  - Applicants on rope pump manufacturing and other TVET staffs from Oromia and Amhara have received intensive one month training (07 August – 06 September, 2017) on rope pump manufacturing and maintenance as well as two days business skill training at Debretabor Polytechnic institute. Totally, 13 peoples participated at the training

## Try and buy

- This is a fast track marketing approach implemented in Dera woreda in market based technology introduction for Household water Treatment products (chlorine products and filters). The approach has involved four suppliers/manufacturers of the products: Tulip Addis, Gemshat PLC/SAWYER and HELIOZ and Bishan Gari **for chlorine CHEMICALS**. The approach followed the principle of trying some products for some time (3 months) and if the household is happy with the product, it would pay the full cost of the product, if not, the product would be returned to the supplier the depreciation cost and warranty for any damage being absorbed by A4A. After conducting baseline survey (December 2016) in three kebeles of the woreda, 100 households were selected for the pilot of the approach and each household received one of the household water treatment product; totally, 50 Tulip and 30 Sawyer filters, and 10 WADI SODIS indicator and 10 BishanGari were distributed. In addition to monitoring, Mid-term conducted on 40% of the target households in February 2017; while end-line survey during April 2017 on all target households (100). The result showed that incorrect use, lack of knowledge, and inconsistency of using the products were common. Finally, 17% of the distributed Sawyer and 4% of the distributed Tulip filters were sold with their actual prices; others were returned to the suppliers. For Bishan Gari (Chlorine product (, it was not possible to return. Separate report is prepared by A4A.

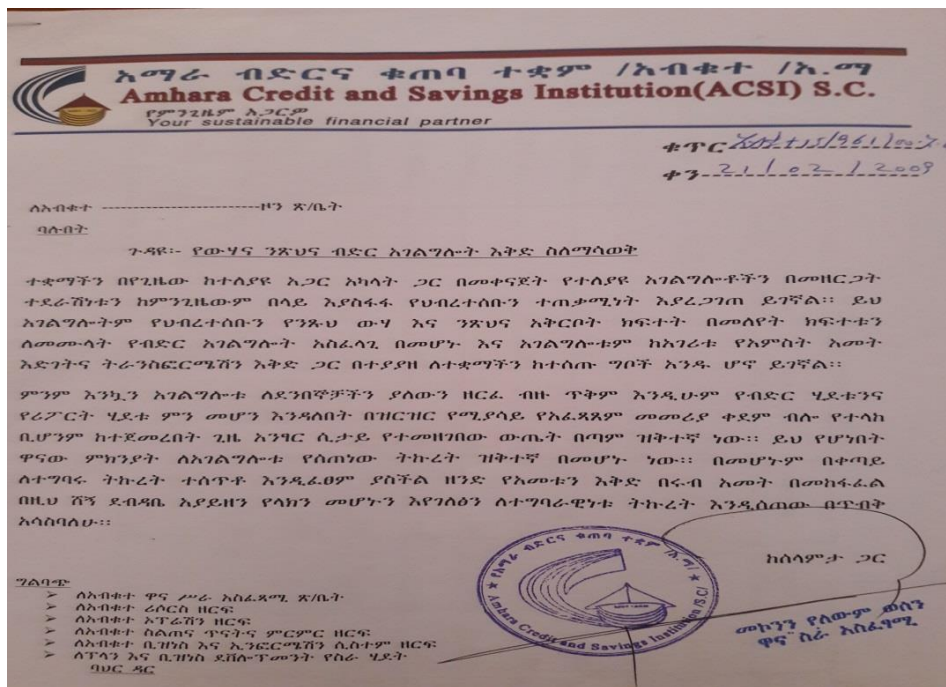


## Challenge fund grantees

	<b>Business name</b>	<b>Implementing partner</b>	<b>Woreda</b>	<b>budget USD</b>	<b>Business theme / area</b>
1	Rehoboth metal and woodwork (Dame Buta Beyene)	CRS	Dugda	6790.23	Water lifting device/ Rope pump
2	Yonas, Kalkidan and Alemtsehay pipeline work enterprise (Yonas Michael)	CRS	Dugda	6817.5	Manual drilling purchase of machine
3	Anteneh Meles	CARE	Farta	3600	Water lifting device (rope and hand pressure pump welding)
4	Meles Addis	CARE	Farta	4200	Spare parts supply chain
5	Dawud Yibrie	CARE	Dera	5000	Spare parts supply chain
6	Misganaw and friends	CARE	Dera	3882.15	Sanitation?/ supply chain?
7	Tesfaye, Yohannes & friends sanitation marketing	CARE	Dera	6300	Sanitation slab production
8	Melkamu Melash improved cook stoves and sanitation marketing business	CARE	Estie	4898.88	Sanitation slab/ hygiene production units

### Annex 3. MFI engagement

Two MFIs have been on board to provide loan for water supplies at household level in the Self-supply acceleration project woredas during the pilot project duration: Metemamen (a private MFI operating in Dugda woreda) and ACSI in woredas of Amhara National Regional State. After partnership with Water Org on the provision of WASH loan to households, Amhara Credit and Saving Institute (ACSI) has circulated a letter (in Amharic) to all its branch offices in the region to provide loan on water supply and sanitation at household level with annual targets of loan services to be achieved as shown below.



**ACSI WASH Loan Annual Plan(2016/17)**

No	Zone	Number of branches	1st Quarter /December/	2nd Quarter /March/	3rd Quarter /June/	4th Quarter /September/	Total	Average per Branch
1	East Gojjam	60	450	1050	1600	1670	4770	79
2	South Wollo	64	400	900	950	980	3287	51
3	West Gojjam	55	400	1061	1200	1420	4081	74
4	North Shewa	51	300	780	820	858	2758	54
5	North Gondar	57	350	820	998	1075	3243	57
6	South Gondar	49	300	850	886	950	2986	61
7	North Wollo	41	250	450	775	815	2290	56
8	Awi	26	200	230	350	380	1160	45
9	Waghuimra	19	50	60	65	75	250	13
10	Oromia	12	20	30	50	75	175	15
	<b>Total</b>	<b>434</b>	<b>2720</b>	<b>6231</b>	<b>7694</b>	<b>8298</b>	<b>25000</b>	<b>58</b>

