



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

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The views and opinions expressed in this paper are those of the authors and do not necessarily reflect the position of policy of the Ministry of Water, Irrigation & Energy of the Federal Democratic Republic of Ethiopia and IRC.

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# ACRONYMS

CLTSH	Community-led Total Sanitation and Hygiene
CMP	Community Managed Projects
CRS	Catholic Relief Services
DRMFSS	Disaster Risk Management and Food Security Sector
ETB	Ethiopian Birr
FOAM	Focus, Opportunity, Ability and Motivation (tool)
GIS	Geographic Information System
GLOWS	Guided Learning On Water and Sanitation
GPS	Global Positioning System
GTP	Growth and Transformation Plan
HEP	Health Extension Package
HWTS	Household Water Treatment and Storage
IDE	International Development Enterprises
JICA	Japan International Cooperation Agency
MFI	Micro-Finance Institutions
MoWIE	Ministry of Water, Irrigation and Energy
MUS	Multiple use water services
NGO	non-governmental organisation
NWI	National WASH Inventory
OWNP	One WASH National Programme
PSNP	Productive Safety Net Programme
RIDA	Resources, Infrastructure, Demand and Access (tool)
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SSWG	Self-supply Working Group
TAF	Technology Applicability Framework
TIP	Technology Introduction Process
TTC	Thermo-tolerant coliforms
TVET	Technical and Vocational Education and Training
WASHCO	Water and Sanitation Committee
WMPs	woreda-managed projects

# FOREWORD

When families invest their own time and money in securing their water supply we should sit up and take notice. Nothing is more demand-driven than what people choose to do for themselves.

“Self-supply” happens when people dig their own wells or construct water harvesting systems at household level or in small groups. These self-motivated efforts can make a huge contribution to the availability of water for households and their neighbours.

Self-supply develops where water services are poor or non-existent, and families seek to reduce the time it takes to fetch water and increase the amount available for household use, food security and livelihoods. It brings the convenience of a household supply at low cost; and increases the likelihood of a sustainable service because Self-supply means commitment as well as investment.

Self-supply generates income for those who make a living by digging or drilling wells and supplying related products and services. It contributes to livelihoods for families who develop productive gardens and small livestock businesses. With encouragement and support from government and its partners, growth in Self-supply can be greatly expanded, especially in deeply rural areas with scattered populations that our public services still battle to reach. This vital addition to investments is part of the future for successful water services and universal coverage.

The Government of Ethiopia has made a firm commitment to supporting Self-supply. It adopted the National Policy Guidelines for Self-supply: Guidelines to support contribution of improved Self-supply to universal access in January 2012. The policy defined Self-supply acceleration as both scaling up access to water and improving the quality of water at household level – by households themselves. Further, approaches to Self-supply have been detailed in the WASH Implementation Framework and are now an integral part of the One WASH National Programme (OWNP) launched in September 2013. Regions such as Oromia and SNNPR have started ambitious implementation programmes.

Donors and civil society partners are also aligning their projects and support to the Self-supply acceleration. Some examples include the Japan International Cooperation Agency (JICA) funded project on rope pumps, International Development Enterprises’ (IDE) work on manual drilling and the plans of the Millennium Water Alliance Ethiopia Programme which will support Self-supply in a new phase from July 2014.

It is important to note that Self-supply should not intend to replace communal water supplies managed by Water and Sanitation Committees (WASHCOs). Rather, together with community-managed systems, Self-supply is one way to help reach the goal of achieving 100% access to water in rural areas.

We hope that along with the Ministry's policy guidelines, you will find these planning Guidelines useful to develop a Self-supply action plan for your area. It is in the regions and woredas that these new approaches will come alive and be tested, and at household level where we will see the impacts.

John Butterworth and Lemessa Mekonta  
IRC

Note: These guidelines were used and largely incorporated by the Ministry of Water, Irrigation and Energy into the *Manual for Accelerating Self Supply Program*.

# INTRODUCTION

## Self-supply – a brief definition

Self-supply is defined in the National Policy Guidelines for Self-supply (2012) as:  
*‘Improvement to water supplies developed largely or wholly through user investment by households or small groups of households.’*

## Who will use these guidelines?

If you are working to improve access to safe rural water supply at woreda, zonal and/or regional levels, or are involved in any aspect of water, sanitation, hygiene promotion, irrigation, access to water for livelihoods, etc., then these guidelines are for you.

You may be a government official in water, health, agriculture or finance; or you may be within a non-governmental organisation (NGO), donor agency, training institution or the private sector.

## What is the objective of these guidelines?

These guidelines will support you to develop a **Self-supply acceleration plan** for your woreda, zone or region.

## Structure of these guidelines

These guidelines have an introduction to Self-supply (this section), followed by eight parts that will support you to develop your **Self-supply acceleration plan**:

- Part 1: Assessing potential
- Part 2: Creating demand
- Part 3: Supporting technology choices
- Part 4: Promoting private sector involvement
- Part 5: Supporting access to finance
- Part 6: Strengthening coordination, innovation and learning
- Part 7: Compiling your Self-supply acceleration plan
- Part 8: Monitoring implementation

## Why plan for Self-supply and what sort of plan is needed?

Planning is needed for activities that will ensure households and others are supported to develop water supply at household level that is sustainable and of good quality.

Activities to be planned for will include:

- Assessing the potential for Self-supply – starting with regions, woredas and kebeles with the most potential (i.e. where people have already taken the initiative to develop family well and/ or rainwater harvesting systems).
- Creating interest and demand for Self-supply (discussed in Part 2).
- Testing and providing advice and training in Self-supply technologies (discussed in Part 3 and supported by the Technical guidelines).
- Promoting the involvement of the private sector and local microfinancing institutions to allow more households to implement Self-supply (discussed in Parts 4 and 5).
- Strengthening coordination, innovation and learning for the acceleration and uptake of Self-supply (discussed in Part 6).

It is also very important to monitor Self-supply acceleration activities in terms of outcomes and impact (discussed in Part 8).

Planning for Self-supply is different from planning other forms of water supply. Decisions on investment in Self-supply are taken at the household level. Households may act independently, or develop supplies by forming a small group and co-investing.

Either way, it is not possible to plan construction of water points for Self-supply in the same way as the development of communal systems implemented under community, woreda and NGO-managed projects. In most communal water supply (although the Community Managed Projects [CMP] approach decentralises decision making to the community level more than other approaches) the decisions on where the water point will be sited, the kind of technology to be used, and the budget are taken by professionals in the Woreda water office with the help of the community, NGOs or partner projects. There is an engineering project process to manage including planning, financing, detailed design, procurement, construction and hand-over to the community.

In Self-supply all the decisions about individual supplies will all taken independently by households. You therefore need to think about the delivery of products and services for consumers (i.e. households) rather than the delivery of engineering projects to communities.

*Planning for Self-supply acceleration is about creating the environment for households to make their own decisions.*

**Woreda Level planning** should include planning and budgeting for private sector development, promoting access to financing mechanisms, training and demonstration, supervision, quality control and monitoring and reporting. The self-supply acceleration activities should be incorporated into the annual woreda WASH Plan as part of the normal planning cycle.

**Zonal level planning** (where zones exist) should include activities to promote uptake of the approach through woredas and activities to support woredas in delivering on their annual plans.

**Regional level planning** should include the development of regional strategies for Self-supply, identifying woredas with the most potential, promoting uptake of the approach, and supporting woredas and zones to deliver activities. Monitoring and learning should feed back into regional approaches. Activities should be an integral part of annual regional WASH plans.

## How should you use these guidelines?

You should follow these guidelines in a step-by-step way to develop a **Self-supply acceleration plan** for your area. These guidelines will provide you with a structure, steps, suggestions and examples for what you must do to develop, implement and monitor your plan. They also give sources of further information and support.

You should use these guidelines with the complementary Technical guidelines to support Self-supply (that provide information on technology options and costs, information on site selection, and maintenance requirements); and within the context of the National Policy Guidelines for Self-supply.

Each part of these guidelines asks you a number of questions, and gives you guidance on how to find the answers. The answers will provide you with the information required to compile your **Self-supply acceleration plan**.

You can also use these guidelines to provide training in Self-supply acceleration. A more concise training module “Learning about Self-supply” has also been prepared as part of the Guided Learning On Water and Sanitation (GLOWS) approach.

## Who should you work with?

It is preferable that a multi-disciplinary team is formed to use these guidelines. You will be able to develop a much stronger and more useful **Self-supply acceleration plan** if you work jointly with those already carrying a mandate for access to rural water supply, improved sanitation, hygiene promotion, or household irrigation. You will also need to engage closely with households who want to implement Self-supply – either on an individual household basis or in groups of households.

The development of a **Self-supply acceleration plan** presents an ideal opportunity to strengthen linkages and pool limited resources. Important projects and programmes may include those promoting manual drilling and rope pumps, family well upgrading, household irrigation, scaling-up of Household Water Treatment and Storage (HWTS) and Community-led Total Sanitation and Hygiene (CLTSH) (including the Productive Safety Net Programme [PSNP] and implementation of the Health Extension Package [HEP]). There will also be efforts in most areas to promote private sector capacity and accessible saving schemes or microfinancing for households.

Where possible, you should identify partners and allies to form your multi-disciplinary planning team. The following questions will assist you to identify them:

- Is the agricultural sector promoting development of shallow groundwater for household irrigation in the area?
- Are there efforts to implement community managed projects (CMPs)?
- Are there any active efforts to promote CLTSH or HWTS?
- Are there projects working to promote the use of rope pump or manual drilling operations?
- Which NGOs are active, and are they promoting household as well as community-level interventions?
- Are there any efforts to promote the local private sector?
- Are micro-finance institutions in the area lending for water-related investments, or might they be interested in doing so?

In case you are able to do a detailed assessment of all those involved in aspects of Self-supply, *Info sheet 1: Stakeholder analysis* is provided as a useful tool. It can also be used to help you identify your multi-disciplinary team. It will help identify linkages for closer integration of different projects, and gaps and overlaps in efforts to implement aspects of Self-supply in your area.

## Some key terms and concepts to get you started

There are some new ideas and language associated with Self-supply. It is important that we develop a common understanding of these:

## Self-supply

As mentioned at the beginning of this document, Self-supply is defined in the National Policy Guidelines for Self-supply (2012) as:

*'Improvement to water supplies developed largely or wholly through user investment by households or small groups of households.'*

Self-supply is not new. The digging of traditional wells is already a common practice in some areas. While some of the terms in this guideline may be new, many of the ideas are centuries old. However, Self-supply is not as widespread as it could be, and many family wells are not providing safe drinking water. In order to support more households to engage in Self-supply, and to improve the water quality in existing family wells, traditional practices must be supported through providing advice, access to good quality products and services, and microfinancing – in other words, an enabling environment. Government's vision is to support more households to construct and upgrade their own water sources.

Water supply sources for Self-supply can be groundwater (springs or wells), or rainwater and runoff (for water harvesting from roofs or small catchments). The most common Self-supply facilities are privately-owned wells, which may be called family wells, traditional wells or hand-dug wells. Sharing is an important practice. In rural areas, neighbours usually have free access to such wells for their domestic uses.

Self-supply investments by households include activities such as digging a well, deepening or lining a well, adding an apron, parapet or cover, installing a rope-and-bucket, windlass, rope-and-washer or mechanised pump, cleaning a well, buying a filter, installing a rainwater harvesting system or protecting a spring.

Self-supply has the potential to be rapidly extended to increase coverage and help improve service levels. Wherever there is locally available shallow groundwater or rainwater resources, Self-supply can be implemented. It can be implemented where communal water supply coverage is low (i.e. it can provide access to water that is more convenient and safer than surface water or very distant protected water sources) or where coverage is relatively high (to provide a higher level of service to complement other supplies and to reach the last 10-20% households).

### **Box 1: The WASH Implementation Framework**

The WASH Implementation Framework (2011) included Self-supply as a service delivery model: 'Self-supply in WASH refers to the un-subsidised construction of a household water supply, or a water supply shared by a small number (typically 2-4) of households. The technologies used vary. Water sources include: hand-dug wells; manually augured wells; and rain water harvesting using roof catchments. Lifting devices include: rope & bucket with, or without, a windlass; simple bucket or rope and washer pump; and, in some instances, more sophisticated diesel, electrical or solar-powered pumps.

The responsibility for establishing a self-supplied water source lies with the household(s) involved. Government involvement is limited to the provision of advice on technologies and water safety such as:

- Promoting well lining and other forms of protection.
- Advising householders on the risk of consuming microbial or chemically contaminated water and on how to reduce the risk at the water source and the point of consumption.
- In some instances, facilitating markets for the purchase of hardware and services.

In general, government actively promotes the concept of Self Supply, noting these points about quality and safety. As the investment and associated risks are borne by participating household(s), Self-supply is unfettered by rules and regulations. The situation changes when water is sold to consumers, however. In this case, government policy and legislation apply in terms of licensing and water safety.

Although Self-supply projects do not draw on WASH funds for investment they are an important and integral part of the National WASH program. The current status, future status and promotion of Self Supply should be reflected in kebele and woreda WASH plans. To the extent possible, the national WASH Inventory captures Self-supply with results reported, recorded and tallied as achievements toward the targets of the National WASH growth & transformation plan.'

As well as individually-owned family wells, the government recognises and promotes small-group investments in water supply. Individual efforts may receive support but not a subsidy. Group-led investments of 10 households or more may be subsidised (up to 50%).

### **Self-supply acceleration**

Self-supply acceleration means developing the demand, supply, finance and enabling environment for Self-supply to reach more people in a shorter time with better quality water supplies.

Government has established a Self-supply Acceleration initiative to provide support to the Self-supply service delivery model. It has made Self-supply a component of the One WASH National Programme (OWNP); and these guidelines have been written to support planning for Self-supply acceleration by regions, zones, woredas and others.

**Box 2: Self-supply acceleration activities may related to:**

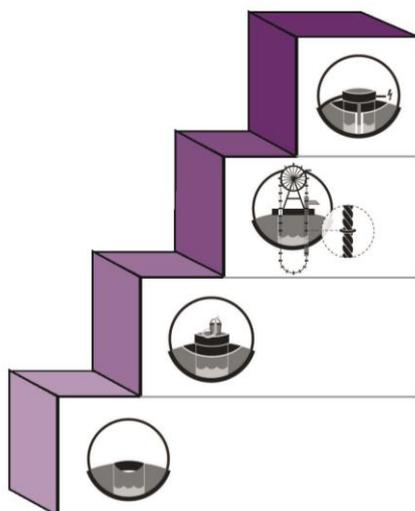
1. Increasing demand: through advocacy activities to generate interest and support at all levels, and especially awareness raising and marketing to trigger investments and actions at household level; improved access to information of all kinds.
2. Increasing supply: training, technology development, supply chain development, and other actions that support the provision (especially by the local private sector) of the products and services that households need.
3. Improving access to finance: from promotion of the use of traditional saving vehicles to lending by micro-finance institutions for both household investments and small businesses.
4. Strengthening the enabling environment: other supporting actions that promote, monitor and improve Self-supply acceleration at all levels including planning, coordination, research, standard setting etc.).

Government, NGOs and enterprises will take different roles In Self-supply acceleration to those required for communal water supply. Some Self-supply acceleration activities are summarised in Box 2.

**Self-supply water technology ladder**

A key idea in Self-supply is that households can start with a low-cost investment e.g. digging a basic unprotected well. Further investments can be made in affordable steps to move up the ladder to ensure better water quality (e.g. well-head protection), increased ease of access (e.g. adding a windlass or pump) and greater assurance of supply (e.g. deepening the well).

**Figure 1: A simple ladder of water technologies for shallow groundwater development**



### **Household irrigation and multiple use water services**

Multiple use water services (MUS) is the provision of water for more than one purpose. People need water for different uses. These include domestic uses (e.g. drinking, cooking, washing and bathing) and productive uses (e.g. irrigation and watering livestock).

Family wells are likely to be used more widely for productive uses than communal sources, and this is a key motivation for households. Income from irrigation may justify the initial investment needed by households, and provide a source of funds to improve the supply.

Wells developed principally for household irrigation will often end up being used for domestic or drinking water supply as well.

### **Multiple sources and service delivery models**

People often make use of more than one water source at the same time – either on an ongoing basis, or during dry seasons.

The Self-supply service delivery model must be seen to complement other service delivery models, including:

- In rural areas, community-managed water supplies such as those developed through woreda-managed projects (WMPs), NGO projects or community-managed projects (CMPs).
- In urban areas, services provided by utilities or water boards.

Where possible, Self-supply acceleration activities can be linked to the CMP model where communities are responsible for planning, funding, constructing and managing their water facilities. Services can be sourced from the private sector, and microfinancing institutions may also be engaged in supporting Self-supply (by extending credit in the case of Self-supply rather than just a focus on banking functions only as is the case with CMP). Government's role is focussed on coordination, regulation and facilitation, rather than on implementation. Every effort must be made to link activities to avoid duplication of efforts.

### **Stakeholders and role players**

There are many potential stakeholders to be involved in Self-supply. It is very important to identify all stakeholders at the start of planning, and to include the appropriate ones at each stage of implementation. This will help to ensure good coordination and collaboration.

As mentioned above, *Info sheet 1: Stakeholder analysis* is provided as a useful tool to identify the full range of stakeholders (and role players).