## Annex 4: Definition of wealth groups for pilot woredas

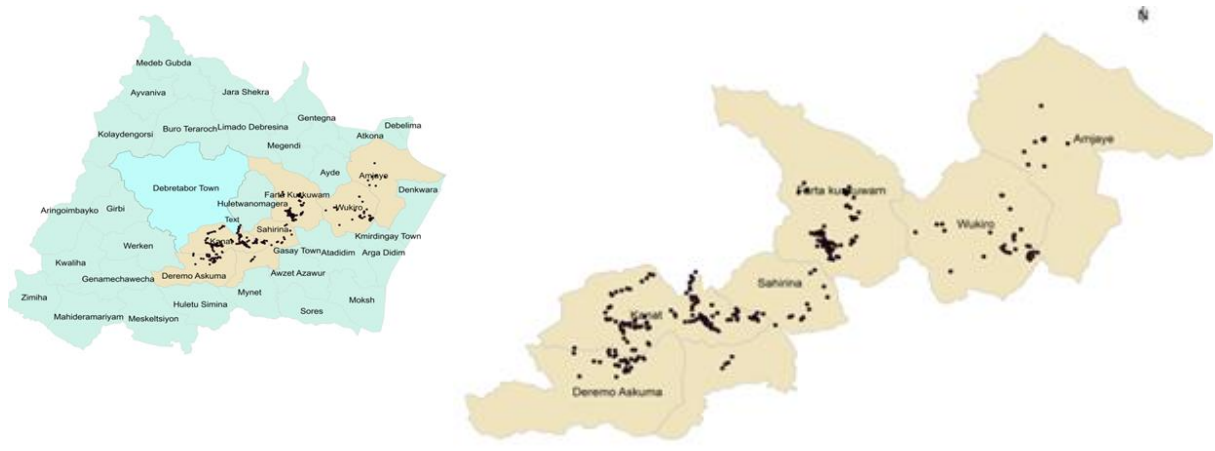
Woreda	Definition
Omo Nada	<p><b>Poor:</b> Poor quality and absence of independent house for cooking, living and livestock; Frequent dropout of their children from school because of failure of the family to meet children’s basic needs; Unable to cover annual food demand of the family and engaged in temporary employment; Possession of no or small farm land; No opening to accept agricultural packages; No saving culture.</p> <p><b>Middle:</b> Have independent houses for living, cooking and livestock; Educate all school age children; Slow adopters of agricultural packages; Cover annual food demands of the family; Have farm land and oxen for ploughing; Modest saving from sale of agricultural products.</p> <p><b>Rich:</b> Quality houses roofed by corrugated iron that have independent areas for living, cooking and livestock; Educate all school age children; Have own irrigable and or farm lands, and oxen to cultivate land; Early adopters of agricultural packages and willingness to share with others; Possession of perennial crops such as coffee &amp; ‘khat’; Cover annual food demands of the family and have extra to sell for lean period; Savings from sale of agricultural products.</p>
Estie	<p><b>Poor:</b> Landless.</p> <p><b>Middle:</b> Own land up to one hectare; some cattle; two oxen.</p> <p><b>Rich:</b> Own more than one hectare of land, four oxen; own livestock like mule, cows; house with corrugated iron roof.</p>
Dera	<p><b>Poor:</b> No oxen; landless or renting land or less than 0.25 hectare.</p> <p><b>Middle:</b> Renting land from others; one or two oxen; less than 1 hectare land.</p> <p><b>Rich:</b> one to four hectares land; livestock; irrigation well or river access.</p>
Dugda	<p><b>Poor:</b> Food insecure throughout the year; unable to send children to school; unable to buy and use agricultural inputs; no ox or other livestock; owning less than a hectare of farmland.</p> <p><b>Middle:</b> Food secure for 9 months of year; partially able to send children to school with minimum package; unable to buy and use full agriculture inputs; 2- 2.5 hectares of farmland; 2- 4 oxen.</p> <p><b>Rich:</b> Food secure throughout the year; able to send all children to school with all requirements (notebooks, books, uniform etc.); fully buy and use all necessary</p>

	<p>agriculture inputs; more than three hectares of farmland; enough capital to manage family; more than four oxen.</p>
<b>Farta</b>	<p><b>Poor:</b> No ox; no mule; residential house is tukul; family food secured only for part of year; no permanent crops or trees such as coffee and eucalyptus; less than 0.5ha farmland.</p> <p><b>Middle:</b> 1- 2 oxen; a mule for farm; corrugated iron sheet covered house but not well furnished; family food secured throughout year; some permanent crops or trees such as coffee and eucalyptus; 0.5- 1.25ha farmland.</p> <p><b>Rich:</b> More than 2 oxen; 1 mule for transport; well-furnished corrugated iron sheet covered house family food secured with variety and saving; extensive permanent crops/trees such as coffee and eucalyptus; more than 1.25ha farmland; sometimes weapon.</p>

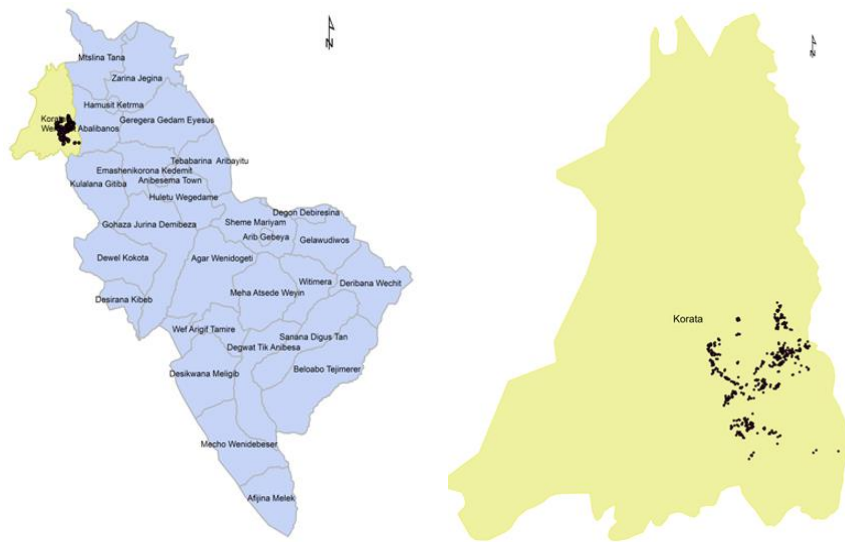
## Annex 5: Upgraded and newly constructed family wells