## Documenting your Self-supply acceleration process

It is important to record your Self-supply acceleration process. It makes monitoring easier, as well as sharing experiences and lessons of good practice for up-scaling.

There are many ways to do this. *Info sheet 2: Documenting your Self-supply acceleration* process provides guidance on two useful tools: keeping a field diary and holding semi-structured interviews.

## Where can I get support?

Support on Self-supply may be available at regional and national levels.

### You may contact:



The Self-supply focal point in the federal Ministry of Water and Energy (contact: Zewditu Yilma, Self-supply focal point, Ministry of Water and Energy, Addis Ababa, Email: [zewditu50@gmail.com](mailto:zewditu50@gmail.com)).

Self-supply focal persons in Regional Water Bureaux.  
(SSNPR: Eyasu Mamo, BoWR Hawassa, Email: [eyasumamo@yahoo.com](mailto:eyasumamo@yahoo.com); Oromia: Tibebu Tirefe, BoWME, Email: [tibebuterefe@gmail.com](mailto:tibebuterefe@gmail.com)).

Self-supply Working Group in Addis Ababa: This working group organises regular meetings and supports the development of Self-supply in Ethiopia (contact the coordinators: Zewditu Yilma, see above, or Inge Klaassen, IRC Ethiopia, Addis Ababa, [klaassen@ircwash.org](mailto:klaassen@ircwash.org)).

NGOs and others working in your area who may have experience in Self-supply. Organisations currently active in this area include the Millenium Water Alliance ([www.mwawater.org/programs/ethiopia/](http://www.mwawater.org/programs/ethiopia/)), International Development Enterprises (<http://ethiopia.ideorg.org/>) and UNICEF ([www.unicef.org/ethiopia/](http://www.unicef.org/ethiopia/)).

## For more information

### In these guidelines:



Info sheet 1: Stakeholder analysis.

Info sheet 2: Documenting your Self-supply acceleration process.

### Additional resources:



*A hidden resource: Household-led rural water supply in Ethiopia* (2012)

Available online at: [www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia](http://www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia) (This report includes the results of studies in Oromia Region and Southern Nations Nationalities and People's Region [SNNPR] examining the performance and development of existing traditional wells.)

*National policy guidelines for Self-supply: guidelines to support contribution of improved Self-supply to universal access* (2012). Available online at [www.ircwash.org/resources/national-policy-guidelines-self-supply-guidelines-support-contribution-improved-self](http://www.ircwash.org/resources/national-policy-guidelines-self-supply-guidelines-support-contribution-improved-self) (This document provides details of the intentions of government and approaches to be followed.)

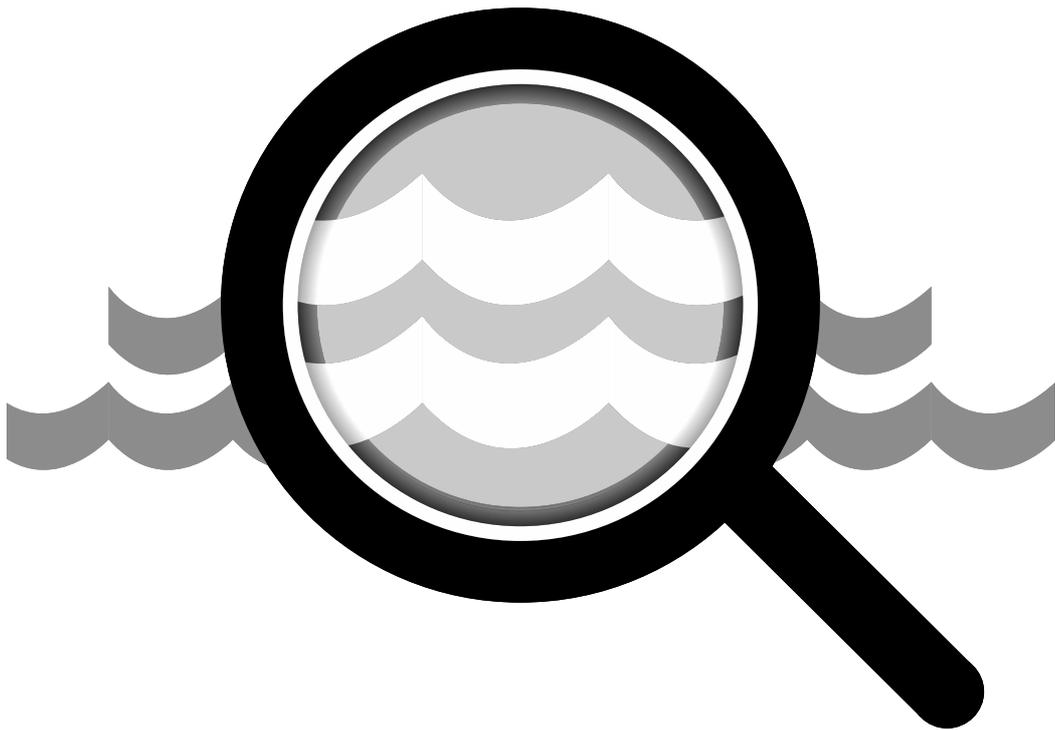
*Self-supply as a complementary water services delivery model in Ethiopia* (2013) in *Water Alternatives*, Volume 6, Issue 3. Available online at: <http://www.water-alternatives.org> (This paper summarises research on Self-supply and analyses the potential outlook for the approach.)

*GLOWS training module: learning about Self-supply* (2014). Available online at: [www.ircwash.org/resources/gloWS-training-module-learning-about-self-supply](http://www.ircwash.org/resources/gloWS-training-module-learning-about-self-supply) (This module supports the Guided Learning On Water and Sanitation or GLOWS training approach.)

Rural Water Supply Network website at [www.rural-water-supply.net/en/self-supply](http://www.rural-water-supply.net/en/self-supply) (This includes extensive resources on Self-supply from different countries.)

Community Managed Projects website at [www.cmpethiopia.org/](http://www.cmpethiopia.org/) (Includes Self-supply related documents and resources on financing.)





## **PART 1: ASSESSING POTENTIAL**



**PART 1**  
Assessing  
potential



**PART 2**  
Creating  
demand



**PART 3**  
Supporting  
technology  
choices



**PART 4**  
Promoting  
private sector  
involvement



**PART 5**  
Supporting  
access to  
finance



**PART 6**  
Ensuring  
coordination,  
innovation and  
learning



**PART 7**  
Compiling your  
Self-supply  
acceleration  
plan



**PART 8**  
Monitoring  
implementation

## **Objective**

*The objective of Part 1 is to assist you and your colleagues to assess the potential for Self-supply in your area. The assessment will be based on knowledge of water resources, existing Self-supply practice and other factors such as gaps in communal water supply coverage and irrigation potential. It will help you identify the most appropriate places to promote Self-supply.*

## 1.1 Introduction

A first step in planning for Self-supply acceleration activities in your area is to make a rapid assessment of potential. Water resources that are suitable for development through low-cost investments by households or small-groups are clearly a prerequisite for Self-supply. But other factors beyond water resources will affect potential for a Self-supply approach, including the level of existing experience of household-led development of water supplies in an area, the gaps in coverage left by other (communal) water service delivery models and the interest of households in irrigated agricultural production. Some of these other factors will be within your influence and others not. The level of private sector development in an area may be vital for Self-supply and may be increased through an enterprise development programme.

Self-supply is likely to rely on shallow groundwater or less often rainwater and runoff. Shallow groundwater can be developed at household and small-group level through hand dug wells and manual drilling. Springs on private land may also be developed by households and small groups. Some water harvesting techniques are suitable as well, including rooftop rainwater harvesting and runoff harvesting and small ponds at the household level. Some assessment of available water resources and their existing level of exploitation will be needed.

Self-supply may be more easily promoted in areas with scattered populations or gaps in communal water supply. Here, there are fewer alternative water supply options for people. Similarly, it may be expected to take off in areas where there are well-developed input- and output-markets for horticultural or other high value crop production and hence interest in household irrigation.

You will learn a lot from existing practices and levels of development. Where there is existing Self-supply, there may be pool of local knowledge to tap such as locally-suited techniques for well lining.

An assessment of Self-supply potential will help you decide in which areas (kebeles, woredas, zones etc.) you should focus your efforts. You may decide to start in the most remote and needy areas, or in areas where Self-supply is already happening and can be extended to neighbours and surrounding communities with less effort.

Piloting and testing is best undertaken in more accessible areas that are not the most difficult to reach.

Since decision making about Self-supply is in the hands of the household or groups of households, you do not need to undertake an assessment of potential at the same scale or level of detail as you would when planning a community water supply system. It will not be necessary for you to pinpoint the exact location of where all household plan to develop water sources, although this will be required in the case of small groups. Your Self-supply acceleration activities are likely to be focused at kebele or woreda level.

## 1.2 Key questions

Key questions for you and your colleagues to ask in order to assess potential for Self-supply in your area are:

1. Are there Self-supply practices already in my area that can be built on?
2. Are there water resources available that are suitable for development at household level?
3. Can Self-supply fill gaps in other approaches to providing improved water supplies?
4. What are the main challenges to Self-supply acceleration?

In order to answer these questions you will need information on the current water supply situation and will assess where Self-supply is possible, where it is practiced already, and where self-supply has the highest potential to contribute to a better water supply situation.

A list of questions you might find useful are:

### ***Water resources***

What are the main water resources in my area suitable for development through the Self-supply approach and where are they?

1. Is shallow ground water available? Are there quality risks related to shallow ground water (e.g. fluoride, iron etc.)?
2. Is rain water sufficient for rainwater harvesting?
3. Are there springs in my area? What is the capacity of the springs, and for what purposes are they used? Are they protected or unprotected?

### **Water infrastructure**

What kind of water supply infrastructure is in my area and where is it?

1. Have some households already developed their own water supplies? How many and where are they? What do these supplies look like (type of infrastructure) and how well are they functioning? What are the main challenges that households face in developing their own water supplies (e.g. lack of credit, lack of advice, lack of materials, etc.)?
2. What kind of improved communal sources are in place? Where are they? Are there gaps in community water supplies? If yes, what are the gaps?
3. Are there areas which cannot (in the short term) be reached through communal water supply, e.g. because of the scattered nature of the population, inaccessibility of the area, socio-cultural issues or any other reasons?
4. Are there areas where communal water supply is not working (high non-functionality rates and low reliability of water supply)?

### **Costs**

What are the costs of communal and household level water supply in my area?

1. What are the capital expenditure costs (costs of implementation) of the infrastructure? Who pays for what?
2. What are the annual operation and maintenance costs? Who pays for what?
3. What are the rehabilitation and replacement costs? Who pays for what?

### **Demand**

What is people's demand for water supply? Are there areas where people are interested in having more water closer to home?

### **Access**

What is the water supply coverage like in the area?

1. Are there areas with very low water supply coverage?
2. Are there areas with high water supply coverage (80-90%), but where reaching the last 10-20% is a challenge? If yes, what are the challenges for reaching the last 10-20%?
3. Are there challenges with water services provided through the different Self-supply options and communal water sources in the area, relating to:
  - Reliability of water availability (e.g. breakdowns or lowering water levels).
  - Accessibility (e.g. distance from the point of use).
  - Water quality.

- Amount of water available and used?

### 1.3 Getting answers

Answers to the questions will be got from different sources, in different ways, and with varying levels of accuracy. A balance will have to be found between accuracy in answering the questions, and the amount of effort it takes to collect this data.

A quick assessment may involve:

- Interviews with people knowledgeable about the area.
- Interviews with one or more households who already practice Self-supply, if applicable.
- Using any existing data that might be available (such as data collected as part of the National WASH Inventory providing information on communal infrastructure and coverage: see Info sheet 3: Using National WASH Inventory data).

In case you are able to do a more detailed assessment there are three Information sheets you might find helpful:



Info sheet 4: RIDA (Resources, Infrastructure, Demand and Access) analysis

Info sheet 5: Focus group discussions

Info sheet 6: Mapping

### 1.4 Summarising information for your Self-supply acceleration plan

Based on your assessment of your area you should be ready to complete Worksheet 1: Self-supply potential, acceleration challenges and decisions regarding short and medium term focal areas. This Worksheet will feed directly into your Self-supply acceleration plan.

You will find Worksheet 1 in the section at the end called Worksheets for your Self-supply acceleration plan.

It requires you to fill in the following information:

1. Areas with low, medium and high Self-supply acceleration potential (including areas where Self-supply might already be practiced).
2. Main challenges and opportunities for Self-supply acceleration in the areas with medium and high Self-supply potential. Some challenges might be:

- Lack of awareness on the benefits of Self-supply.
- Lack of awareness and knowledge on technology options for Self-supply.
- Lack of private sector to support households construct or upgrade household water sources.
- Lack of financial mechanisms for the construction or upgrading of household water sources.
- Other?

Some opportunities might be:

- The presence of markets for horticultural products irrigated from family wells.
- Promotion in the area of family wells for irrigation, or the household-level promotion of sanitation or household water treatment.
- Other?

### 3. Decisions on where to focus your Self-supply acceleration efforts in the short and medium term.

After completing Worksheet 1 you should have a good overview of where there is potential for Self-supply in your area. You will also have made a first analysis of the main challenges for accelerating Self-supply in these areas.

In the Parts that follow you will assess these challenges in more detail and identify solutions to address the challenges. As a result of later work you do towards developing your **Self-supply acceleration plan** you may need to make changes to Worksheet 1. This is called iteration, and is what will make your **Self-supply acceleration plan** a living and useful document.

## 1.5 For more information

### In these guidelines:



Info sheet 3: Using National WASH Inventory data

Info sheet 4: RIDA (Resources, Infrastructure, Demand and Access Analysis)

Info sheet 5: Focus group discussions

Info sheet 6: Mapping

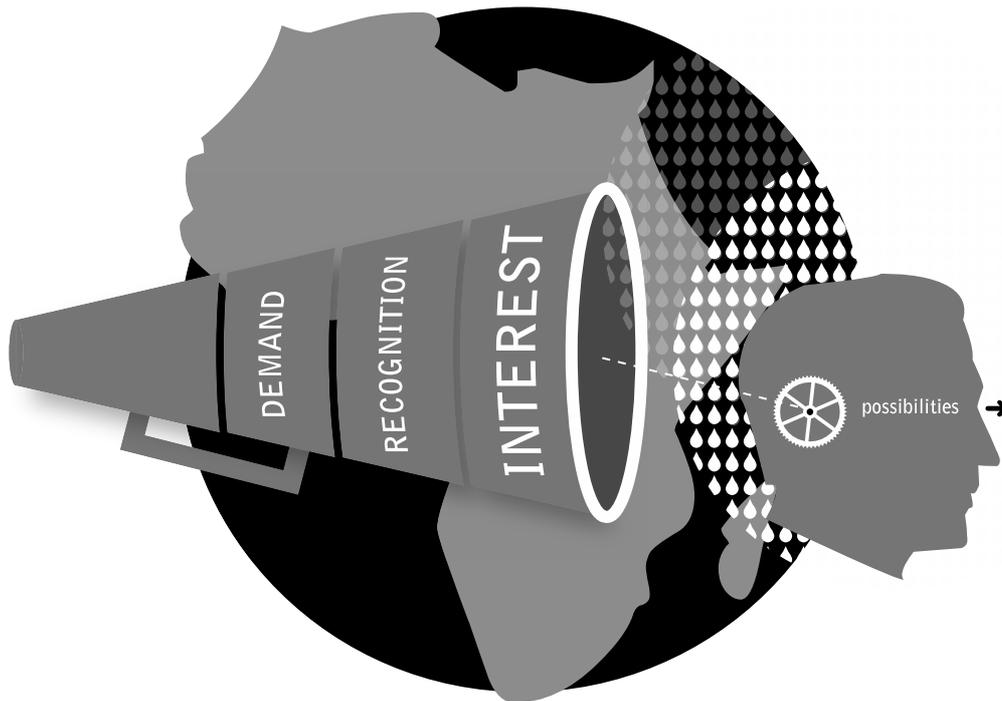
### Additional resources:



*A hidden resource: Household-led rural water supply in Ethiopia* (2012). Available online at: [www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia](http://www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia) (This report was mentioned in the previous section. It is mentioned again for its relevance here: it is based on research of existing practices in the development of Self-supply. It helps illustrate many practices that can be built on. It also discusses how well-meaning efforts to support Self-supply can be harmful e.g. by undermining ownership or positive practices like the sharing of family wells).

*Towards a regional assessment of Self-supply potential in SNNPR, Ethiopia* (2012) Available online at: <http://www.ircwash.org/resources/towards-regional-assessment-self-supply-potential-snnpr-ethiopia> (Ripple Working Paper 24).





## PART 2: CREATING DEMAND



**PART 1**  
Assessing  
potential



**PART 2**  
Creating  
demand



**PART 3**  
Supporting  
technology  
choices



**PART 4**  
Promoting  
private sector  
involvement



**PART 5**  
Supporting  
access to  
finance



**PART 6**  
Ensuring  
coordination,  
innovation and  
learning



**PART 7**  
Compiling your  
Self-supply  
acceleration  
plan



**PART 8**  
Monitoring  
implementation

## **Objective**

*The objective of Part 2 is to guide you and your colleagues to promote Self-supply by creating and maintaining demand for Self-supply at household level in your area; and to create interest in and understanding of Self-supply by key audiences in your area.*

## 2.1 Introduction

In Part 1 you looked at existing levels of Self supply in your area and the potential for up-scaling it. You also looked at the main challenges and opportunities in accelerating Self-supply.

One of the biggest challenges in up-scaling Self–supply, even in areas where the water resources exist, is that households are often not aware how to develop or improve their own household water supplies at a cost they can afford.

If this is true of your area, then you need to think about increasing demand (i.e. the interest of households to invest) and make sure households receive the information they want or need.

Household demand must be based on real commitment, since households will need to take money from their household budgets to invest in their water supplies. You will need to keep promoting Self-supply until such time as your area reached a ‘critical mass’ (enough people have implemented Self-supply), and further development happens largely by itself as a result of peer example.

Two groups of households that need different things are households with existing Self-supply, and households without Self-supply. These are different audiences that need different information. Household with existing wells, probably poorly protected, need information about how they could improve their well. Households without a well at the moment, need information on how they might develop one.

As mentioned in the Introduction, there are other stakeholders who could join you in creating household demand for Self-supply. They also may not be aware of the

benefits of Self-supply, or the partnership role that they could play in accelerating Self-supply. The interest and knowledge of these stakeholders is important supporting Self-supply acceleration. These stakeholders might typically include:

- Political leaders.
- Government and non-governmental (NGO) professionals and donors in water and related sectors including health, education, finance, woreda administration, women and child affairs, agriculture, and enterprise development.
- Technical and Vocational Education and Training (TVET) centres.
- Research institutions, including universities.
- Private sector service providers.
- Micro-Finance Institutions (MFIs).

You need to focus on a range of communication activities to support demand creation, interest and recognition. No single activity is likely to be enough on its own, or likely to reach all audiences. A first step is stakeholder analysis to decide who the important audiences are that will need to reach (See *Info sheet 1: Stakeholder analysis*).

## 2.2 Key questions

The main question to consider in this module is:

- How do I promote Self-supply so that communities, and other stakeholders, understand and recognise the importance of Self-supply, and households and small groups begin to invest in Self-supply to improve their water supplies?

To answer this question you first need to know what households and other stakeholders already know about Self-supply. You also need to understand:

- What is stopping households from stepping onto or moving up the water technology ladder? (For an explanation of the water technology ladder see the diagram in the Introduction called 'Self-supply water technology ladder'.) What do households need to know in order make their own investment in Self-supply? What are the key messages that will lead to changed behaviour of households? What is the best way to convey these messages?
- What do key stakeholders in my area think about Self-supply? Do they see how important it is? Are some of them already doing activities support acceleration of self-supply? What do they need to know to make sure they contribute to the Self-supply acceleration plan? What are the key messages that will lead to changed behaviour of these stakeholders? What is the best way to convey these messages?

## 2.3 Getting answers

Before you think about messages and the best ways to convey these messages, you need to find out what households and other stakeholders know already about Self-supply and what they don't, but should know, so that they can be part of a combined effort to accelerate Self-supply.

To understand the interest and knowledge of households, you can:

- Do a rapid assessment of where people are on the Self-supply water technology ladder.
- Discuss general knowledge of households related to Self-supply with key people (e.g. discuss the health impacts of improved water supply with the local health officer and opportunities for household irrigation with agricultural extension workers).
- Have focus group discussions with a selection of households. (See *Info sheet 5: Focus group discussions* to guide you.)
- Undertake a household survey or baseline assessment.

*Because household surveys can take a lot of time, and need a budget, you might want to use results of similar surveys undertaken by other organisations in the past.*

In order to get a deeper understanding of the extent to which key stakeholders already recognise and support Self-supply, you can:

- Have bi-lateral conversations with stakeholders such as research, education and training institutes.
- Hold focus group discussions with groups of stakeholders.
- Do questionnaire surveys with stakeholders.
- Discuss ideas and thoughts with key informants.

When you have a better idea of households and stakeholders need to know in order to accelerate Self-supply, you must think about the key messages that will positively change their understanding of Self-supply. You will also have to think about the most effective ways to communicate these messages.

### **Key messages for households**

Based on your assessment of what households need to know, you should development appropriate messages. Some example messages are presented below.

<b>Box 3: Example messages for households</b>
---

**There are many advantages for you when you invest in construction or upgrading of your own water sources. When water is close to home it means:**

- There is more water for personal hygiene. This means your family will be healthier, and will have more privacy and dignity.
- You don't have to travel long distances to fetch it and so there is more time to spend on productive activities (e.g. food gardens and animal watering). More water for productive activities means more food and/ or money for your household. There is also more time for household tasks or going to school.
- You will not have to worry about being safe like you have to when you walk long distances to fetch water.
- You can share your household water source with your neighbours.

**You can construct or upgrade your household water supplies in affordable steps**

- You have groundwater in your area and/ or rainwater that can be easily harvested.
- There are technologies to suit you at a price that you can afford. There are different levels of service and they have different investment and running costs.
- There are local specialists available to help you construct, upgrade and maintain your household water source. We can help you find the help and products you need.
- You can save or borrow money to support your investment in your own water supply.

You can divide households into different groups such as families with and without existing Self-supply.

***Key messages for other stakeholders***

Based on the level of interest and understanding of other stakeholders, you should develop appropriate messages (see examples in the box below).

**Box 4: Example messages for other stakeholders**

**For political leaders, professionals and donors in water and related sectors (health, education, finance, woreda administration, women and child affairs, agriculture, enterprise development):**

- Self-supply acceleration is government policy. It is one of the water service delivery models recognised and promoted by government.
- Self-supply can contribute to achieving the objectives of the Growth and Transformation Plan (GTP).
- Self-supply can contribute to ensuring access to sustainable water services for more people, in less time, and of better quality.
- Self-supply leverages resources from government and development partners with resources from households.
- Research shows that household water supply facilities developed through Self-supply can be as safe, or even safer than communal supplies.

**For Technical and Vocational Education and Training (TVET) centres:**

- Self-supply should be included in your curriculum in order to provide trainees with the knowledge and skills to pursue increasing job opportunities related to Self-supply acceleration.

**For research institutions, including universities:**

- Self-supply provides good topics for interesting research and innovation.

**For private sector service providers:**

- There is a demand from households for private sector support services related to Self-supply i.e. there is a potential market for services relating to Self-supply activities.
- Households can be reliable and long-term clients for Self-supply related private sector services.

**For Micro-Financing Institutions (MFIs):**

- There is a demand from households for financing mechanisms to support Self-supply.
- Self-supply can give people access to more water, closer to home. This water is often used for productive uses. When people take a loan to develop or upgrade their water supply, they will be able and willing to pay the loan back.

With appropriate loan products (e.g. looking at different collateral options like group loans), microfinancing institutions can support Self-supply and grow their microfinancing market.

Messages will obviously need to be developed in appropriate languages, and often not in English.

**Ways to convey messages to households**

Depending on the types of messages and the level at which you are working, there are different mechanisms you can use. The table below gives ideas for ways (or mechanisms) that can be used at household level. It is not exhaustive.

**Table 1: Mechanisms for conveying messages to households**

	Regional/ zonal level	Woreda/ local level
<b>Messages for the benefits of Self-supply</b>	Develop or customise a mass media campaign	<ul style="list-style-type: none"> <li>- Discuss the benefits of self-supply at               <ul style="list-style-type: none"> <li>o kebele meetings</li> <li>o school clubs</li> <li>o Idir community gathering</li> </ul> </li> <li>- House visits by health extension workers</li> <li>- 1-5 grouping</li> <li>- Experience sharing / visits to model households (see <i>Info sheet 7: Community exchange visits</i> for ideas)</li> <li>- Media campaign using local radio and newspapers, and pamphlets in local languages</li> </ul>
<b>Messages for technology choice</b>	Develop or customise technology posters in local languages	<ul style="list-style-type: none"> <li>- Put posters with pictures on different technology options in public places</li> <li>- Set up demonstration sites, e.g. at households of model farmers and at public institutions</li> <li>- Organise visits to demonstration sites for household members and/ or influential people within communities (e.g.. traditional or religious leaders)</li> </ul>

	Regional/ zonal level	Woreda/ local level
<b>Messages for household use of private sector services</b>	Help businesses to develop their marketing skills, offer marketing materials that can be locally customized.	<ul style="list-style-type: none"> <li>- Invite private sector service providers to meetings at community or kebele level</li> <li>- Support advertisements of products and services offered.</li> </ul>
<b>Messages for household access to finance</b>	Advertisement of services offered by Micro-Finance Institutions in print media, radio or tv.	<ul style="list-style-type: none"> <li>- Invite representatives of microfinancing institutions to meetings at community or kebele level</li> <li>- Discuss financing mechanisms for Self-supply during idir community gatherings</li> </ul>

There are similarities here to the ‘triggering’ process in Community Led Total Sanitation and Hygiene (CLTSH). In the case of CLTSH, shame about open defecation is used as the main trigger for bringing about behaviour change. In the case of Self-Supply, the messages are more positive, focussing on how households can improve their health, food security and livelihoods. There is potential for linkages or integration of CLTSH and other programmes that are creating demand, e.g. in Household Water Treatment and safe Storage, Sanitation Marketing and Household Irrigation (see Part 6).

### ***Ways to convey messages to other stakeholders***

The table below gives you ideas for mechanisms you can use for other stakeholders.

**Table 2: Mechanims for conveying messages to some different stakeholder groups**

	Regional / zonal level	Woreda / local level
<b>Messages for the advantages of Self-supply acceleration for political leaders and WASH professionals</b>	<ul style="list-style-type: none"> <li>- Customise national level communication materials</li> <li>- Discuss Self-supply at review meetings and at regional and zonal cabinet meeting</li> </ul>	<ul style="list-style-type: none"> <li>- Disseminate communication materials</li> <li>- Discuss Self-supply at review meetings and woreda cabinet meetings</li> <li>- Distribute these guidelines and related technical guidelines</li> </ul>
<b>Messages for the advantages of Self-supply accedleration for research and vocational training centres</b>	<ul style="list-style-type: none"> <li>- Customise national level communication materials</li> <li>- Bi-lateral discussions</li> <li>- Engaging students in research work related to Self-supply and Self-supply acceleration</li> </ul>	<ul style="list-style-type: none"> <li>- Disseminate communication materials</li> <li>- Bi-lateral discussions</li> <li>- Distribute these guidelines and related technical guidelines</li> </ul>

**Box 5: Experiences from Kenya of branding of the treadle pump as a ‘Money-maker pump’**

In Kenya the treadle pump is marketed as the 'money maker pump' and marketed to households as a pump for small-scale agriculture enabling a quick return on investment. There is a powerful message in the name. The pump can be paid for in instalments.

For more information: [www.kickstart.org/news/KickStart\\_B2B\\_BrochureJan09.pdf](http://www.kickstart.org/news/KickStart_B2B_BrochureJan09.pdf)

#### **Box 6: Messages about rope pumps**

JICA found that many of the manufacturers originally trained in making rope pumps had given up on the business as there was no demand for their product. The products had not been promoted or marketed very well. They also found that many of the rope pumps were not well made, had not been properly installed, and some of them had not been properly maintained. One of the ways to convince people that a technology can work is to set up demonstration sites and organise site visits. JICA are now trying to rebuild interest in the rope pump and overcome some people's negative attitude to the technology. Others, like International Development Enterprises (iDE) have been working hard to lower costs while maintaining quality. Price is also a powerful message.

## 2.4 Summarising information for your Self-supply acceleration plan

Based on answers to your questions, and any workshops and meetings you held to get the information together, you should be ready to complete *Worksheet 2: Activities to create demand*. This Worksheet will feed directly into your **Self-supply acceleration plan**.

You will find Worksheet 2 in the section at the end called Worksheets for your Self-supply acceleration plan.

It requires you to fill in the following information:

1. Target audience.
2. Key message(s).
3. Mechanism(s) to convey the message(s).
4. Activities needed to develop products and disseminate

After completing Worksheet 2 you will understand the main activities required to create interest, demand and support for Self-supply and acceleration of Self-supply.

As mentioned before, in the work still to be undertaken towards developing your **Self-supply acceleration plan** you may need to come back and make changes to Worksheet 2.

## 2.5 For more information

### In these guidelines:



Info sheet 5: Focus group discussions.  
Info sheet 7: Community exchange visits.  
Info sheet 8: Information campaign and use of media.

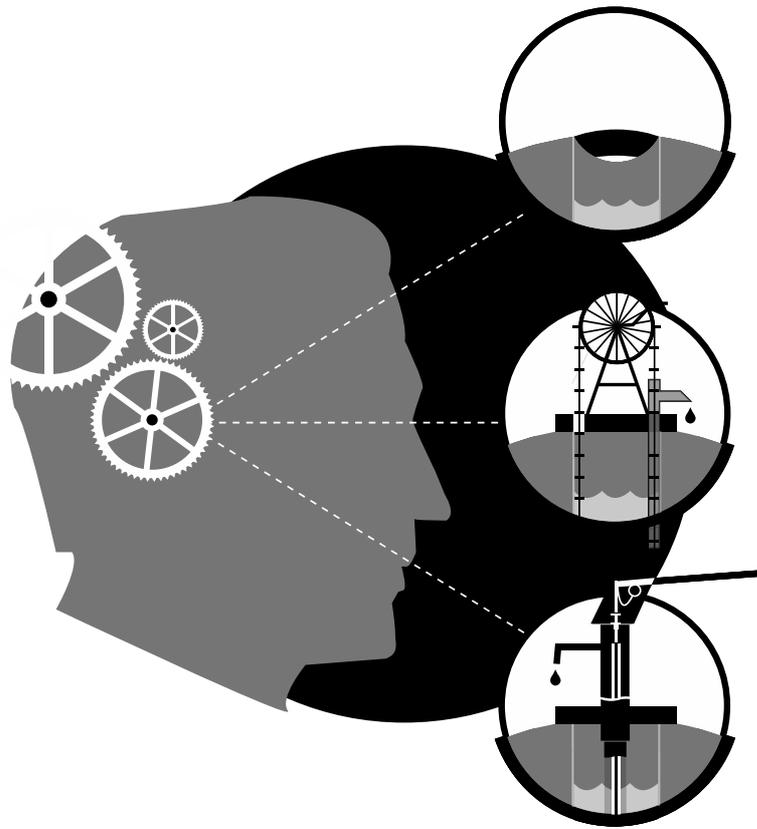
### Additional resources:



Some example communications materials (a brochure and posters) are shown at [www.ircwash.org/resources/brochure-self-supply-acceleration-programme-ethiopia](http://www.ircwash.org/resources/brochure-self-supply-acceleration-programme-ethiopia) and [www.ircwash.org/resources/posters-self-supply-acceleration-programme-ethiopia](http://www.ircwash.org/resources/posters-self-supply-acceleration-programme-ethiopia) and a draft Self-supply communication strategy can be downloaded at [www.ircwash.org/resources/draft-communications-strategy-self-supply-acceleration-programme-ssap](http://www.ircwash.org/resources/draft-communications-strategy-self-supply-acceleration-programme-ssap)







## PART 3: SUPPORTING TECHNOLOGY CHOICES



### **Objective**

*The objective of Part 3 is to support you and your colleagues to select and introduce Self-supply technologies in your area. This will be based on your assessment of potential for self-supply (Part 1), and creating demand (Part 2).*

## 3.1 Introduction

People depend on technology to lift, transport, store, treat and use water. Technology can save time, reduce hard work, make water safer and increase productivity.

In working through Parts 1 and 2 you will already have a lot of information about Self-supply in your area, and how successfully it has been implemented to date. It is now time to plan the introduction and/ or scaling up of the most appropriate Self-supply technologies.

People need technologies they can afford and that perform well. Households with an interest in improving their own water supplies need to know what they can do to construct or upgrade their household-level water source. They are likely to want support and advice on identifying and getting access to the technologies they need. It will be your job to make information available on different locally appropriate technologies, and to encourage local innovation and sharing good ideas.

The *Self-supply technical guidelines* introduce many suitable technologies for Self-supply, and are a key resource for you in this part of the development of your **Self-supply acceleration plan**.

## 3.2 Key questions

Key questions for you and your colleagues to ask in order to support technology choices are:

1. What Self-supply technologies are already widely in use in my area and have the potential for improvement or scaling up?

2. What Self-supply technologies from elsewhere, or already in use on a limited scale in my area, might be locally appropriate?
3. How can I best introduce, test (pilot) and/ or scale-up these technologies locally?
4. What can I learn from past efforts to introduce technologies in my area? Can problems that other people faced now be overcome?
5. Have other sectors been successful in introducing/ scaling up technologies in my area? How did they do it?
6. How can I ensure that households have access to good advice on technology choices?

### 3.3 Getting answers

There are four main areas to consider in supporting technology choices:

1. How applicable is the technology?
2. Who are the different role players?
3. Who has been involved in technology introduction in my area in the past?
4. What kind of household information is required?

#### ***How applicable is the technology?***

In order to understand how applicable the technology is, and its potential for scaling-up of existing or new technologies, an assessment should be done with users, producers and those who will facilitate the technology introduction and use (woreda, zonal and regional government and NGO staff).

The assessment must cover a range of issues which relate to the following aspects of the technology: social; economic; environmental; legal, institutional and organisational; skills and knowledge; and technology level.