Woreda	Kebele	Total number of hh reported to have constructed new wells	New wells constructed disaggregated by ladder (Annex 9 for ladder explanation)						Total number of upgraded well	Upgraded wells disaggregated by ladder						Remark	
			1	2	3	4	5	6		1	2	3	4	5	6		
<b>Estie</b>		<b>50</b>							<b>8</b>								kebeles were not specified for 2 wells
	Dat	12	6		6				5	4	1						
	Agona	22	22						1		1						
	Deskuwa	6	6														
	Angachat	10	10														
<b>Farta</b>		<b>78</b>							<b>75</b>	<b>30</b>	<b>4</b>	<b>40</b>		<b>1</b>			kebeles were not specified for 16 wells
	Amijaye	21	18	1	1	1											
	Sahirna	8	5			2	1										
	Farta Kuskuwam	10	8	1		1			4	2	2						
	Kanat	22	12	1	1		5	3	14	14							
	Wukiro	13	11		1	1			3		3						
	Askuma	4			4				38	7	30		1				
<b>Dera</b>		<b>160</b>							<b>64</b>	<b>20</b>	<b>37</b>	<b>5</b>	<b>2</b>				kebeles were not specified for 14 wells
	Zara	18	1	14	1	3											
	Korata	39		30	2	7			4		3		1				
	Kulala	61	59	1	1				45	14	31						
	Mirafe Mariam	11	10		1				1		1						
	Geregera	4				4											
	Mithil	22	21			1											
<b>Total South Gondor woredas</b>		<b>288</b>							<b>147</b>								
<b>Dudga</b>		<b>117</b>					7		<b>64</b>					4			
	Bekele Girissa																
	Walda Kalina	117							64								
<b>Omonada</b>		<b>10</b>					10		<b>105</b>								Ladder not defined for the upgraded wells, but all are 4 and below

## Annex 6: Maps showing locations of baseline data collection



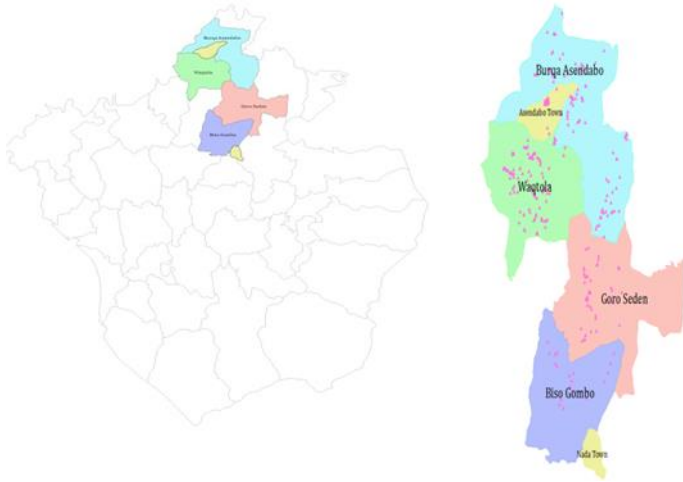
### Dera, Amhara



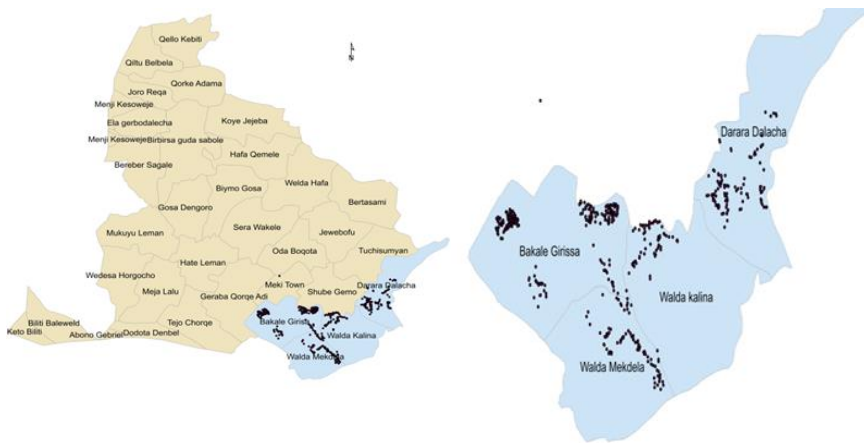
### Estie, Amhara



## Omo Nada, Oromia



## Dugda, Oromia



## Annex 7: Additional questions for Partners in addition to the baseline questions included:

<b>Self-supply key informant Partner interview (v. 1.0)</b>	
<b>Monitoring Systems</b>	
10. How do you monitor and record these activities?	<i>(are there monitoring systems in addition to MWA reporting requirements and do any of these systems support local government data collection?)</i>
<b>Effort and cost</b>	
11. Could you describe the most significant of these activities in terms of a) effort and time required and b) in terms of cost ?	<i>(what was the impact of Self-supply Acceleration work on partner resources and were there barriers in terms of capacity, ability and understanding to completing the activities effectively?)</i>
<b>Impact and effectiveness</b>	
12. Could you describe the most significant activities in relation to impact and effectiveness?	<i>(elicit the most successful or effective outcomes for potential inclusion in case studies or best practice examples)</i>
<b>Factors of success</b>	
15. What, in your opinion were the major factors that influenced the success or failure of these activities?	<i>(eg, financial, institutional, technical, execution, user involvement, government support, appropriateness and relevance (potential assessment )</i>
<b>Planning and Learning/ Future Sustainability</b>	
16. How would you re plan or re focus these activities in future on the basis of your experiences of the Self-supply Acceleration so far?	<i>(What have you learned and could potentially do better? Were there unexpected challenges)</i>
17. What are the main challenges with respect to the sustainability of the Self-supply Acceleration outcomes	<i>(can the Woreda maintain SS activation?)</i>
18. How does Self-supply Acceleration relate to your other WASH activities, such as OWNPN?	<i>(is it supported/encouraged in the wider organisation, how significant an element of your WASH activities?)</i>
<b>IRC Support and MWA Governance</b>	
19. Could you describe and comment on the MWA governance structures for Self-supply Acceleration?	<i>(clear roles and responsibilities, clear accountability and reporting processes)</i>
20. Could you please describe the support you have received from IRC in relation to Self-supply Acceleration activities?	<i>(what where the value adds?)</i>
21. What elements of this support could be improved or increased in future?	
<b>Woreda and Government Reception</b>	
22. How receptive to Self-supply do you feel are the Woreda government departments and staff?	