This is spelt out clearly in *Info sheet 9: Technology Applicability Framework (TAF)*. Not only will the TAF help you decide how applicable existing and new Self-supply technologies are; it will also give you ideas on which areas need to be strengthened when you introduce and/ or scaling-up the technology.

#### ***Who are the different role players?***

In order to introduce, test or scale up a technology, different role players (meaning those who have direct roles) will have different roles and functions in the different phases of the technology introduction process. *Info sheet 10: Technology Introduction Process (TIP)* calls the three phases:

- Invention, with sub-phases “Piloting” and “Launching”.
- Tipping point.
- Uptake, operation and service.

You should use the TIP Information sheet to identify the role players and their tasks in the technology introduction process.

***Which stakeholders have been involved in technology introduction in my area in the past?***

Key stakeholders who have been involved in technology introduction in the past, both within and outside of the water sector must be identified. You must discuss with them how they introduced the technology, what the key challenges were that they faced, how they dealt with the challenges, and what lessons can they share.

***What kind of household information is required?***

Households need to be informed and supported to make technology choice decisions. Households especially need information on:

- Costs of the technology, in terms of investment, running and possible long term replacement or rehabilitation.
- Convenience that the technology provides.
- Quantity and quality of the water to be provided by the technology.
- Operating requirements.
- Support needed from outside the household to make sure the water supply is sustainable.

The *Self-supply technical guidelines* provide a wide range of Self-supply technologies. Therefore, it is important that local government and NGO staff, as well as private entrepreneurs that could provide products and services, are familiar with the technologies which are suitable for your area. Ideally some information about technologies will be shared spontaneously among households, but this process will need to be encouraged.

People can become aware of technologies suitable for your area in the following ways:

- Training woreda staff in the technical guidelines and on how to support technology choice at household level.
- Exchange visits to see different technologies in use (see *Info sheet 7: Community exchange visits*).
- Demonstrations from permanent demonstration sites either large (e.g. at training centres) or small (model households) to temporary displays (a technology fair) and touring road shows.
- Development and dissemination of simple information brochures on different Self-supply technologies relevant for your area, with their advantages, disadvantages, costs etc., based on the Technical guidelines.

## 3.4 Development towards compiling your Self-supply acceleration plan

Based on the answers to your questions, and any workshops and meetings you have held to get the information together, you should be ready to complete *Worksheet 3: Technology assessment and introduction*. This Worksheet will feed directly into your **Self-supply acceleration plan**.

You will find Worksheet 3 in the section at the end called Worksheets for your Self-supply acceleration plan.

It requires you to fill in the following information:

1. Current use of technologies:
  - Which technologies are already widely in use for Self-supply in my area?
  - How might the use of the technology be improved and/ or scaled up?
  - How could even wider use of the technology be promoted?
2. Other technologies that might be introduced:
  - Which other technologies might be locally appropriate for Self-supply (from elsewhere or only in use at small scale)?
  - What can be done to introduce and test the technology?
  - How could wider use of the technology be promoted?

After completing Worksheet 3 you should be able to assess technologies and introduce useful ones to your area.

As mentioned before, in the work still to be undertaken towards developing your **Self-supply acceleration plan** you may need to come back and make changes to Worksheet 3.

## 3.5 For more information

**In these guidelines:**



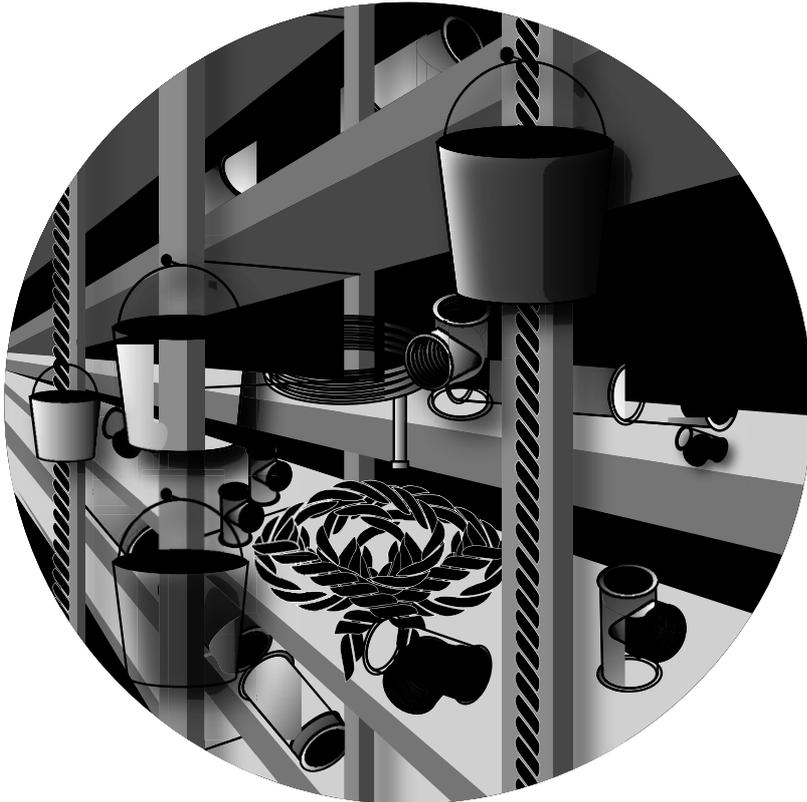
Info sheet 7: Community exchange visits.  
Info sheet 9: Technology Applicability Framework (TAF).  
Info sheet 10: Technology Implementation Process (TIP).

**Additional resources:**



### Self-supply technical guidelines.

The website [www.washtechnologies.net](http://www.washtechnologies.net) provides access to tools developed to support technological introduction processes in the WASH sector.



## **PART 4: PROMOTING PRIVATE SECTOR INVOLVEMENT**



### **Objective**

*A key role of government (woreda, zonal and regional levels), NGOs and donor partners is to motivate and support the involvement of private the sector sector to deliver the products and services needed for safe and sustainable Self-supply. Part 4 will guide you and your colleagues in taking steps to support local private sector involvement.*

## 4.1 Introduction

As demand for Self-supply options is built up, supplies need to step in and meet this demand. This is basic economics: the law of supply and demand. The local private sector, in particular, has a key role to play in providing the goods and services that households need for the construction, upgrading and maintenance of their household level water supplies.

There are a number of important issues to get right:

1. Increase in demand for products and services must be matched by increase in supply (i.e., a supply chain must exist or be built).
2. It may be necessary to support businesses to be successful.
3. Self-supply interventions must not interrupt or break down existing supply chains.
4. In order to understand a business you need to ‘think’ like a business.

### ***Increase in demand for products and services must be matched by increase in supply.***

Any effort to increase demand for Self-supply must make sure a private sector supply chain for the products and services is in place. . If this is not done, household demand will fall because people will become frustrated, and may change their minds. It is also true that supply without demand will mean the collapse of businesses that have invested in raw materials, products or skills training etc. Therefore, any development of supply chains *must* happen alongside demand creation (Part 2).

Local private sector businesses may include skilled local artisans, small and micro-enterprises, hardware retailers, distributors, or larger businesses. The table below

gives an overview of different private sector role players at different levels, and the Self-supply services they might provide.

**Table 3: Private sector role players and the services they provide**

Level	Role player	Self-supply service
Community level	WASHCO caretakers: individuals identified and trained for maintaining communal schemes	- Maintenance services to households and their water sources
Kebele (and sometimes woreda) level	Artisans and masons Small retail shop	- Construction of Self-supply options (digging wells, well lining, masonry, construction of well heads, installation of pumps, manufacturing of rope pumps and other lifting devices etc.) - Maintenance services to households and their water sources - Availability of maintenance materials and spare parts availability, such as ropes and oil - Supply of household water treatment products (including de-fluoridisation), storage containers etc.
Woreda (and sometimes kebele) level	Small and micro enterprises Hardware retailers	- Technical assistance/ advice, consulting services (study, design etc.) - Maintenance and repair service beyond the capacity of the local artisans - Supply of household water treatment products (including de-fluoridisation), storage containers, etc. - Supply of materials (ropes, cement, spare parts, tools for excavation of hand-dug wells etc.)

***It may be necessary to support businesses to be successful.***

In general, the local private sector for Self-supply acceleration is weak and will not be able to meet demand without guided investment and support to build capacity.

Because subsidies are difficult to sustain over time, this investment should take the form of supporting micro-enterprise development, training in specific skills, supporting access to finance (see Part 5), and supporting research that helps improve the quality and range of products and services etc.

**Box 7: Rural shops and supplies**

In general, rural supply chains for products and services consist of a limited number of businesses who compete for a small number of customers. Hardware retailers or agents in the larger woreda towns will stock hardware materials (tools, iron bars, PVC piping, pumps, industrial tape, glues, lanterns, paint, sandpaper etc.) These retailers may have several employees and a large capital investment. In the smaller woreda towns, there are also well-stocked hardware retailers but these generally stock fewer

items. Small and medium enterprises usually exist in the small and medium towns too, and may sometimes exist at kebele level. The number of employees is usually very few. Kebele level shops ('sucwoch') generally stock only fast moving household items like sugar, cooking oil, hair products, lighting products (candles, matches, flashlights, light bulbs and batteries), detergents, bars of soap, plastic storage containers and locks. Many will also stock ropes. These shops are usually family-owned and run, with a low level of investment and a dependence on high turnover of stock. Supplies are usually transported by motorised vehicles when they are move between distributors, but at the local level it is usually by low-cost non-motorised transportation.

***Self-supply interventions must not interrupt or break down existing supply chains.***

It is very important that you work with suppliers to build a supply chain, and that you do not break down existing or potential supply chains by the type of intervention you make. For example, if government buys rope pumps in bulk and distributes them to households, there is usually no link established between the user and the producer or supplier. So when households need spares or parts for maintenance or replacement the households have no place to buy them. You need to be careful to find ways to build capacity of the private sector system in ways that continue to support Self-supply into the future.

**Box 8: Kokeb Slab Production Enterprise**

Kokeb is a licensed enterprise manufacturing cement slabs and fuel saving stoves in Ancharo kebele in Kalu woreda. Kokeb buys raw materials in the nearby town, Combulcha. In the first year of existence, 200 slabs were sold. In the second year only 100 slabs were sold. Now, in the third year, there is a worry that the enterprise sell even fewer slabs. Kokeb relies on Health Extension Workers and WaterAction (an NGO which is the implementing partner of Catholic Relief Services CRS) to promote the cement slabs. However, WaterAction is now working on programmes, which means no one is promoting Kokeb slabs. Members of Kokeb sit in their shop and wait for customers to find them. Unfortunately customers have to travel a long and a steep road to get to Kokeb.

Slabs are sold for 80 ETB. This price was decided three years ago, and was based on the cost of input materials at the time, with a profit of another 10 ETB. As is common with enterprises around the country, profit is considered a wage, and costs for promotion, marketing and re-investment are not built in. The profit is shared among 10 members.

CRS is now working with WaterAction to improve Kokeb's business model and marketing techniques so that it can find ways to be sustainable.

For more information on the CRS sanitation marketing approach contact Ato Bekele Abaire, CRS WASH programme manager.

**Box 9: How to support the poor to purchase without distorting the market?**

Bob Rainwater Bags are a simple rainwater harvesting technology which sells for about US\$ 50 in Uganda and Ghana. Relief International has supported introducing this technology. It did research to understand what level of subsidy was appropriate to gain the most benefit. The research used discount vouchers which were distributed to participating households. Households used their discount vouchers to buy from existing supply chains.

Therefore, the targeted subsidy for households most in need did not distort the market; in fact, it supported the market as all businesses in the supply chain still received their necessary profit margins. This meant there were incentives for local retailers to stock the products. Also, when subsidies are no longer available, the product will be available, and the supply chain will still exist.

To learn more visit Relief International's website: [www.ri.org/story.php?ID=78](http://www.ri.org/story.php?ID=78) or Gyapa Enterprise's website [www.gyapa.com/bobreg-rain-water-bag.html](http://www.gyapa.com/bobreg-rain-water-bag.html)

Source: Naugle, J., Oplo-Oming, T. and Cronin, B., 2011.

***In order to understand a business you need to 'think' like a business.***

Many of us participating in Self-supply acceleration are *not* business-oriented and do not think like businesses. When working with and encouraging growth of the private sector, it is important to *think like a business*.

Businesses exist to make a profit – which is the money from sales minus the total cost. The profit a business earns is its financial reward for taking risks. Without some profit businesses will not be sustainable and will collapse. Businesses that charge *fair prices* and encourage good competition are the most sustainable. Unfair pricing disadvantages customers and may need to be regulated in some way.

**Box 10: Four tips for thinking like a business**

1. Quality customer service is as important as quality of products or services.
2. Sell the Self-supply acceleration vision but understand the costs.
3. Businesses must take risks and make investments.
4. Businesses may fail. (Therefore it is important to choose businesses carefully to ensure sustainably and wise use of resources).

Investments, whether financial or non-financial, are risks taken by businesses, with the hope these lead to financial gains. Financial investment may be in equipment, stock or input materials, like cement. Non-financial investment may be the time and effort, like attending a workshop about new production methods or business management techniques. While Self-supply acceleration interventions will try to lower risks and barriers to entry, some risk will always be necessary.

## 4.2 Key questions

The main question is to ask is what can I do in my area to promote the development of a private sector that can provide services to support Self-supply acceleration?

In order to answer this question, you need to think about the following:

1. Are local private sector businesses (artisans, manufacturers, retailers etc.) present in the area? How many? What is their main area of business? What is their current capacity?
2. What services and products are they providing relevant to the WASH sector? Are they providing services and products related to Self-supply? How are they performing? Are they doing a good job? Are households satisfied with their services and products? What do private sector providers know about Self-supply? Where do they get their knowledge from? How have they been trained?
3. What is the level of demand from households for private sector services and products Demand for what kinds of products and services? If demand is limited , why is this so (e.g., no private sector offering services and products, no trust in private sector, wrong types of products and services, no linkages between households and private sector etc.)?
4. What are barriers for local private sector to support Self-supply?
  - Is there a big enough market for private sector services related to Self-supply?
  - What is the attitude of the local private sector towards Self-supply? Do they see perceive it as an interesting market?
  - Do private sector suppliers have the information they need to provide Self-supply related services?
  - Do private sector suppliers have materials and tools to provide Self-supply services? Is there a working supply-chain to provide these?
  - Does the private sector face 'competition' from the public sector in providing Self-supply services?
  - Can private sector providers market their own products and services?
  - Can potential private service providers access microfinancing mechanisms? (Part 5 has a focus on access to microfinancing mechanisms.)

## 4.3 Getting answers

***In order to find the 'right' private sector partners, you should undertake the following activities:***

1. Identify specific businesses in your area (in Self-supply, water or any other sector).
  - Talk to colleagues and other key informants and discuss the above questions.

- Talk to different private sector service providers and discuss especially questions 2, 3 and 4.
- Look up the register of registered and legalised private sector service providers in your area. This can help you find answers to questions 1 and 2. Where needed, you could contribute to updating the register.
- Talk to selected households about their demand for Self-supply related products and services in order to answer question 3.

2. Sell the Self-supply acceleration business to them.

Many businesses will not see the potential market and growth in the sector. Therefore, one of your tasks will be to discuss the market potential with businesses and use opportunities for them to see Self-supply in action. You should be able to show them, from your work in Part 2, the number of potential customers in the area, product and technology information etc.).

3. Select businesses most likely to succeed.

Finding the 'right' businesses to work with may be difficult, but it's very necessary to provide the best chances for successful Self-supply acceleration in your area. Based on sanitation marketing experience, it seems that you may need between six and nine months. Criteria for selecting high-potential businesses

- Business experience: They must have experience in business, but not necessarily in Self-supply or water. They must also have cash flows and the capacity to grow.
- Able to make more than one product: Self-supply acceleration may not be a full-time stand-alone business. Therefore, what other products can the business get involved in? For example, a welder who manufactures doors can be trained to manufacture pulleys.
- Willing to make up-front investment: finance could be accessed through formal or informal lending groups.
- Willing to try new products and promotional techniques.

In some cases there may not be any existing enterprises to work with, and new enterprises may have to be established. In working with people to establish businesses you must be sure there is real business potential. You must also understand that you are now an investor in the business, and must focus on long-term success rather than short-term gains or failure (See Part 5 for support.)

**Box 11: Selection of trainee micro-enterprises for manual drilling and rope pump manufacturers**

MoWE included the following criteria for selecting people to be trained in manual well drilling traineeship: water sector understanding and experience; interest and motivation to expand business; and already well-established in the local community, with preference given to local artisans already engaged in hand-digging, spring work etc.

JICA included the following criteria for selecting people to participate in their rope pump manufacturers' skills development programme: experience in welding and an existing workshop. Many of the rope pump manufacturing businesses that were trained have given up on their rope pump businesses because there was no demand for rope pumps. However, they also did not put any effort into promotion or marketing their products.

In both cases, trained well diggers and rope pump manufacturers did not benefit in the long term from their training, and neither did the communities they were trained to work in.

#### 4. Train businesses on the Self-supply acceleration business approach.

Training you give must be suited to your local business needs, and should cover the following:

- General product and service information.
- Technical production of new products and services.
- Business management and finances.
- Sales and promotion.

Training on the Self-supply acceleration business approach means the beginning of long term collaboration. From this point on you should work closely with the enterprises or businesses to build sustainable supply chains for manufacturing materials and spare parts, piloting business models, using promotional and marketing techniques, and product expansion etc.

When approaching businesses, there are several “do’s” and “don’ts” which are really important. The table below has a number that you should be aware of.

**Table 4: Some do’s and don’ts in business support**

Do!	Don't!
<b>DO encourage innovation and competition</b> – Competition among businesses can help drive down costs and improve quality for consumers.	<b>DON'T offer 'free' seed money</b> – This kind of funding is not necessary to motivate a business to enter the market. Loans can be disbursed through microfinancing institutions.
<b>DO take a 'hands-off' approach to businesses</b> – Make sure that businesses take real risks and make investments. Be prepared for some businesses to fail or pull	<b>DON'T limit businesses geographically</b> – Encourage businesses to reach as many new consumers as they can. Do not limit them to 'program villages'.

Do!	Don't!
out.	
<p><b>DO learn from other sectors</b> – Small businesses often have similar challenges and needs. Learn from rural market facilitation and business development programs, and use existing toolkits and guidance.</p>	<p><b>DON'T set up new businesses</b> – New businesses created by external programs often remain heavily reliant on program support and are unable to sustain themselves after program completion.</p>
<p><b>DO consider certifying, accrediting and rewarding good partners</b> – Accreditation can increase consumer confidence and enforce standards. Informal recognition and introductions to program communities can be strong incentives for program partners to offer good quality products at fair prices.</p>	<p><b>DON'T attempt to set prices</b> – Market prices will fluctuate based on inputs and fuel costs, competition and other factors. Encourage fair pricing but allow the market to determine final retail prices.</p>
<p><b>DO consider mentorship and peer exposure</b> – This could give new or expanding businesses ideas for meeting specific Self-supply needs.</p>	<p><b>DON'T rush into training events</b> – Take time to convince high potential businesses and understand their needs. Be open to new modes of training and mentoring, rather than one-off training events. Take time.</p>

Source: Adapted from UNICEF, 2013 and Sanitation Marketing Community of Practice

**Box 12: Encouraging vulnerable groups**

The government's enterprise development strategy encourages the establishment of micro, small and medium enterprises. New enterprises enjoy tax exemptions as they establish themselves in the market. Vulnerable groups are encouraged to participate.

In line with this strategy, these groups must be encouraged to participate in the Self-supply sector. These groups may require continuous, focused efforts to guide them as they may never really be able to function without support.

***In order to deepen your understanding you may want to consider the following additional activities:***

1. Supply chain mapping

In the water sector there are often complaints about the rural supply chain for equipment, tools, parts and spare parts. If the supply chain is broken or non-existent the private sector will struggle to provide a service to its customers.

In Part 3 you chose technologies suitable for your area. You could use supply chain mapping to understand the network of businesses needed to coordinate and

participate in the production, delivery and sale of these technologies in your area (see *Info sheet 14: Supply chain mapping*).

## 2. Consumer research

It is always good to do consumer research, but it is very time consuming, and can be expensive. If you would like to have a better understanding of household demand for private sector services related to Self-supply you could think about undertaking household surveys or organising focus group discussions with groups of households. *Info sheet 5: Focus group discussions*.

*Focus group discussions* will guide you in setting up the focus group discussions, and the following two Info sheets will support you to do different kinds of consumer research:

- *Info sheet 12: Consumer research: Focus, Opportunity, Ability and Motivation (FOAM) tool* will help you to understand what might motivate people to invest in Self-supply.
- *Info sheet 13: Consumer research: Pathway to purchase analysis* will help you understand the range of activities and challenges households face in buying and installing a new technology.

## 3. Business model development

You may want to undertake a business model development exercise with private sector providers as part of your support to ensuring they can develop and maintain a supply chain according to demand.

*Info sheet 11: The business model canvas* will support you to undertake this. . We recommend that the marketing and enterprise development person at your woreda supports you in this exercise.

## **Planning interventions**

When you have a better idea of your challenges regarding private sector involvement in supporting Self-supply acceleration in your area, you can start thinking about how to address these challenges. The table below gives some common challenges and possible actions for addressing them:

**Table 5: Challenges related to private sector support providers and possible actions for addressing these**

Challenge	Possible actions for addressing the challenges
There is no or little demand for private sector services	- Create demand (see Part 2)
There is limited private sector	- Stimulate and organise private sector (look for people who will stay in the business) - Provide micro-credit facilities for starting up private sector

Challenge	Possible actions for addressing the challenges
	initiatives
Private sector is there, but is not interested in providing Self-supply related services	<ul style="list-style-type: none"> <li>- Promote interest of private sector in Self-supply through advocacy materials, exchange visits etc.</li> <li>- Bundle services (encourage private sector actors to expand product and service package)</li> </ul>
Private sector lacks knowledge of self-supply	<ul style="list-style-type: none"> <li>- Train private sector:                             <ul style="list-style-type: none"> <li>o Develop technical, marketing and small business management skills</li> <li>o Train service providers in the content and the use of the <i>Technical guidelines</i></li> </ul> </li> <li>- Disseminate information materials</li> </ul>
Private sector is there, but is not performing well	<ul style="list-style-type: none"> <li>- Train private sector:                             <ul style="list-style-type: none"> <li>o <i>Develop technical, marketing and small business management skills</i></li> <li>o <i>Train service providers in the content and the use of the Technical guidelines</i></li> </ul> </li> <li>- Improve spare part supply chain</li> <li>- Stimulate widening of operation e.g. by linking with opportunities in other sectors such as sanitation, health, agriculture and construction.</li> </ul>
Private sector is not well-linked to households	<ul style="list-style-type: none"> <li>- License and register private sector providers</li> <li>- Ensure clear standards and rules (but avoid unnecessary regulation)</li> </ul>
High failure rate of new businesses	<ul style="list-style-type: none"> <li>- Chose carefully (see "Criteria: Selecting high potential businesses" above)</li> </ul>

### Box 13: Registering an enterprise at the woreda Enterprise Development Office

There are woreda-level Enterprise Development Offices where small and medium enterprises can register their business activities. The government encourages growth of micro and medium enterprises, and the registration process is simple. The following must be done to register an enterprise at the Enterprise Development Office:

- Get a letter from the kebele about residential and debt-free status of each member.
- Complete an application form.
- Set up an account with a regional microfinancing institution like the Oromia Credit and Saving Bank.
- After formal approval, a stamp must be bought which costs 400 ETB.

Licensed businesses can participate in bi-annual bazaars, and get advice and training from the Enterprise Development Officers.

### **Exit strategy – where necessary**

A final point to make that is more important in relation to NGOs and funders than to local government is that a local Self-supply acceleration exit strategy must be planned if the NGO or funder is only supporting Self-supply in your area for a limited period of time.

## 4.4 Summarising information for your Self-supply acceleration plan

Based on answers to your questions, and any workshops and meetings you held to get the information together, you should be ready to complete Worksheet 4: Promoting private sector involvement. This Worksheet will feed directly into your **Self-supply acceleration plan**. You will find Worksheet 4 in the section at the end called Worksheets for your Self-supply acceleration plan.

It requires you to fill in the following information:

1. What are the main activities to promote sector involvement in Self-supply?
2. Who must take responsibility for which activities?
3. How often or by when should these activities be done?

After completing Worksheet 4 you will understand the main activities required to promote private sector involvement in the development and acceleration of Self-supply in your area. As mentioned before, in the work still to be undertaken towards developing your **Self-supply acceleration plan** you may need to come back and make changes to Worksheet 4.

## 4.5 For more information

### **In these guidelines:**



Info sheet 5: Focus group discussions

Info sheet 11: The business model canvas

Info sheet 12: Consumer research: Focus, Opportunity, Ability and Motivation (FOAM) tool

Info sheet 13: Consumer research: Pathways to purchase analysis

Info sheet 14: Supply chain mapping

### **Additional resources:**



Ministry of Water and Energy (2010). Region specific supply chains for hand pumps and spare parts in Ethiopia. Prepared by Getachew Abdi and Erich Baumann.

WSP (2012). Sanitation supply chain/value chain assessment for Amhara region, Ethiopia. Prepared by SNV Ethiopia.

iDE Ethiopia (2013). Supply chain facilitation. Available at: <http://ethiopia.ideorg.org/OurStrategies/SupplyChain.aspx>

Naugle, J., Opio-Oming, T. and Cronin, B., 2011. A market-based approach to facilitate self supply for rainwater harvesting in Uganda. 6th Rural Water Supply Network Forum: Rural water supply in the 21st century: Myths of the past, vision for the future. Rural Water Supply Network. Available at: [www.ri.org/files/uploads/RWSN\\_%20Rainwater%20Self%20Supply%20Final.pdf](http://www.ri.org/files/uploads/RWSN_%20Rainwater%20Self%20Supply%20Final.pdf)





## **PART 5: SUPPORTING ACCESS TO FINANCE**



**PART 1**  
Assessing  
potential



**PART 2**  
Creating  
demand



**PART 3**  
Supporting  
technology  
choices



**PART 4**  
Promoting  
private sector  
involvement



**PART 5**  
Supporting  
access to  
finance



**PART 6**  
Ensuring  
coordination,  
innovation and  
learning



**PART 7**  
Compiling your  
Self-supply  
acceleration  
plan



**PART 8**  
Monitoring  
implementation

### **Objective**

*The objective of Part 5 is to guide you and your colleagues to support individual households, small groups of households and small businesses to access the money they need for Self-supply.*

## 5.1 Introduction

Self-supply is mostly paid for by households themselves. They use their own money to invest in their own household-level water sources. Money to pay for their Self-supply technology and maintenance may come from selling crops or livestock, wages from employment, savings or borrowing.

The costs of Self-supply for a household will vary quite a lot, and depend on type of water source (e.g., shallow groundwater development or rainwater harvesting), local conditions (e.g., ground conditions for well digging), level of technology, and the amount of contracted or purchased inputs.

It costs US\$ 50 or less for a family to develop a basic first stage well . A semi-protected well using low-cost materials will cost about US\$ 75. In order to further protect the well and add a rope pump the cost is likely to be US\$ 125-175, depending on the type of pump. An electric or diesel powered pump will probably cost another US\$ 350-550 (or the pump may be hired). These amounts are estimations, and will vary a lot, depending on how easy it is to get the technology and services to install or upgrade Self-supply.

In comparison, a communal supply that consists of a fully-lined hand-dug well with headworks is likely to cost around US\$ 5,000-7,500.

The *Technical guidelines* provide more details on the typical costs of different self-supply options. See also “A Hidden Resource” (pages 19 and 31).

Families already invest this kind of money in Self-supply. They usually do it over a period of time, with lots of small investments.

If more households had better access to finance, Self-supply could be taken up by more, and households able to upgrade their facilities faster and in bigger steps. This is important to with a focus on improving water quantity and quality as well as the productivity of water sources. Better access to finance may also be expected to support uptake of the approach by poorer households.

The development of infrastructure for communal water supply is heavily subsidised – as a public service – through government and supporting donor grants. Households pay water tariffs to their WASHCO to cover operations. Sometimes their tariffs also cover maintenance costs. The contribution to the initial development costs by communities may be in cash or in kind, and varies according to the service delivery model. Community contribution is usually between 15-20%, with government and its partners investing 80-85%.

Households investing in their own water supplies do not qualify for hardware subsidies. Small groups of households that are willing to share the use of a facility qualify for a part subsidy of up to 50% under the Self-supply Acceleration Programme. However, they are expected to cover the remaining investments themselves.

**Table 6: Levels of hardware subsidy with different approaches to water supply**

Service delivery model	Number of households	Subsidy
Conventional community management (woreda or NGO-managed project)	100 households or more	85% (5% in cash and 10% contribution in kind)
Community Managed Project (CMP)	50 households or more	80% (20% contribution in cash, material and labour with the cash going into a community account for operations and maintenance)
Small group-led investment	More than 10 households	Up to 50% subsidy (e.g., for pump, lining or improvement protection)
Self-supply (household)	Individual households	No subsidy

Access to the money to develop Self-supply by households and small-groups may be improved by:

- Encouraging savings schemes of all kinds, including traditional schemes and Self-Help Groups built around encouraging savings.
- Increased lending by microfinancing institutions for Self-supply related investments.

It is also important to support existing and/ or potential small businesses to access finance so that they can become providers of products and services.

## 5.2 Key questions

The main question to ask is what can my colleagues and I do in our area to support access to finance by households and small businesses to support Self-supply acceleration?

In order to answer this question you may need to think about the following questions related to households:

1. How did households of different wealth status (poor, intermediate, rich) afford to pay for the Self-supply they already have?
2. How do households of different wealth status expect to cover the further costs of upgrading their household level water facilities in the future?
3. Is there need or demand for financing mechanisms for Self-supply for construction or upgrading of household level water sources? Does this demand differ for households of different wealth status?
4. What financing institutions are active in your area? What types of saving schemes or loan products are available? Do these schemes or loan products offer the right amount of money compared to the typical costs of Self-supply investments? Are these mechanisms (saving schemes and loan products) currently used for financing Self-supply?
5. If they are not widely used, what are the barriers for wider financing of self-supply? Some reasons might include:
  - Limited demand.
  - Users may be afraid to take loans that they may not be able to repay.
  - Financial service providers are afraid that households will not be able to pay back loans.
  - There are not the right kinds of saving schemes or loan products for Self-supply.

You might also need to think about whether financing institutions would be prepared to loan money to small businesses in order to invest in Self-supply services. This would include whether there are negative attitudes of financial service providers to providing loans for water services in general and Self-supply in particular (if, for example, it is not seen as a potentially productive market).

## 5.3 Getting answers

Answers to the above questions can be got in different ways. Two ways to obtain information are to hold focus group discussions (see *Info sheet 5: Focus group discussions*) and interviews.

- Talk to your colleagues and other key informants.

- Talk to microfinancing institutions, state and private, and discuss especially questions 3-5 in relation to households, as well as their thoughts on lending to small businesses to engage in Self-supply products and services.
- Talk to members of traditional loan or saving groups, and discuss especially questions 3-5.
- Look up the register of registered and legalised microfinancing institutions in the area. This can help find answers to question 4. Where necessary, you could contribute to updating of register.
- Talk to households and/ or community representatives, and discuss especially questions 1-3.
- Talk to current or potential artisans or small businesses about their borrowing needs.

If you would like to do a more detailed assessment of the challenges related to access to financial mechanisms for self-supply, you could consider undertaking a wealth ranking exercise in selected communities, followed by focus group discussions with people representing different wealth groups, in order to get better insight in the demand for financial mechanisms for self-supply (questions 1-3).

*You could also speak to microfinancing institutions in nearby areas that may be willing and able to provide services to households in your area.*

When you have a good idea of the current challenges you can start to think about how to address them. The table below gives some common challenges and possible actions for addressing them.

When you have a good idea of the current challenges you can start to think about how to address them. The table below gives some common challenges and possible actions for addressing them.

**Table 7: Challenges related to financing mechanisms and possible actions**

Challenge	Possible actions for addressing the challenges
There is little or no demand for microfinancing mechanisms for Self-supply	<ul style="list-style-type: none"> <li>- Create demand (see Part 2)</li> <li>- Discuss financing mechanisms for Self-supply in kebele and community meetings</li> </ul>
There are limited microfinancing mechanisms available in the area	<ul style="list-style-type: none"> <li>- Provide seed money to microfinancing institutions in the area to develop new loan products related to Self-supply</li> <li>- Check if there are microfinancing institutions in neighbouring areas who may be interested in lending in your area</li> </ul>
Microfinancing institutions are available in the area, but are not interested in providing Self-supply	<ul style="list-style-type: none"> <li>- Share Self-supply acceleration plan with microfinancing institutions, and convince them that there is or will be a market</li> </ul>

Challenge	Possible actions for addressing the challenges
related services	<ul style="list-style-type: none"> <li>- Show microfinancing institutions how they can support Self-supply and how they can benefit from it</li> <li>- Disseminate advocacy materials e.g., film about Self-supply and microfinancing institutions <ul style="list-style-type: none"> <li>o Note: These discussions may be part of cabinet meetings in respect of government microfinancing institutions and bi-lateral communications with private microfinancing institutions. repeated bi-lateral discussions may be needed at higher levels such as board of directors)</li> </ul> </li> </ul>
Microfinancing institutions lack knowledge on Self-supply and Self-supply enabling microfinancing products	<ul style="list-style-type: none"> <li>- Train microfinancing institutions in developing and marketing Self-supply relevant loan products</li> <li>- Disseminate information and advocacy materials</li> </ul>
Microfinancing institutions are not well-linked to households	<ul style="list-style-type: none"> <li>- License and register microfinancing institutions in your area</li> </ul>

#### Box 14: Key messages for microfinancing institutions

Most microfinancing institutions do not consider household-level water supplies to be a 'productive asset'. Do you agree? What messages can you deliver to microfinancing institutions to encourage more lending for household investments in Self-supply?

Self-supply can give people access to more water, closer to home. This water is often used for productive uses. When people take a loan to develop or upgrade their water supply, they will be able and willing to pay the loan back.

With appropriate loan products (e.g., looking at different collateral options like group loans), microfinancing institutions can support Self-supply and tap into a new microfinancing market.