23. What more could be done to improve or scale up their capabilities?	(both immediate, in terms of potential future activities, and broader systemic issues, as well as leadership)
--	---

**Additional questions for government informants included:**

<b>Self-supply key informant interview (v. 3.0)</b>	
<b>Support to Self-supply Acceleration activities</b>	
22. What types of support?	Demand creation/Promotion
	Technical support/technology choice assistance
	Guidance on costs/quality
	Subsidy (to households)
	Business development
	Monitoring
	Coordination/alignment
	Regulation/support to enabling environment (consumer and business)
23. To whom do you provide this support?	Community members
	Businesses
	NGOs
	Other Departments
24. Have you created an Self-supply Acceleration Plan?	
	Yes_____ (demonstrate
	No_____
25. Have you implemented this plan?	Yes, all or majority (please elaborate)
	Yes, some elements (please elaborate)
	No
<b>Challenges and Future Plans</b>	
26. Why was the Self-supply Acceleration not implemented?	
28. What are you future plans and aims with respect to Self-supply?	
27. What are the greatest challenges relating to implementing Self-supply Acceleration (in your opinion)?	
	Appropriate demand (from households)
	Appropriate solution (for households)
	Cost/affordability (to households)
	Quality (of materials)
	Availability (of materials)
	Capacity (of support providers)
	Government support
	Other? (please specify)

## Annex 8. List of contacted peoples

List of contacted people							
	Name	Woreda	Kebele	Instituion	Responsibility	Mobile	Remark
1	Gobezie Ayalew	Farta		CARE (South Gonder)	WASH program	918713958	
2	Wubie Taye	Farta		CARE (South Gonder)	SS focal &	918707980	
3	Yaacob Belay	Farta		CARE (South Gonder)	H & S Officer	912927055	
4	Embet Achenef	Farta		CARE (South Gonder)	WASH project team lead	918707532	
5	Chalachew Tefera	Farta		CARE (South Gonder)	H & S Officer	958070196	
6	Betheliehem Kena	Farta		CARE (South Gonder)	Construction supervisor		
7	Hibrework Esayas	Farta		CARE (South Gonder)	Project officer	918819815	
8	Girma Gonishe	Farta		Health			
9	Geta Tade	Farta		Water Office	WS Process Team Head	918177959	
10	Muluaalem Teshager	Farta	Amijaye	Agriculture	DA/Animal Health		
11	Dersolign Bishaw	Farta	Amijaye	Agriculture	DA/Natural resources		
12	Tsegay Gete	Farta	Amijaye	Agriculture	Office head		
13	Wase Alemayehu	Farta	Amijaye	Agriculture	DA/Animal production		
14	Ashagire Awoke	Farta	Amijaye	Kebele Adminstration	Manager	918548613	
15	Emey Nega	Farta	Amijaye	Health	HEW		
16	Dereje Debi	Farta	Amijaye	Kebele Adminstration	Chairman	918217759	
17	Bilata Abeje	Farta	Wukiro	Kebele Adminstration	Chairman		
18	Yetnayet Thomas	Dugda		MCS			
19	Abiyot	Dugda		MCS	SSA focal		
20	Haileleul Goshu	Dugda		MCS	SSA Lead Community		SSTF member
21	Yenenesh Seyoum	Dugda		Health	Sanitation focal	911361498	SSTF member
22	Tekleab Tesema	Dugda		Woreda Adminstrttion	Expert		SSTF member
23	Mitiku Nagassa	Dugda		Irrigation	Expert		SSTF member
24	Negash Gelashe	Dugda		MSE	Expert	913359669	SSTF member
25	Berihanu Zewudie	Dugda		Water, Mines & Energy	Expert	920048217	SSTF member
26	Alemu Tadesse	Omonada		WV		911773692	AP manager
27	Melkamu Boku	Omonada		WV		912060451	SSA Focal
28	Fekadu Begna	Omonada		OCSSCO		932086495	SSTF
29	Garuma Chimdessa	Omonada		WoFED		921842560	SSTF
30	Hafiz Jebel	Omonada		WME	Expert	912197485	SSTF
31	Nazifa Aba Oli	Omonada		WME		910153680	SSTF
32	Jifar Bediru	Omonada		Adminstrtation	Adminstrator	913396921	