*Where CMP is being implemented, Micro-Finance Institutions are likely to be more aware of WASH sector activities, but they may still need to be convinced of the potential for loans to support Self-supply investments.*

## 5.4 Summarising information for your Self-supply acceleration plan

Based on answers to your questions, and any workshops and meetings you held to get the information together, you should be ready to complete Worksheet 5: Activities

to support access to finance. This Worksheet will feed directly into your **Self-supply acceleration plan**.

You will find Worksheet 5 in the section at the end called Worksheets for your Self-supply acceleration plan.

It requires you to fill in the following information:

1. What are the main activities to support access to finance for individual households, groups of households, and existing and potential small businesses?
2. Who must take responsibility for which activities?
3. How often or by when should these activities be done?

After completing Worksheet 5 you will understand the main activities required to support access to finance for the development and acceleration of Self-supply in your area.

As mentioned before, in the work still to be undertaken towards developing your **Self-supply acceleration plan** you may need to come back and make changes to Worksheet 5.

## 5.5 For more information

**In these guidelines:**



Info sheet 5: Focus group discussions

## Additional resources:

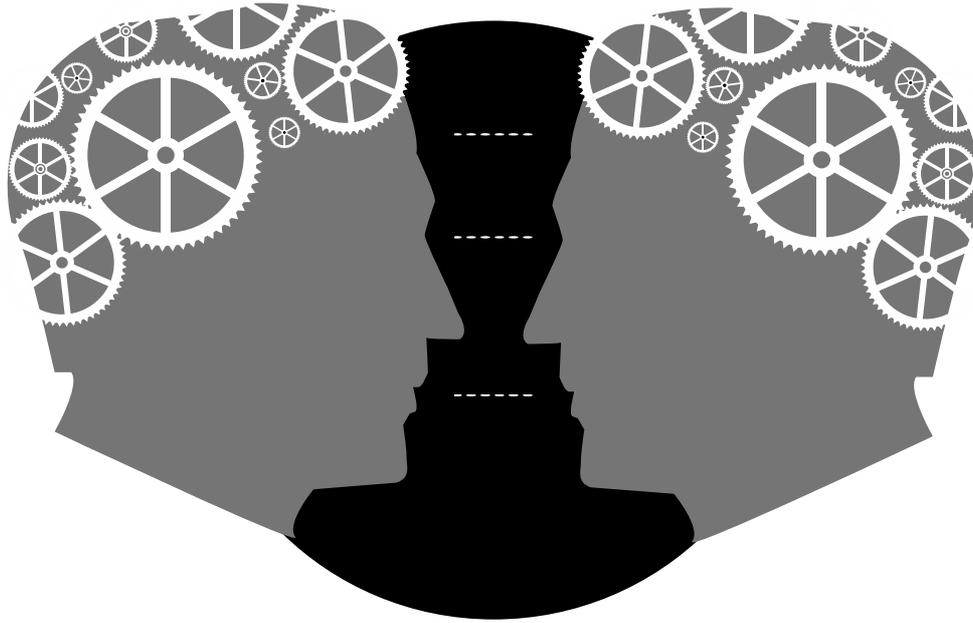


The Technical guidelines include information on the costs of various options in Self-supply.

A Hidden Resource (includes details on costs, existing financing and ideas of finance innovations). Available online at: [www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia](http://www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia)

A short film promoting a wider role of microfinancing institutions in self-supply 'The business case for water, and how a little credit can go a long way' is available at [www.youtube.com/watch?v=ZBBE5hDYE-s](http://www.youtube.com/watch?v=ZBBE5hDYE-s).

The JICA-funded Rope Pump Promotion project are currently working with the Omo Micro-Finance Institute in SSNP region on a pilot scheme to support well protection and purchase of rope pumps through a specific revolving fund.



## **PART 6: ENSURING COORDINATION, INNOVATION AND LEARNING**



**PART 1**  
Assessing  
potential



**PART 2**  
Creating  
demand



**PART 3**  
Supporting  
technology  
choices



**PART 4**  
Promoting  
private sector  
involvement



**PART 5**  
Supporting  
access to  
finance



**PART 6**  
Ensuring  
coordination,  
innovation and  
learning



**PART 7**  
Compiling your  
Self-supply  
acceleration  
plan



**PART 8**  
Monitoring  
implementation

### **Objective**

*The objective of Part 6 is to guide you and your colleagues to improve coordination, innovation and learning at kebele, woreda and regional levels, and between these different levels.*

## 6.1 Introduction

The water sector is not the only sector that has a stake in Self-supply. Because Self-supply sources can contribute to improving people's health, but can also form a health risk if not constructed and used properly, health sector stakeholders have an interest. And as household level water sources are often not only used for domestic use, but also for productive uses like livestock watering and household irrigation, the agricultural sector is important as well.

Coordination between these different sectors can help in pooling resources, finding common implementation mechanisms and activities, and preventing confusion for communities and households. Therefore, coordination is an essential part of your Self-supply acceleration programme.

Innovation by households, the private sector and NGOs must be supported in order to find better and low-cost ways for improving access to Self-supply.

Self-supply acceleration is new. It is very important to make sure that lessons, innovations and examples of good practice are spread as widely as possible, and as quickly as possible. This will improve the Self-supply acceleration process for you and others in water and other sectors.

## 6.2 Key questions

The main question is what can be done in my area to improve coordination between different stakeholders involved in Self-supply and self-supply acceleration; and how can my colleagues and I make sure innovation and learning happens as soon as possible, and as widely as possible?

In order to answer this question, you may need to think about the following:

1. Which organisations and institutions in my area are involved in aspects of Self-supply acceleration? For example:
  - Demand creation for basic services (such as health extension workers).
  - Stimulating water use for multiple uses (such as agricultural extension workers).
  - Provision of water services (such as CMP).
  - Private sector development (such as NGOs).
  - Microfinancing sector development (such as microfinancing institutions).
2. How do they currently link and relate to each other? Are there coordination, innovation and learning structures and platforms that already exist that can be used for Self-supply discussions?

### 6.3 Getting answers

Answers to the above questions can be got in different ways. Two ways to obtain information are to hold focus group discussions (see *Info sheet 5: Focus group discussions*) and interviews.

- Talk to your colleagues and other key informants.
- Undertake a stakeholder analysis (see *Info sheet 1: Stakeholder analysis*).

In order to improve coordination, innovation and learning you could also think about doing the following:

- Undertake action research on issues related to self-supply.
- Organise regular inter-sectorial coordination and reflection meetings.
- Set-up and facilitate working groups, multi-stakeholder platforms or 'Learning and Practice Alliances'.
- Set up community exchange visits for people to see Self-supply working in practice. (See *Info sheet 7: Community exchange visits for information on how to set these up.*)

A working group or learning alliance among government and the private sector can be developed with regular meetings, trainings and other events. It is proposed that the Regional WASH Technical Team will support learning occasions in Self Supply.

#### **Box 15: Self-supply working group in Dugda woreda**

In Dugda woreda, a Self-supply Working Group (SSWG) is to be established. The SSWG will be an advisory group to government. Experts will be invited from across the woreda/ zone/ region. Note that SSWGs need not be in one woreda – they may cover a number of woredas or a zone.

## 6.5 Summarising information for your Self-supply acceleration plan

Based on answers to your questions, and any workshops and meetings you held to get the information together, you should be ready to complete *Worksheet 6: Activities to strengthen coordination, innovation and learning*. This Worksheet will feed directly into your **Self-supply acceleration plan**.

You will find Worksheet 6 in the section at the end called Worksheets for your Self-supply acceleration plan.

It requires you to fill in the following information:

1. What are the main activities to strengthen coordination, innovation and learning in Self-supply?
2. Who must take responsibility for which activities?
3. How often or by when should these activities be done?

After completing Worksheet 6 you will understand the main activities required to strengthen coordination, innovation and learning in the development and acceleration of Self-supply in your area.

As mentioned before, in the work still to be undertaken towards developing your **Self-supply acceleration plan** you may need to come back and make changes to Worksheet 6.

## 6.5 For more information

### In these guidelines:



*Info sheet 1: Stakeholder analysis*  
*Info sheet 5: Focus group discussions*  
*Info sheet 7: Community exchange visits*

### Additional resources:



Find information about learning alliances at [www.ircwash.org/tags/learning-alliance](http://www.ircwash.org/tags/learning-alliance)



## **PART 7: COMPILING YOUR SELF-SUPPLY ACCELERATION PLAN**



### **Objective**

*The objective of this chapter is to bring together the results of your assessment and planning for Self-supply acceleration (from Parts 1-6) into a comprehensive but realistic plan for Self-supply acceleration in your area, noting that Part 8 will add the monitoring dimension to your plan.*

## 7.1 Introduction

A Self-supply acceleration plans needs to be:

- Linked to annual WASH plans at the appropriate level (e.g. the woreda level Self-supply acceleration plan should form a part of the woreda WASH plan).
- Well-balanced with consideration given to the range of Self-supply acceleration activities needed. An unbalanced plan only focuses on one or two Self-supply acceleration elements. However, it is unlikely that efforts to just build demand from households will be successful unless you also increase the supply of related products and services in your area around the same time. Similarly, if coordination or monitoring are missing, your efforts are not likely to be successful.
- Match activities to the roles and responsibilities of organisations, departments and individuals.
- Budgeted properly with sources of funding clearly identified.
- Reviewed during implementation which revisions made to add missing activities or changing some activities to make them more successful.

## 7.2 Structure of your Self-supply acceleration plan

The suggested structure of your Self-supply acceleration plan links to the content of these guidelines.

Compile the results from Parts 1 – 6 (and later Part 8) into a Self-supply acceleration action plan.

**One: Current situation in the area related to self-supply (see worksheet 1).**

Referring to worksheet 1 Summarise the current status and practice of existing Self-supply in the area.

**Two: Self-supply potential in the area (see worksheet 1).**

Referring to worksheet 1 Summarise the potential of Self-supply in the area.

**Three: Self-supply vision (what will be achieved by when).**

- What is the vision related to Self-supply in your area? How significant a contribution can Self-supply make and over what timeframe can this be achieved? You need to decide what you are aiming for and formulate some targets to guide your action plan? Examples of targets include the contribution made by Self-supply to coverage, the numbers of families adopting certain (improved) technologies or the proportion of sources meeting a water quality target.
- Note that while targets are useful, precisely planned numbers of Self-supply sources per region, woreda or kebele are not appropriate nor required. A range would be more appropriate since much is left in the hands of other actors (see part 8 on monitoring). A woreda might aim, for example, to stimulate the development of 50-100 new sources within 3 years, and promote the upgrading of 150-300 sources through the improvement of protection, lifting devices and practice of HWTS within the same time period.
- A national vision for Self-supply to reach approximately 30% of the unserved rural population is provided below:

**Box 16: National vision for Self-supply**

One commitment made by the Federal government in 2012 was “to establish self-supply as a service delivery mechanism for rural water within the national WASH programme and alongside community-managed approaches in order to reach more than 30% citizens without safe water access” (MoWE, 2012) Here the level of ambition for Self-supply was high, with at a national average of 30% of the unserved rural population getting access through Self-supply. From the National WASH inventory, some 49% people were estimate to have access around 2011 meaning 51% or 41.9 million people (taking 2011 population estimate of 82.1 million) were estimated to be without access implying that Self-supply should be developed to reach 12.6 million people.

The One WASH National Programme has also identified expected outcomes at national level. These might also be used to help shape the vision for your area. As well as including targets on the numbers of Self-supply sources to be constructed and upgraded, a mix of other intermediate outcomes have been identified. These are all achievements that will be expected to lead to more uptake of Self-supply.

**Box 17: Self-supply outcomes in the One WASH Programme**

The Program Document of the One WASH National Programme mentions that 19,168 household dug wells and 23,669 community dug wells are expected to be constructed by households and communities, through the self-supply acceleration programme [note: this appears a rather low and rather precise

estimate]. The overall estimated costs of the self-supply acceleration activities are estimated to amount to 8,598,098 USD.

The intended outcomes of the Accelerated Self-Supply Program, as defined in the One-WASH National Programme, are as follows:

- Woredas in areas with good potential for Self-supply, estimated to be around half of all woredas, are aware of self-supply activities in the 20 focal woredas and equipped with guidance and reference materials for replicating self-supply activities in their own woredas.
- At least 20 woredas (four woredas per region) and 10 NGOs promote the Self-supply approach and associated good hygiene and sanitation practices in rural areas.
- Rural dwellers in the *focal woredas* have informed choice about three to five affordable and reliable technologies for self-supply.
- In each *focal woreda*, at least five local enterprises (e.g. well diggers, masons, rope pump suppliers, household water treatment suppliers) are able to provide products and services on a commercially viable basis to private water users, communities and institutions.
- Reliable and fair financial mechanisms in the *focal woredas* are accessed by private households, communities and private enterprises to improve rural water supplies. At least five microfinancing institutions provide services to support households and businesses related to Self-Supply.
- Self-supply sources which reach minimum standards are incorporated into woreda and regional level coverage data (e.g. through the National WASH inventory) and reported as part of the national sector coverage statistics.
- There is a significant increase in numbers of households investing in their own water supplies (both new sources and upgrading existing sources) and have adopted good hygiene and sanitation practices in the *focal woredas* and beyond, based on reported data by woredas, updated national WASH inventory and other surveys.
- A robust network for self-supply is in place at national and regional level, as evidenced by reports and minutes of meetings, and active contributions are made to national forums on self-supply in Ethiopia.

#### ***Four: Self-supply acceleration activities***

Referring to worksheets 2-5 summarise the proposed activities relating to:

- creating demand (worksheet 2)
- technology choice(worksheet 3)
- private sector involvement(worksheet 4)
- access to finance (worksheet 5)
- strengthening coordination, innovation and learning (worksheet 6)

Include also your proposed activities for

- further assessment of potential (if required e.g. to fill gaps in existing knoweldge)
- monitoring (worksheet 8)

Other activities may also be proposed that don't fit under these headings but are considered important for Self-supply uptake etc.

### **Five: Workplan for proposed Self-supply activities (worksheet 7.2)**

Your workplan should specify who will be involved in various activities (including who will lead) and when they will be implemented.

- Specify activities to be included (and how) in the current years activities
- Specify activities to be included the next annual woreda/regional WASH plan
- Specify activities that will continue or be deferred into later years

Consider also:

- What activities are included in existing plans in the water, health and agriculture sectors? These can be linked to with appropriate coordination efforts

### **Six: Budget for proposed Self-supply activities (worksheet 7.3)**

In other countries, the costs of Self Supply Acceleration Activities have been estimated at an average cost of USD8 per beneficiary (spread over a number of years) and counting both beneficiaries using their own source or a shared source.

This figure can be used to provide a useful-check on whether your plan is good value for money i.e. how many beneficiaries do you expect to reach and how much will it cost.

Complete worksheet 7.3 to prepare a budget for Self-supply acceleration activities. See the budget notes related to the worksheet to help you complete it.

#### **Box 18: Example: budget headings for Self-supply Acceleration activities**

The following budget headings were proposed in the OWNPN for Self-supply acceleration activities (re-ordered to be consistent with these guidelines):

- Communications
- Technical options and advisory services
- Capacity Building
- Facilitating access to savings/credit
- Monitoring

As well as

- Planning
- Program management
- Staffing
- Support costs (office and travel etc)

***Eight: Monitoring framework (worksheet 8)***

This can be added after you have completed the next module (Part 8).

### 7.3 For more information

**In these guidelines:**

See Worksheet 7.

**Additional resources:**

The Programme document of the One WASH National Program: A Multi-Sectoral SWAp (August 2013) provides more information at national level. Available at: [www.cmpethiopia.org/page/562](http://www.cmpethiopia.org/page/562)



## PART 8: MONITORING IMPLEMENTATION



**PART 1**  
Assessing  
potential



**PART 2**  
Creating  
demand



**PART 3**  
Supporting  
technology  
choices



**PART 4**  
Promoting  
private sector  
involvement



**PART 5**  
Supporting  
access to  
finance



**PART 6**  
Ensuring  
coordination,  
innovation and  
learning



**PART 7**  
Compiling your  
Self-supply  
acceleration  
plan



**PART 8**  
Monitoring  
implementation

## Objective

*The objective of this module is to equip you to be able to monitor the implementation of Self-supply acceleration activities and the uptake of Self-supply in your area.*

## 8.1 Introduction

In the previous modules, you have developed an action plan for accelerating self-supply in your area. While implementing this plan, you should monitor progress. Monitoring is the process of collecting, checking and analysing information. This may be on inputs, outputs, outcomes and impacts. Monitoring should be an on-going process, and needs to be properly-resourced. Monitoring is the basis for reporting. It is also the basis for planning, learning and adaptation – as lessons learnt from effective monitoring will allow necessary changes in actions to be identified.

### Box 19: Key definitions

**Inputs:** financial, human and material resources that contribute to a programme, project or policy e.g. staff, equipment.

**Activities:** actions or work performed programme or project. Activities use inputs to generate outputs e.g. development of action plans, implementation of training, communication campaigns etc.

**Outputs:** products and services delivered by a programme or project e.g. training courses held, media stories generated, number of enquiries handled.

**Outcomes:** direct results of project and programme activities describing the changed situation e.g. changes in attitude or behaviour, households investing in new wells or upgrading, levels of investment by households.

**Impacts:** final and longer-term benefits of a project or programme e.g. number of sources constructed or upgraded, performance of sources, productivity of households, levels of income, health status

**Indicator:** quantitative or qualitative measure that provides a simple and reliable way to measure performance and reflect change.

**Means of verification:** Data sources, evidence. E.g. surveys, reports, forms, plans.

**Data collection tools:** Instruments used to collect information for use in performance assessment, self-evaluation and external evaluation.

A number of indicators will be needed to track different activities, outputs, outcomes or impacts. The indicators related to Self-supply acceleration activities and outcomes are likely to be significant different between regions and woredas reflecting the nature of the planned activities. You will need to choose and define the indicators yourself for your specific area.

Monitoring Self-supply acceleration should cover:

- Inputs (i.e. time, money).
- Outputs (i.e. promotional and awareness raising activities, training activities etc).
- Outcomes (i.e. supply chains and capacity developed).
- Impacts (i.e. the numbers of upgraded or new water sources, their performance and use).

Monitoring inputs is important as we are not yet certain what Self-supply Acceleration costs. In other countries, over a number of years, we estimate the costs to be around 8 USD per beneficiary. It will be important to report costs to show value-for-money of the approach.

In community water supply projects, the infrastructure constructed would normally be considered an output. In Self-supply acceleration, where programmes will not directly build infrastructure but leave this to households and small groups, the new water sources will more likely be counted as impacts.

**Box 20: Output indicators**

Your output is 'woreda officials are trained in Self-supply Acceleration'. Your output indicator could be 'the number of woreda officials from woreda x trained in Self Supply Acceleration by January 2014'.

It is the outcomes (see Box in module 7 for examples of Self-supply Acceleration) that are critical for the achievement of impacts. Especially important is the amount of investment by households. Leverage is expected. For example, investment of every Birr in Self-supply acceleration activities might lead to 2 Birrs investment by households. The impact indicators are more likely to be similar and some common guidance given as the activities are expected to have similar impacts towards the goals of Self-supply acceleration and national policies.

**Box 21: Example indicators of Self-supply acceleration impact**

Basic:

- Number of Self-supply facilities within an area.
- Numbers of users (including sharing) of Self-supply facilities.
- Level of protection or equipment of sources.
- Practice of household-water treatment and safe storage.

Additionally, if possible:

- Levels of investment by households
- Number of sources providing low-risk water supplies (e.g. less than 10 TTC/100 ml).
- Use of water for multiple activities (drinking, other domestic uses, irrigation, livestock).
- Wealth status of owners of facilities.
- Etc.

## 8.2 Key questions

The main question to address is:

What should be done to monitor the activities (inputs and outputs), outcomes and impact of Self-supply acceleration in my area?

You should consider:

1. How to monitor progress with Self-supply acceleration activities? What is going well? What is not going well? What could be improved?
2. How to monitor the direct result (outcomes) of the self-supply acceleration activities, in terms of
  - Awareness raised.
  - Private sector development.
  - Development of financial mechanisms for supporting self-supply.
  - Improved coordination, innovation and learning.
3. How to monitor the impact of the self-supply acceleration activities (e.g. facilities constructed and upgraded). See box for examples.

## 8.3 Getting answers

To develop a plan for monitoring the self-supply acceleration programme in your area you should

- Define indicators to measure inputs and outputs for each of the self-supply acceleration activities in your plan (developed in the previous module).
- Define the expected outcomes and impacts indicators for each of the self-supply acceleration activity areas.
- Think about how to collect data for monitoring, who should collect this data, how often and how to report on it.

Ideally monitoring Self-supply acceleration will be integrated into the on-going and regular monitoring that is already undertaken. But some new indicators will probably need to be included.

Monitoring **self-supply activities** can be done through reporting on activities (including inputs) and direct outputs of these activities, e.g. the number of trainings organised and the number of people trained in certain aspects related to self-supply.

Monitoring **outcomes** will mainly consist of observing and analysing changes related to the outcomes. Some outcomes (positive and negative) may be unexpected. Such outcomes can be captured best through more qualitative case study reporting and process documentation.

Potential data collection methods for data collection on **impact** indicators are:

- Review of WASH inventory data (see Info Sheet 3).
- Water point mapping (see Info Sheet 6).
- Water quality testing (see Info Sheet 16):
- Additional surveys and qualitative research focussed on user satisfaction.

#### **Box 22: Self-supply and water quality**

Microbial contamination is a major health risk associated with communal and household-water supply facilities. The most widely used indicator is the number of thermo-tolerant coliforms (TTC) per 100ml. The objective is ultimately that all water supply sources contain 0 TTC/100 ml although levels of contamination below 10 TTC/100 ml are acceptable and will present low risk. The current performance of neither communal nor household supplies on this measure is adequate. It will be important to measure the number of Self-supply sources that provide water of low-risk. Research has shown contamination to be correlated to the level of protection with unprotected wells being the most widely contaminated and semi-protected wells, wells with rope pumps and mechanised wells showing increasingly reduced risks. Performance can be benchmarked against communal supplies. Some research has shown areas where mechanised Self-supply wells perform even better than communal supplies. Most Self-supply facilities are unprotected and have much scope for improvement.

Fluoride is also a widespread contaminant (related to geology rather than human pollution) affecting potentially up to 14 million people in especially Oromia, SNNPR, Afar and Somali regions. The relevant indicator to use is the level of Fluoride in mg/l with a safe standard of 1.5mg/l. A widely used interim standard is 3 mg/l (with more limited health risks). People may utilise different sources e.g. collecting small quantities of better quality water for drinking from one source and bulk water supplies from more convenient but perhaps poorer quality source.

## 8.4 Development towards compiling your Self-supply acceleration plan

Develop the plan for monitoring self-supply in your area by filling in Worksheet 7.

## 8.5 For more information

### In these guidelines:



Info sheet 3: *Using National WASH Inventory data.*

Info sheet 6: *Mapping.*

Info sheet 16: *Water quality testing.*

Info sheet 2: *Documenting your Self-supply acceleration process.*

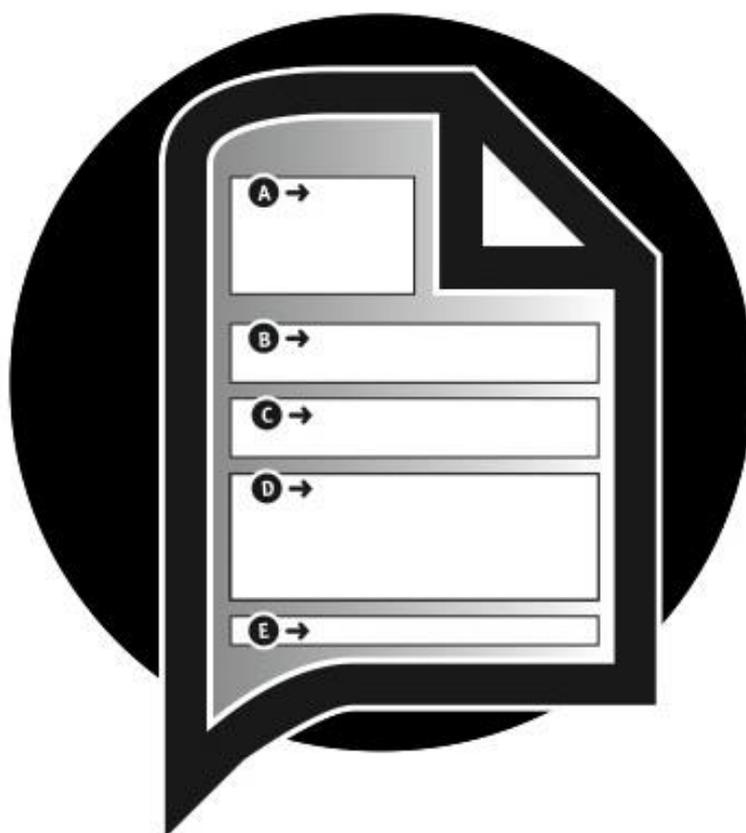
### Additional resources:



*A hidden resource: Household-led rural water supply in Ethiopia (2012)*

Available online at: [www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia](http://www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia) (includes discussion of water quality and other indicators).





# WORKSHEETS

### Worksheet 1: Self-supply potential, acceleration challenges and decisions regarding short and medium term focal areas

	Descriptions of areas with different potential for Self-supply	The following areas in my region/ zone/ woreda are like this	Main Self-supply acceleration challenges in these locations	Decisions regarding where to focus in the short and medium term
Areas with IPow Self-supply potential	<p>Areas where Self-supply is (currently) not required</p> <ul style="list-style-type: none"> <li>• Areas with 100% coverage, sustainable water supplies, and low demand for productive uses</li> </ul>			
	<p>Areas where Self-supply is not an option:</p> <ul style="list-style-type: none"> <li>• Areas without accessible groundwater, inadequate rain for rain water harvesting or unsafe shallow ground water</li> </ul>			
Areas with medium Self-supply potential	<p>Areas with community-based water supply, but gaps e.g.:</p> <ul style="list-style-type: none"> <li>• Challenges with functionality and reliability of the communal water supply, or</li> <li>• High coverage and reliable services, but difficult to reach the last 10-20% of households.</li> </ul>	<i>Example: Alaba Special Woreda</i>	<i>Example: groundwater is deep and Flouride contamination is high so is not suited to Self-supply. Some potential for rainwater and runoff water harvesting (ponds are a traditional practice).</i>	<i>Example: focus on rooftop rainwater harvesting and improvement of community-managed water harvesting ponds to supplement community water supply.</i>
	<p>Areas with low coverage where</p> <ul style="list-style-type: none"> <li>• Self-supply can made a contribution to extend access</li> <li>• There is moderately accessible shallow groundwater or other water resources.</li> </ul>			

	Descriptions of areas with different potential for Self-supply	The following areas in my region/ zone/ woreda are like this	Main Self-supply acceleration challenges in these locations	Decisions regarding where to focus in the short and medium term
Areas with high Self-supply potential	Areas with good access to shallow groundwater or other resources and where Self-supply is already practiced	<i>Example: Meskan Woreda (SNNPR)</i>	<i>Example: Self-supply is typically for irrigation and other domestic uses, not drinking, with communal water supplies used for drinking water.</i>	<i>Example: Promotion of rope and diesel pumps, with protection and upgrading of sources for drinking water in places where communal supplies not available.</i>
	Areas with Self-supply potential, where households have a high demand for water, close to their home (to use for agriculture, livestock, small industry etc.)			
	Areas where community-based water supply is not a viable option: <ul style="list-style-type: none"> <li>• Areas with scattered households, or</li> <li>• Inaccessible areas, or</li> <li>• Areas with socio-cultural or other constraints related to community water supply</li> </ul>			

## Worksheet 2: Activities to create demand

Target audience	Key message(s)	Mechanism(s) to convey the message(s)	Activities needed to develop communications products and disseminate
<p><i>Example:</i> Politicians</p>	<p><i>Example: Self-supply can help to achieve Growth and Transformation Plan targets in both water and agriculture.</i></p>	<p><i>Example: an invited workshop on Self-supply for political leaders</i></p>	<p><i>Example:</i></p> <ul style="list-style-type: none"> <li>• <i>Political leaders identified</i></li> <li>• <i>Summary of Self-supply acceleration programme in the region prepared as background material</i></li> <li>• <i>Invitations sent</i></li> <li>• <i>Workshop programme and venue organised</i></li> <li>• <i>Workshop held</i></li> <li>• <i>Summary of workshop discussions and recommendations circulated, including a press release for regional media</i></li> </ul>

Target audience	Key message(s)	Mechanism(s) to convey the message(s)	Activities needed to develop communications products and disseminate

### Worksheet 3: Technology assessment and introduction activities

Which technologies are already widely in use for Self-supply in my area?	How might the use of the technology be improved and/or scaled-up?	What activities could you undertake to promote wider use of the technology?	Notes / decisions
1.			
2.			
3.			
Which other technologies might be locally appropriate for Self-supply (from elsewhere or only in use on a small-scale)?	What can be done to introduce and test the technology?	evenWhat activities could you undertake to promote wider use of the technology	Notes / decisions
1.			
2.			
3.			

**Worksheet 4: Private sector engagement activities**

Activity	Who	By when OR How often

### Worksheet 5: Activities to support access to finance

Activity	Who	By when OR How often

**Worksheet 6: Activities to strengthen coordination, innovation and learning**

Activity	Who	By when OR How often

## Worksheet 7.1 Background information

Item	Description	Your response
Title	Include name of the area covered by your plan	
Level	At what level is your plan focused i.e. Region, Zone, Woreda, Other	
Contacts	Focal points and contacts associated with the name (Names, organisations, telephone numbers, email addresses)	
Description	Include numbers of woredas, kebeles etc. Key characteristics	
Population	Urban and rural population.	
Access to water and sanitation		
Type of existing		

Item	Description	Your response
communal water supplies		
Other		

## Worksheet 7.2: Workplan for Self-supply acceleration activities

No	Activity	Expected achievement/ outputs	Coordinator of activity (name/ organisation)	Other critical individuals/ organisations	Start	End
Number your activities	Summarise the activity	Mention any specific expected achievement or output	Who will lead this activity?	Who will help?	When will the activity start?	When will it end? (or is a one-off activity or a continuous activity)
Part 2: Creating demand (OWNP budget heading: communications)						
1	<i>Example: Sensitisation meeting for key organisations (WWT, MFIs, W. Trade and Industry, W. Agricultural Office, W. Administration, B. Tech. Voc. College ; total 12 people)</i>	<i>Example: Support of key government agencies for Self-supply acceleration in the woreda</i>	<i>Example: Eyasu Mamo (Regional Water Bureau)</i>	<i>Example: JICA to support</i>	<i>Example: November 2013</i>	<i>Example: n/a (one-off meeting)</i>
Part 3: Supporting technology choices (OWNP budget heading: technical options and advisory services)						
Part 4: Promoting private sector involvement (OWNP budget heading: capacity building)						

No	Activity	Expected achievement/ outputs	Coordinator of activity (name/ organisation)	Other critical individuals/ organisations	Start	End
Part 5: Supporting access to finance (OWNP budget heading: Facilitating access to savings/credit)						
Part 6: Strengthening coordination, innovation and learning (OWNP budget heading: capacity building)						
Part 1: Assessing potential (OWNP budget heading: planning)						
Part 8: Monitoring implementation (OWNP budget heading: monitoring)						
Other						

### Worksheet 7.3: Budget format for Self-supply acceleration activities

No	Activity	Cost A	Cost B	Cost C		
Number your activities	Summarise the activity					
Part 2: Creating demand						
Part 3: Supporting technology choices						
Part 4: Promoting private sector involvement						
Part 5: Supporting access to finance						
Part 6: Strengthening coordination, innovation and learning						
Part 7: Assessing potential						

No	Activity	Cost A	Cost B	Cost C		
Part 8: Monitoring implementation						
Other						

### Worksheet 8: Monitoring plan to monitor activities, outcomes and impact

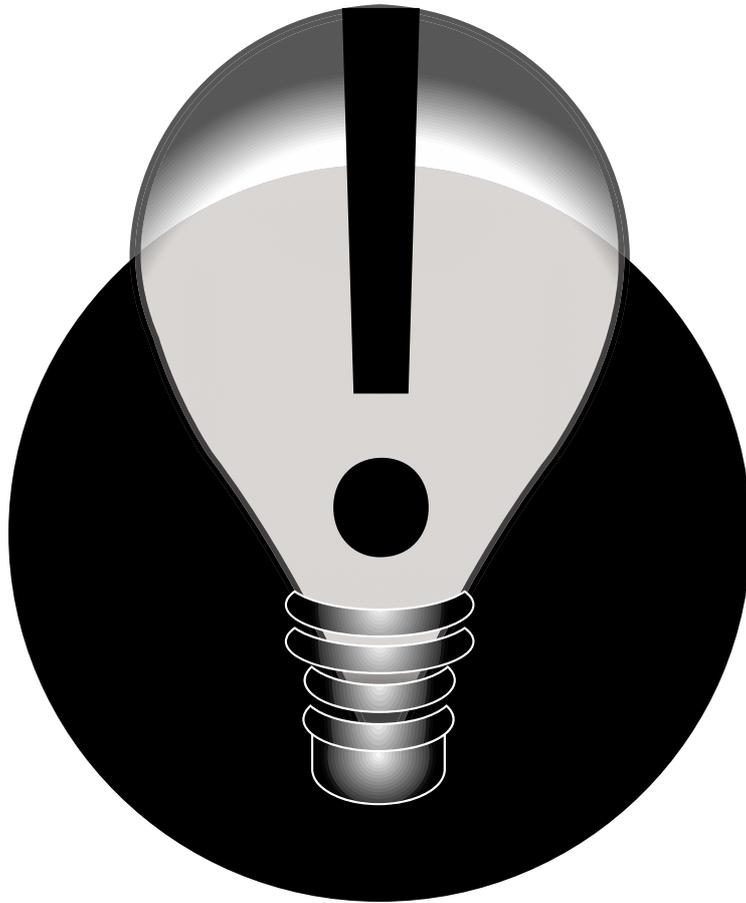
Monitoring activities					
Self-supply acceleration activity	Input or Output indicator (specify)	Data to be collected	Who to collect and analyse the data	Data collection tools/ other sources	When to monitor

Monitoring outcomes					
Self-supply acceleration area (examples)	Expected outcome	Data to be collected	Who to collect and analyse the data	Data collection tools/ other sources	When to monitor
Awareness raised at household level					
Awareness raised of key stakeholders					
Private sector involvement promoted					
Access to finance supported					

Monitoring outcomes					
Self-supply acceleration area (examples)	Expected outcome	Data to be collected	Who to collect and analyse the data	Data collection tools/ other sources	When to monitor
Coordination, innovation and learning improved					

Monitoring impact					
Indicator	Data to be collected	Who to collect and analyse the data	Data collection tools/ other sources	When to monitor	
Number of Self-supply facilities within an area					
Numbers of users (including sharing) of Self-supply facilities					
Level of protection or equipment of sources					
Practice of household-water treatment					
Number of sources providing low-risk water supplies (e.g. less than 10 TTC/ 100 ml)					
Use of water for multiple activities					
Wealth status of owners of facilities					

Monitoring impact				
Indicator	Data to be collected	Who to collect and analyse the data	Data collection tools/ other sources	When to monitor
Number of Self supply schemes developed in the area				



## INFO SHEETS

These sheets provide information on tools, methodologies and frameworks mentioned in these guidelines.