# Annex 9: Self-supply technology ladder used by some IPs for promotion

## 9.1 CARE



**CARE ETHIOPIA NORTH PROGRAM OFFICE**

**PROMOTION MATERIAL PREPARED FOR SELF SUPPLY ACCELERATION INITIATIVE**

Introduction		Self Supply Technology Ladder in South Gondar, Ethiopia		Table 1. Estimated cost of Self Supply Facilities per technology ladder (in Ethiopian Birr)																											
<p><b>Safe drinking water is one of the basic necessities for human beings. However, Millions of people in Ethiopia have not access to it today. Ethiopian national growth and transformation plan (II) (2016-2020) set a plan to ensure availability of water supply and sanitation services that satisfies the need of lower middle income countries' citizens by the year 2020.</b></p> <p><b>Among various alternative modalities for financing and managing water point and sanitation projects in the rural WaSH program, self supply program is the major one which is considered to address 30% of the target population for accessing safe drinking water.</b></p> <p><b>Self Supply in the context of Ethiopia is defined as "an improvement to water supplies through user investment by households or small groups of households".</b></p>		<p><b>Self Supply Technology Options:</b></p> <p>These technologies could be:</p> <ul style="list-style-type: none"> <li>An open dug well,</li> <li>A dug well fitted with rope and bucket,</li> <li>A dug well fitted with hand pump/rope washer pump,</li> <li>A manually drilled well,</li> <li>A spring on spot, a gravity spring with small pipe system,</li> <li>A roof water harvesting system,</li> <li>A pond or a sub surface dam or</li> <li>A river water to be treated at household level, etc..</li> </ul> <p><b>Opportunities to boost self supply:</b></p> <ul style="list-style-type: none"> <li>Existence of National policy and strategies on SS</li> <li>Existence of scattered rural settlement</li> <li>Existence of shallow ground water potential</li> <li>Existence of credit facilities to HHs</li> <li>Willingness of government and NGOs to provide technical support</li> <li>Opportunities to improve the ladder in affordable step</li> <li>Donors interest to support self supply initiative, etc.</li> </ul>		<table border="1"> <thead> <tr> <th>Level</th> <th>Description</th> <th>Cost with the assumption of 22 m well depth</th> </tr> </thead> <tbody> <tr> <td>Zero</td> <td>Open and unprotected water source: It is extremely the exposed water source for contamination No any intervention is taken place The distance from HH might needs hours travel</td> <td>Opportunity costs in the form of: Cost of time wanted for search of water Cost for medical treatment due to water born disease household due to not engaging in MUS related activities</td> </tr> <tr> <td>One</td> <td>Unprotected HH well: The well mouth raised from ground with more or more legs The lifting device is rope and bucket HH can use it for MUS It is exposed to contamination It must be supported with HHWTT to use it for domestic purpose</td> <td>Excavation = 3,781.94 Materials cost to raise well shaft = 100.00 <b>Total = 3,881.94</b></td> </tr> <tr> <td>Two</td> <td>Semi Protected HH well fitted with barrel: The well apron is completed with soil The well mouth is fitted with raised barrel It might be open or closed The lifting device is rope and bucket HH can use it for MUS It must be supported with HHWTT to use it for domestic purpose</td> <td>Excavation = 3,781.94 Materials cost = 1,027.00 <b>Total = 4,808.94</b></td> </tr> <tr> <td>Three</td> <td>Semi protected HH well fitted with barrel and cement sealed: Well apron is sealed with cement concrete The top three meters would be lined with cement masonry The well mouth is fitted with barrel and covered with lid The lifting device is rope and bucket The probability of contamination is medium to high HH can use it for MUS It must be supported with HHWTT to use it for domestic purpose</td> <td>Excavation = 3,781.94 Materials cost = 5,903.60 Skilled labor Cost = 800.00 <b>Total = 10,565.94</b></td> </tr> <tr> <td>Four</td> <td>Semi protected HH well fitted with pulley: Well apron is sealed with cement concrete The well mouth is fitted with barrel and covered with lid The lifting device is pulley The probability of contamination is medium HH can use it for MUS It must be supported with HHWTT to use it for domestic purpose</td> <td>Excavation = 3,781.94 Materials cost = 6,233.00 Skilled labor Cost = 1,000.00 <b>Total = 11,765.94</b></td> </tr> <tr> <td>Five</td> <td>Protected HH well fitted with rope pump: Well apron is sealed with cement concrete The lifting device is Hand Pump Soaking pit in a package for this level The probability of contamination is low HH can use it for any purpose</td> <td>Excavation = 3,781.94 Materials cost = 9,418.00 Skilled labor cost = 1,200.00 <b>Total = 14,809.94</b></td> </tr> <tr> <td>Six</td> <td>Protected HH well fitted with hand pump: Well apron is sealed with cement concrete The lifting device is Hand Pump Soaking pit in a package for this level The probability of contamination is low HH can use it for any purpose</td> <td>Excavation = 3,781.94 Materials cost = 15,485.00 Skilled labor cost = 1,600.00 <b>Total = 24,869.94</b></td> </tr> </tbody> </table> <p><b>REMARKS:</b> those who need to line the whole depth of the well with concrete (liner) would incur additional = 900.00 per meter depth (liner + material cost)</p>		Level	Description	Cost with the assumption of 22 m well depth	Zero	Open and unprotected 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and related costs reduced</li> <li>The culture of using more quantity of water increased and then the water service level improved</li> <li>The investment cost increased, the sense of ownership increased</li> </ul> </li> <li>Lower stages can be supplemented by HH water treatment technologies</li> </ul> <p><b>Water supply ladder diagram:</b></p> <p>Highly exposed to contamination (Level zero) → Protected HDW for 350 people, 5 to 10% community contribution → Protected HDW for 175 people, up to 40% community contribution → Unprotected well (Level one) → Semi protected well (Level two) → Semi protected well (Level three) → Semi protected well (Level four) → Protected well (Level five) → Protected well (Level six) → Self supply</p> <p>Water supply ladder is also linked to <b>Water treatment technologies</b> and <b>Water supply</b>.</p>	
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<p><b>Why Self Supply?</b></p> <p><b>Self supply is useful:</b></p> <ul style="list-style-type: none"> <li>to address widely scattered households</li> <li>to reach more people in a shorter period of time</li> <li>to supply better quantity and quality of water</li> <li>to strengthen community scheme management and ownership</li> <li>to reduce scheme down time and O &amp; M costs</li> <li>to encourage MUS for water</li> <li>to allocate scarce public resources for other purposes</li> <li>to save time and to improve security of women and children who are mainly responsible in collecting water for household domestic use</li> <li>to create job opportunity</li> </ul>																															

## 9.2: WVE

### Teknolojiilee

Saffisiisuun ofiin-ofiif teknolojiilee adda addaa ni barbaada

**Madda bishaanii misoomsu:** Boolla bishaan harkaa qotuu, bishaan roobaa cimmissu, burqaa misoomsu fi kkfn .

**Meeshaalee bishaan harkaanii:** Puuli dabalatee paampilee adda addaa fkn paampii harkaa, paampii haadaa fi paampilee motoraan hojjetani

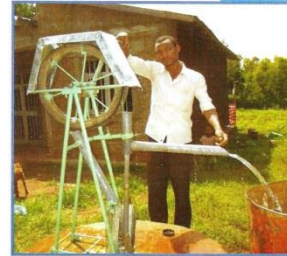
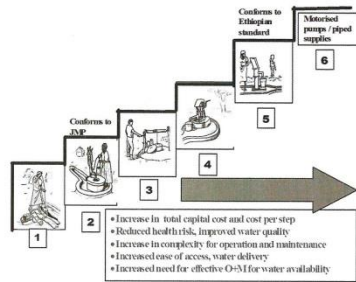
**Qulqullina bishaanii:** Sadarkaa maatiitti meeshaalee fi tooftaalee ittiin bishaan qulqulleessan ykn calalanii fi ittiin kuusani



### Haalota ofiin-- ofiif mijaa'ota tahini:

- ◆ Naannolee haalli qubinsaa ummataa bittinnaa'aa tahani
- ◆ Naannolee uwwinsi bishaanii olka'aa tahee garuu kan umaa uwwinsi %10-20 hafe
- ◆ Uwwinsi bishaanii kan gadi bu'aa tahe
- ◆ Bakatti bishaani dabalataani barbaachisu

### Amaloota ofiin-ofiif



### Saffisiisa ofiin-ofiif

### Tumsa, qindoominaa fi gahee

Fiixaan bahiinsi ofiin-ofiif qindoominaa fi tumsa sekteroota adda fkn bishaan, qonna, jallisi, fayyaa fi IMX nigaafata.



World vision Ethiopia  
Omonada Area Program  
Telephone: 047150456  
Nada town



Fulbaana 2009

### Seensa

Hawaasni sadarkaa maatiitti ofiin-ofiif yeroo dheeraa irraa kaasee itti gargaaramaa yoo jiraate iyyu qulqullinaa isaa fi sadarkaa isaa fooyyessu irratti waan hin hojjatameef dhiyessii bishaanii ofiin-ofiif irraa argatu harki caalaan sadarkaa gadi'aanaa irratti argama.

Mootummaan Itiyoophiyaa, qamoleen miti Mootummaa fi Deeggartoonni misoomaa gahee Ofiin-ofiif uwwisa bishaan qulqulluu saffisiisuuf qaburatti waan amananiif kunis immoo kaayyoo uwwisa bishaan qulqulluu addunyaa fi karoora Guddinaa fi Tiraansifoormeshinii 2ffaa (KGT 2ffaa) galmaan gahuuf shoora o'aanaa waan qabuuf kana ilaalcha keessa galchuudhaan ofiin-ofiif saggantaa "OWNP" keessatti haammatameera.

Waliigalli kaayyoon karoora saffisiisu ofiin-ofiif hawaasa hiyyummaa keessa jiru haala haammateen sadarkaa maatiitti dhiyessaa bishaan qulqulluu gahaa fi itti fufinaa qabu dhugaatii, qulqullinaa fi jallisiif barbaachisu argamsiisuudha. Fiixaan bahiinsa kaayyoo kanaa kan mul'isan keessaa inni tokko bulchiinsa mootummaa Naannolee shanii keessatti boolli bishaanii 100,000 tahu sadarkaa maatiitti haaraa qotamanii ykn fooyya'anii ummata milyoonaa shaniif bishaan qulqulluu dhugaatii fi qulqullinaaf yoo tajaajila kennanidha.



### Firiilee karooramani

1. Faasiitiin ofiin-ofiif ulaagaalee jalqabaa barbaachisu gustani uwwisa bishaan dhugaatii Anaalee fi Naannolee keessatti ni haammataamu; dabalataanis qonna letaatkisii raawwii sekterichaa tahuudhaan ni galmeffamu.
2. Aanaalee saggantaa kuni gaggeeffamu keessatti yoo xinnaate kemitootni tajaajilaa fi meeshaa dhiyessan shanii fi dhiyoo tahan gatii giddu gaaleessa taheen namoota dhuunfaa, garee fi dhaabbataf tajaajila ni kennu akkasumas meeshaa uf dhiyessu. Fakkenyaaf warren boolla bishaanii qotanii fi ijaarani, paampii haadaa kan hoomisaniif fi suuphani, kan meeshaalee ofiin-ofiif barbaachisu kan dhiyessani fkn meeshaalee bishaanii qulqulleessaniif kkf
3. Hawaasni Aanaalee xiyyeeffannaan itti kenname keessa jiraatani teknoolojii amansiisaaf gatii giddu gaaleessa a qabu sadii hanga shaniif filannoo niqabaatu
4. Maatiileen ykn hawaasniif fi Interpiraayizini. Aanaalee xiyyeeffannaa qabani keessa jiraatani tooftaalee madda faayinaansii haqa qabu ni argatu. Yoo xinnaate dhaabbilleen liqii fi qusanoo 10 tahini dhimma ofiin ofii namoota dhuunfaa fi dhaabbillee liqii ni kennu.

### Ofiin-- ofiif maaliif barbaachisee?

- ◆ Maatiileen gargaarsa mootummaa fi Miti mootummaatiin ala qabeenya mataa isaaniitiin bishaan qulqulluu argachuudhaan Karoora Guddinaa fi Tiraansifoormeshinii fi Uwwisa bishaan dhugaatii hundaan waliin gahuu jalatti kan qabame uwwisa bishaanii galmaan gahu.
- ◆ Bishaan dhugaatii, qulqullina dhuunfaa fi qulqullina naannoo barbaachisu argamsiisuudhaan fayyina ykn nageenya namootaa ni dabala
- ◆ Namootni sadarkaa maatiitti mooraa isaanii keessatti bishaan akka qabaatani gochuudhaan dhugaatii fi hoomis-haa adda addaaf akka gargaaramani ni godha.

### Gahee qooda fudhattoota adda addaa

Hojiin Ofiin-ofiif haala dhiyessaa bishaanii baratamerraa addatti deeggarsaa fi qindoomina itti fayyadamtoota/maatiilee, kennitoota tajaajilaa fi dhiyessii dhuunfaa fi abbootii qabeenya ni barbaada.

**Itti fayyadamtoota/Maati:** Qooda fudhattoota ijoo tahuudhaan warra hojii Ofiin-Ofiif raawwachiisanidha. Maallaqa isaaniitiin Bishaan ofii isaaniif ijaaruudhaan ni bushu. Bishaan fooyya'e argachuudhaan maatiin isaaniif fayyadamaa tahuu isaatti amanuu qabu

**Kennitoota tajaajilaa fi dhiyessii dhuunfaa:** Itti fayyadamtootaaf kallattiidhaan meeshaalee kan akka paampii fi tajaajila adda addaa fkn boolla bishaanii qoatuu fi ijaaru, suuphuu itti fayyadama teekinolojii adda addaa kennuudhaan ni deeggaru. Yookiin immoo karaa dhaabbata Liqii fi Qusanoo kallattiidhaan keessatti hirmaatu

**Mootummaa fi Miti Mootummaa:** Warreen hojii Ofiin-Ofiif adda durummaadhaan babal'isanii fi saffisiisanidha. Qorannoo adda addaa, agarsiisa, beelsisa fi qorannoo gabaa ni gaggeessu. Akkasumas leenjii adda addaa ni kennu; dhaabbillee Liqii fi qusanoo waliinis haala ni mijeesu.



# Annex 10: Content of the Self-supply Acceleration planning guidelines



## GUIDELINES FOR DEVELOPING A SELF-SUPPLY ACCELERATION PLAN FOR YOUR AREA

May 2014 | Version 1

Acknowledgements	i	5.4 Summarising information for your Self-supply acceleration plan	52
Acronyms	vi	5.5 For more information	52
Foreword	vii	Part 6: Ensuring coordination, innovation and learning	54
Introduction	1	6.1 Introduction	55
Part 1: Assessing potential	12	6.2 Key questions	55
1.1 Introduction	13	6.3 Getting answers	56
1.2 Key questions	14	6.5 Summarising information for your Self-supply acceleration plan	57
1.3 Getting answers	15	6.5 For more information	57
1.4 Summarising information for your Self-supply acceleration plan	16	Part 7: Compiling your self-supply acceleration plan	58
1.5 For more information	17	7.1 Introduction	59
Part 2: Creating demand	18	7.2 Structure of your Self-supply acceleration plan	59
2.1 Introduction	19	7.3 For more information	63
2.2 Key questions	20	Part 8: Monitoring implementation	64
2.3 Getting answers	20	8.1 Introduction	65
2.4 Summarising information for your Self-supply acceleration plan	25	8.2 Key questions	67
2.5 For more information	26	8.3 Getting answers	67
Part 3: Supporting technology choices	27	8.4 Development towards compiling your Self-supply acceleration plan	68
3.1 Introduction	28	8.5 For more information	69
3.2 Key questions	28	worksheets	71
3.3 Getting answers	29	Worksheet 1: Self-supply potential, acceleration challenges and decisions regarding short and medium term focal areas	72
3.4 Development towards compiling your Self-supply acceleration plan	31	Worksheet 2: Audiences, messages, mechanisms to convey the messages and activities needed to develop communications products and disseminate	74
3.5 For more information	32	Worksheet 3: Technology assessment and introduction activities	75
Part 4: Promoting private sector involvement	33	Worksheet 4: Private sector engagement activities	76
4.1 Introduction	34	Worksheet 5: Activities to support access to finance	77
4.2 Key questions	38	Worksheet 6: Activities to strengthen coordination, innovation and learning	78
4.3 Getting answers	38	Worksheet 7.1 Background information	79
4.4 Summarising information for your Self-supply acceleration plan	44	Worksheet 7.2: Workplan for Self-supply acceleration activities	81
4.5 For more information	44	Worksheet 7.3: Budget format for Self-supply acceleration activities	83
Part 5: Supporting access to finance	46	Worksheet 8: Monitoring plan to monitor activities, outcomes and impact	85
5.1 Introduction	47	Info sheets	89
5.2 Key questions	49	Info sheet 1: Stakeholder analysis	90
5.3 Getting answers	49	Info sheet 2: Documenting your Self-supply acceleration process	93
		Info sheet 3: Using National WASH Inventory (NWI) data	95
		Info sheet 4: RIDA (water resources, infrastructure, demand and access) analysis	98

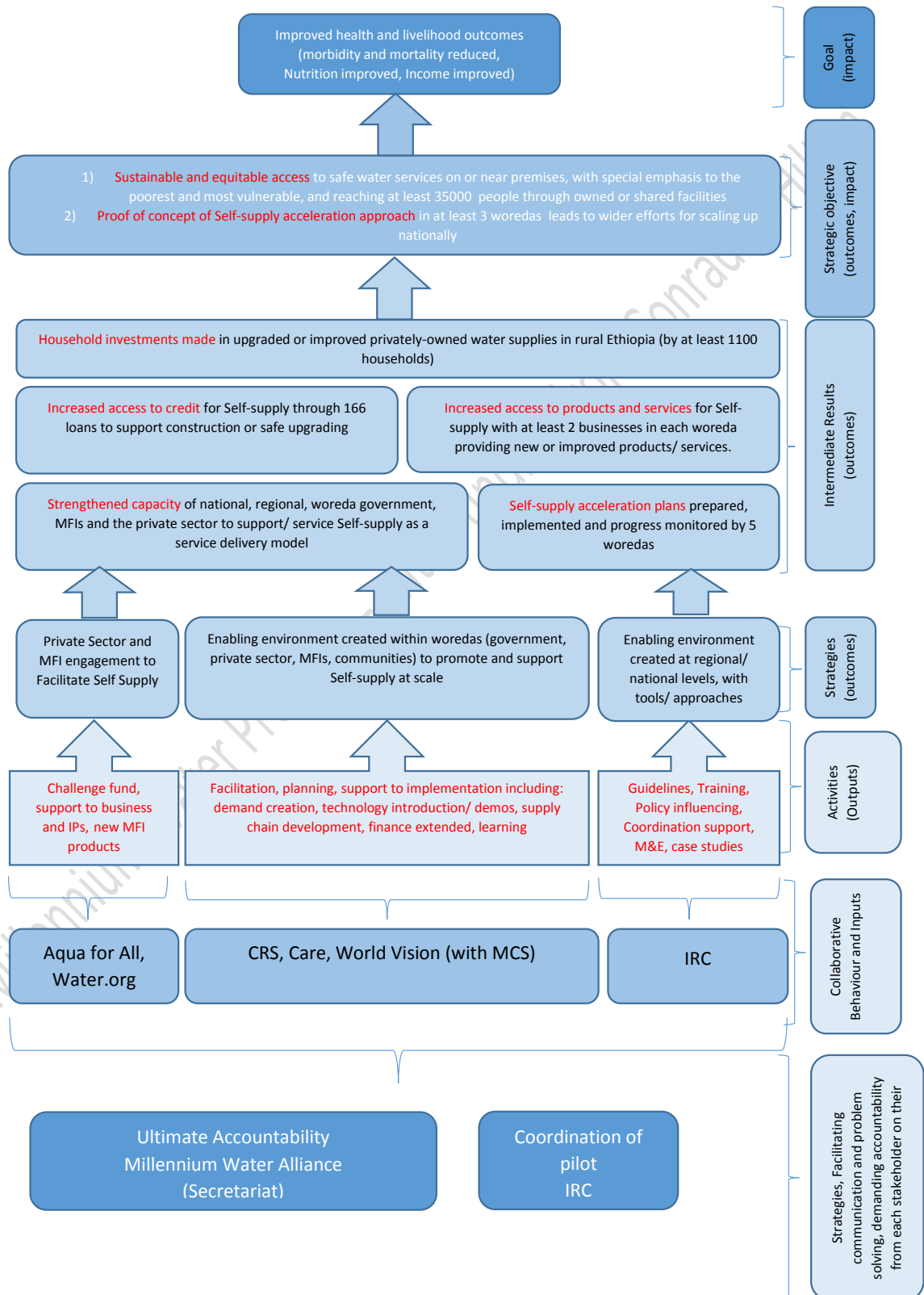
## Annex 11: Modified sanitary surveillance tools for family wells scoring

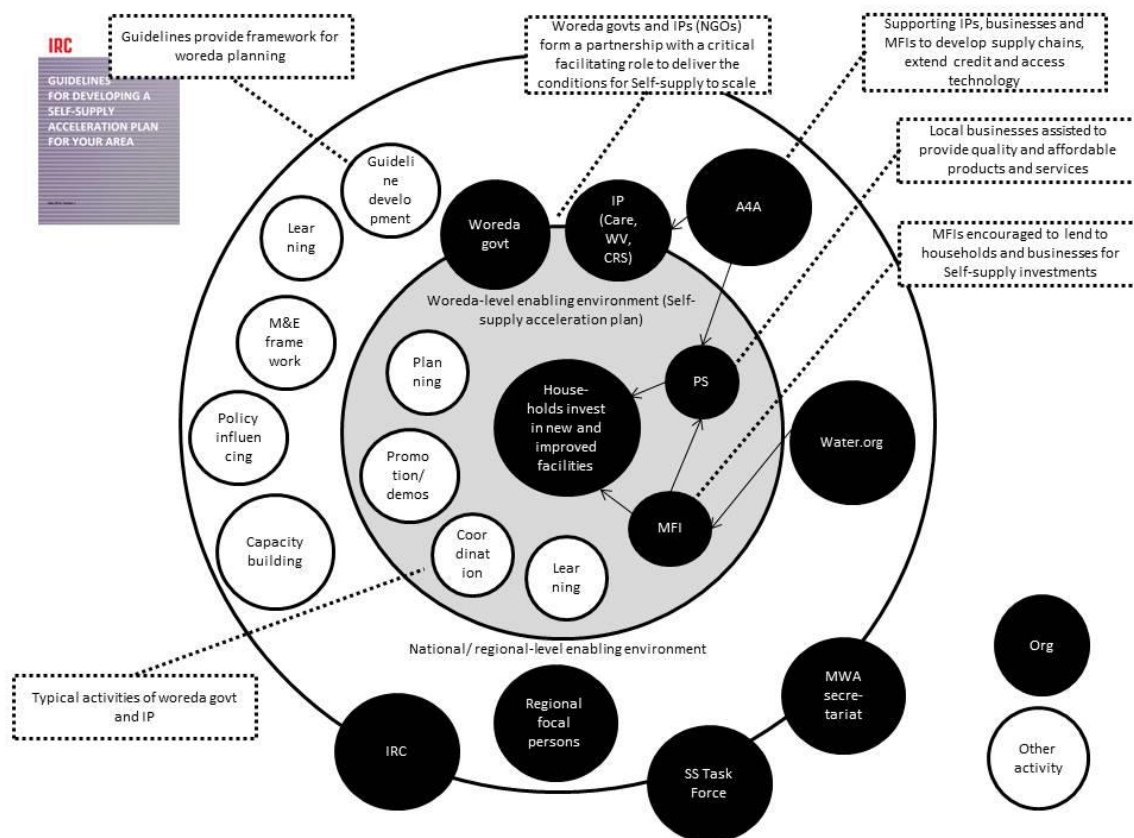
Modified sanitary surveillance checklist for traditional wells						
	Increasing protection					
	Decreasing risks					
Observation	Score					Max
Well characteristic	0	1	2	3	4	Score
<b>1. Well mouth</b>						
1.1 Well mouth covering	None	Loose sheet/plank, wood, plastic, metal	Closely fitted lid (eg. Saucepan) or wood cover	Lockable cover in impermeable top slab	Sealed unit (pump)	4
Mark relevant box with 'X'						
1.2 Relationship to ground level	Below ground level		Level with surrounding ground		Raised above ground (mound)	4
Mark relevant box with 'X'						
1.3 Well mouth protective wall	None	Permeable (wood/ rotten drum)		Impermeable <30cm high	Impermeable >30cm	4
Mark relevant box with 'X'						
<b>2. Well surround</b>						
2.1 Apron	None	Compacted soil	Wood/ cracked concrete	Impermeable <0.5m	Impermeable >0.5m	4
Mark relevant box with 'X'						
2.2 Drainage channel	None	Apron with no lip to divert water	Earth channel diversion	Apron with concrete lip	Apron+ impermeable channel >3m	4
Mark relevant box with 'X'						
2.3 Soakaway	None	Spilt water to plants		Blocked soakaway	Operating soakaway	4
Mark relevant box with 'X'						
<b>3. Lining</b>						
3.1 Length	None	Top <1 metre BGL	Top >1 metre BGL		Full lining impermeable	4
Mark relevant box with 'X'						
3.2 Material	None	Wood and clay/ dung	Wood or dry stone	Masonry with mortar	Concrete rings	4
Mark relevant box with 'X'						
3.3 Seal at wellhead	None		Water cannot flow in, but may seep in		No surface water infiltration possible	4
Mark relevant box with 'X'						
<b>4. Lifting device</b>						
4.1 Device type	Rope and bucket	R+B + pulley	Windlass.	Rope (low cost) pump	Hand pump/Mechanised pump	4
Mark relevant box with 'X'						
4.2 Functioning	Not functioning		Functioning badly		Functioning well	4
Mark relevant box with 'X'						
4.3 Hygiene (observation)	Rope and bucket on	Rope/ bucket hanging on post	Rope kept off the ground in use		No rope and bucket needed	4
Mark relevant box with 'X'						
<b>5. Environmental sanitation</b>						
5.1 Latrine proximity	Within 10m, uphill of well	Within 10m	Latrine within 30m		None within 30m	4
Mark relevant box with 'X'						
5.2 Solid/ faecal waste	Within 5 metres of well	Within 10m, uphill of well	Within 10-30m	None within 30m	Well site fenced +clean	4
Mark relevant box with 'X'						
5.3 Standing water	Muddy/ waterlogged within 3m	Standing water within 10m	Muddy/waterlogged within 30m	None within 10m	None within 30m	4
	Well protection levels					
	Scoring	Key				
	0- 29	Un protected				
	30- 58	Semiprotected				
	59- 60	Protected				

# Annex 12: Results chain for Self-supply acceleration pilot (household led approach)

## Millennium Water Alliance Ethiopia Program

Results chain for Self-supply acceleration pilot (household led approach)





## Annex 13: Estimation of per capita support investment for MWA-SSA project target kebeles in five kebeles

Estimation of per capita support investment in MWA SSA project target kebeles in five woredas					
Woreda	Number of intervention	Average population per kebele	Total pop in target kebeles	Per capita support investment (USD)	Remark
Farta	6	7647	45882	0.545	Population data from baseline survey
Dera	6	2111	12666	1.974	
Estie	5	4586	22930	1.090	
Dugda	2	3361	6722	3.719	
Omonada	4	7611	30444	0.821	
Average				1.63	



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