## Info sheet 1: Stakeholder analysis

A stakeholder analysis can be carried out both in workshops and by using other approaches such as semi-structured interviews (see *Info sheet 2: Documenting your Self-supply acceleration process* which provides guidance on semi-structured interviews). The most important thing is that stakeholders understand and commit to their roles and responsibilities.

### Objectives

- *To help you identify stakeholders and their roles and responsibilities in implementing your Self-supply acceleration plan. It will also help you identify your multi-disciplinary team. (These people and organisations will be involved in different aspects of water, sanitation, health, agriculture, finance, etc.)*
- *To identify potential gaps or overlaps in the roles of different stakeholders.*
- *To understand the links between different stakeholders, especially those related to the sharing and use of information.*

### Method

The framework for the stakeholder analysis is the stakeholder matrix (provided as a table on the next page). Each row in the table represents a different stakeholder involved in Self-supply, and each column identifies a key task and role.

The matrix will be filled in based on discussions with stakeholders in workshops or interviews. The matrix will help you identify gaps and overlaps in relation to the stakeholders.

Here are some questions to use in workshops and interviews:

- Which tasks/ functions are performed by which stakeholders?
- What activities do the stakeholders carry out in performing the tasks? How effective are they?
- What gaps are there between tasks?
- What overlaps are there between different stakeholders and their tasks?
- Is there an effort by any stakeholders to coordinate their tasks?
- What factors have a positive or negative influence on task performance?
- What information is held by which stakeholders that helps them to perform their tasks? Is it shared? If yes, how?

### Tips and tricks

- A good and trusted facilitator will help develop a good quality stakeholder matrix.
- It is necessary to have up-to-date information, for example, on the roles and responsibilities of government departments, NGOs, the private sector and communities.

**Based on**

Moriarty, P., Batchelor, C., Abd-Alhadi, F.T., Laban, P., and Fahmy, H. 2007. *The EMPOWERS Approach to Water Governance: Guidelines, Methods and Tools*. Amman: INWRDAM. Available at: [www.ircwash.org/resources/empowers-approach-water-governance-guidelines-methods-and-tools](http://www.ircwash.org/resources/empowers-approach-water-governance-guidelines-methods-and-tools) Adapted from the RAAKS (rapid appraisal of agricultural knowledge systems) toolbox (tool B5). Available at: [www.kit.nl/smartsite.shtml?ch=FAB&id=4616&Part=Resources](http://www.kit.nl/smartsite.shtml?ch=FAB&id=4616&Part=Resources).

## Stakeholder matrix

Actor \ Task	Assess potential	Create demand	Support technology choice	Promote private sector involvement	Support access to finance	Strengthen coordination, innovation and learning	Develop plan	Monitor Implementation
Water office	***		***	*				
Agricultural office/ Agricultural extension workers	**		**		**			
Health office	***							
Private sector support providers	*		***					
Etc.....								

Note: Stars are used to represent the relative importance of the role with more stars indicating greater importance.

## Info sheet 2. Documenting your Self-supply acceleration process

There are a number of tools that can be used to document your Self-supply acceleration process. Two particularly useful ones are presented here.

### **Objectives**

- *To capture the direct results (outcomes) of your Self-supply acceleration programme as it is being implemented.*
- *To reflect on how and why these outcomes are being realised and/ or what are the barriers to success.*
- *To organise and share the findings and lessons.*

### **Method**

#### **Keeping a field diary**

In your diary you will note all activities, events and signs of change related to your Self-supply acceleration plan in terms of:

- Awareness raised.
- Demand created.
- Selection of technology choice(s).
- Promotion of private sector.
- Support to accessing finance and/ development of financial mechanisms
- Improved coordination, innovation and learning.
- Ongoing monitoring.

This can include:

- Keeping a time line of Self-supply activities in your area, changes over time, and external activities and events that may influence your Self-supply acceleration process (e.g., the start of a new WASH project in the area).
- Noting your thoughts on what has supported positive development and what has presented challenges.

#### **Semi-structured interviews with key stakeholders**

In order to get a better understanding of the outcomes of your Self-supply acceleration process you could do semi-structured interviews with key stakeholders at regular intervals (e.g., annually or half yearly) or for a specific purpose (e.g., as part of a stakeholder analysis).

Key stakeholders can be identified in your stakeholder analysis (see *Info sheet 1: Stakeholder analysis*), and could include:

- Government staff from different departments.
- NGOs and donors involved in WASH, private sector development or multi-financing institutions.
- Community representatives and members.
- Private sector

Before the interview you should develop a checklist of general areas for discussion (rather than tightly designed [structured] questions). Your checklist should contain questions such as:

- Where there is a noticeable change in awareness of households of Self-supply, what do you think has contributed to these changes? Where there are no real changes, what do you think the reason for this is?
- Where there is a noticeable change among stakeholders, what do you think has contributed to these changes? Where there are no really changes, what do you think is the reason for this?
- Where there is a noticeable change among financial mechanisms, what do you think has contributed to these changes? Where there are no really changes, what do you think is the reason for this?
- Where there is a noticeable change among coordination, innovation and learning, what do you think has contributed to these changes? Where there are no really changes, what do you think is the reason for this?

### **Tips and Tricks**

- You should combine different methods to get a wider range of information regarding outcomes of your Self-supply acceleration process.
- This information can be used in your monitoring reports.
- This information can be used to develop information and advocacy materials.
- It is useful to do this kind of documenting on a very regular basis e.g. after each field visit you should try and take half an hour to write up what you have seen and experienced.
- Because semi-structured interviews can take place for the gathering of any kind of information, the questions above can be changed to suit information gathering for a particular activity such as your stakeholder analysis.

### Info sheet 3. Using National WASH Inventory (NWI) data

Self-Supply was included in the National WASH Inventory (NWI) data (information) collection exercise in 2010/11. It was included as part of the household level survey, but only where Self-supply was the main source of drinking water for a household.

#### **Objective**

*This Info sheet explains how NWI data can be used to support Self-supply acceleration planning, including the fact that the NWI data collection on Self-supply is limited, and will hopefully will be expanded in future NWI data collection exercises.*

#### **Method**

The NWI is the most recent comprehensive source of secondary data on water and sanitation. Data is held for all water supply schemes in rural areas and small towns (form 1), and at clinics (form 2) and schools (form 3). This data covers indicators such as the name, location, and type of water supply, and the estimated total number of households using the system (also known as provider data). This data is mostly used to estimate coverage or access. Based on the NWI, overall urban and rural coverage in Ethiopia was estimated at 54%. The figures can also be used to estimate coverage at woreda or regional levels. These coverage figures relate to communal water supply facilities only i.e., they do not yet include Self-supply in the estimation of coverage. The 2010/11 survey included a household survey with a main focus on sanitation and hygiene (form 4). This covered all households in most regions, although it was not included in the initial pilot regions for the NWI. The household survey also included a question in form 5 on the main source of drinking water ('from where does the household take most of its drinking water?') with Self-supply (in or near compound i.e. own source) and Self-supply (sharing a neighbour's source) included as two of ten possible answers.

#### **Box 23: Use of NWI data to assess Self-supply in SSNPR**

In SSNPR, across the whole region, about 1% households reported getting their main drinking water supply from their own source, with another 1% using a neighbour's supply according to analysis of NWI data. In total this amounts to some 85,000 households in the region. These numbers do provide a useful minimum estimate of the number of Self-supply sources, showing that Self-supply exists but does not yet make a widespread contribution to drinking-water supply in most places. There are exceptions where Self-supply provides around 20% drinking water supplies in some woredas and as much as 50% in certain kebeles. The need and potential for scaling-up Self-supply is also shown: some 29% take their drinking water from surface sources (a river, lake or pond) and a further 31% drink from unprotected community sources (springs or wells). Self-supply is one potential way to improve the water supplies being consumed by these groups of households, which together total some 2.5 million families.

Source: SSNPR BoWR

Note that this indicator in the NWI does not provide any information on:

- Self-supply where it is a source of water for domestic uses that do not include drinking (e.g., sanitation and hygiene related water uses).
- Self-supply where it is a source of water for small-scale productive uses of water (livestock, irrigation) rather than drinking or other domestic issues.

The use of different sources for different purposes is common i.e., frequently people will collect a few litres of what they consider safer quality water for drinking from an improved communal supply, but use other closer and more convenient Self-supply sources for other purposes.

NWI data therefore currently provides part of the information required on Self-supply. It cannot be used to estimate the number of Self-supply sources in an area. It also cannot be used to identify where households with their own Self-supply technologies are. (This is important information since these households might need to be targeted with messages and support to improve the protection and quality of their own water supplies.) However, NWI data can be used to identify the number of people using Self-supply sources for drinking – both own and shared – within an area.

A further gap in the NWI data for Self-supply is that it provides no information on the type of source, or its level of protection or associated technology.

### Tips and Tricks

- NWI data can be accessed through NWI focal people in the regional Bureau of Water in your region.
- You can access summary data via the internet if you are given the password from your regional Bureau of Water or the Federal MoWE NWI focal point.
- Use NWI (form 1) data to identify gaps in communal water supply provision. Self-supply may be a suitable and more affordable option to reach the last 10 or 20% in areas with high coverage (e.g., 70-80% or more), and a suitable low-cost way to quickly extend services in areas with low coverage rates (e.g. below 50%).
- Use NWI (form 4) data to identify areas with high or low sanitation coverage. In areas with high sanitation coverage, Self-supply promotion may build on successful household-level uptake of latrines (toilets). In areas with low sanitation coverage, Self-supply might be linked to CLTSH programmes in these areas.
- Use NWI (form 5) data to identify kebeles where the use of Self-supply sources is common, present but limited, or absent.

### Based on

Butterworth, J., Welle, K., Hailu, T., Bostoen, K. and Schaefer, F., 2013. Monitoring access to rural water supplies in Ethiopia: A background paper. Available online at: <http://www.ircwash.org/blog/monitoring-access-rural-water-ethiopia>.

Butterworth, J., Welle, K., Bostoen, K. and Schaefer, K., 2013. WASH sector monitoring. In: Calow, R., Ludi, E. and Tucker, J., 2008. *Achieving Water Security:*

*Lessons from research in water supply, sanitation and hygiene in Ethiopia.* Rugby: Practical Action Publishing.

## Info sheet 4. RIDA (water resources, infrastructure, demand and access) analysis

RIDA (water resources, infrastructure, demand and access) is an *analytical framework* that helps to structure water-related information in a logical way. This framework can be helpful for structuring data and information in the assessment phase (now), but also later in the strategic planning phase.

### **Objective**

*To structure the collection and analysis of information about user demand for, and access to, water. This approach identifies challenges in meeting this demand, and the potential to improve access within systems and institutions at the level of users, service providers, and water resource managers.*

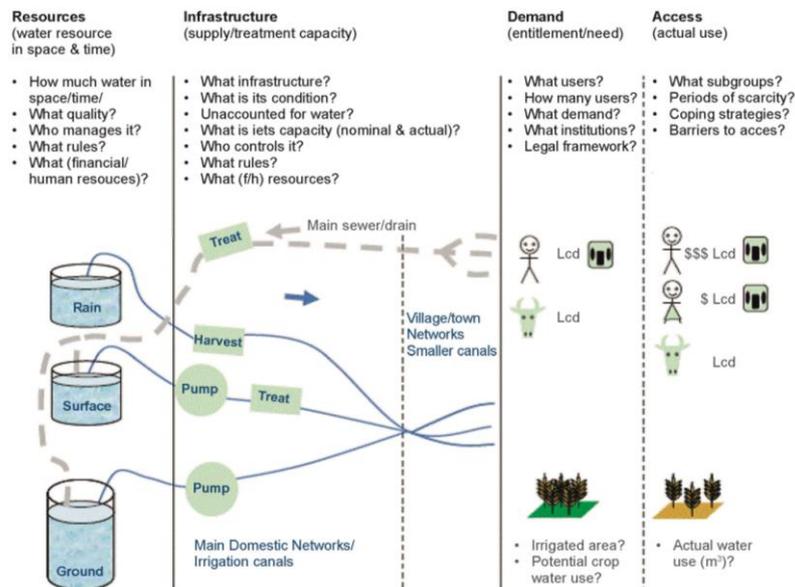
### **Method**

**Step 1:** Gather information about your area which will help you answer key questions that relate to each of the four RIDA elements:

1. Water resources:
  - What water resources are available (groundwater, surface water, rainwater, spring water)?
2. Water infrastructure and organisational arrangements:
  - What kind of communal and household level water infrastructure is already in place (handpumps, family wells, piped schemes, rainwater harvesting etc)?
  - Are there already WASHCos or other structures in place in the area?
3. Demand for water:
  - What is the population of the area? Is it expected to change over time?
  - What do people use water for (e.g. drinking, cleaning, cooking, bathing, watering crops, watering livestock, other)?
  - What would people use water for if they could have access to more water that is closer to their homes?
4. Access to water:
  - What is the current coverage of your area (e.g., what sources are there, and are they enough for people's uses)?
  - Which sources do people use for which uses (drinking, cleaning, cooking, bathing, watering crops, watering livestock, other)?

**Step 2:** Information collected should be stored in an information database such as a geographic information system (GIS).

It is best if each of the RIDA elements is stored separately as well as together. For example, by using four different sheets in a spread sheet to summarise each RIDA element, and a fifth sheet to draw the information together.



Source: Moriarty, et al., 2007

### Tips and tricks

- Sometimes it is not clear where one element of RIDA ends and another begins (“the boundaries”). For example, a large irrigation canal can be seen as infrastructure for an area, or as a water resource for a single village.
- Defining the boundaries between the four RIDA elements is something that is best done in a local context as part of the stakeholder dialogue process.
- A key part of the assessment phase is deciding what information can be collected from existing secondary sources and what will require primary (newly collected) data. Often user-related data (demand, access, local institutions) depends mostly on primary data which can be collected using a range of PRA tools; and water resource data is usually collected from existing secondary sources. Information about infrastructure usually requires a mix of both.
- A RIDA process is an important part of awareness-raising. The key point is that people understand the full chain of resources, hardware and institutions involved in providing water services.

**Based on**

Moriarty, P., Batchelor, C., Abd-Alhadi, F.T., Laban, P., and Fahmy, H. 2007. The EMPOWERS Approach to Water Governance: Guidelines, Methods and Tools. Amman: INWRDAM. Available online at: <http://www.ircwash.org/resources/empowers-approach-water-governance-guidelines-methods-and-tools>

**Suggested further reading**

Adank, M. *et al.*, 2011. *Towards integrated urban water management in the Greater Accra Metropolitan Area, Current status and strategic directions for the future*, Accra: SWITCH/RCN.

Abebe, H. *et al.*, 2010. *Equitable water service for multiple uses: A case from Southern Nations Nationalities and Peoples Region (SNNPR)*. RiPPLE working paper 17. Addis Ababa: RiPPLE. Available online at: [www.rippleethiopia.org/documents/stream/20100930-working-paper-17](http://www.rippleethiopia.org/documents/stream/20100930-working-paper-17)

## Info sheet 5. Focus group discussions

### **Objective**

*To get a better understanding of a situation by speaking to groups of people who will be directly affected by what you want to do. Their inputs will help you to plan an approach and to understand challenges together.*

### **Method**

A focus group discussion is carried out with a group of stakeholders (i.e., those with a stake or interest in the project). These will include groups or sub-groups from the community (maybe women or men only, or specific users), government or NGO staff and private sector providers.

A focus group discussion should have about 10 to 15 people, and should take one to two hours.

**Step 1:** Identify what kinds of focus groups (one or more) are required before organising them.

**Step 2:** Each focus group discussion is led by a facilitator who will ask questions and encourage all people to participate.

**Step 3:** The responses from participants should be written up flip chart paper or something similar, if possible. A person (called a rapporteur) should take notes and produce a report of the focus group discussion.

### **Tips and tricks**

- Sometimes it is useful to hold a focus group discussion before a full community meeting, especially if there are differences in the community that need to be understood or managed. Sometimes it is useful to hold an FGD after a community meeting, especially if different groups in the community have different needs and interests.
- Focus groups can be identified and formed based on criteria such as use of particular source, stakeholder interest e.g. small-scale irrigation, membership of savings groups, or well-owners and well-sharers.
- The facilitator of the focus group discussion should:
  - Use open ended questions (i.e., questions that mean the answer is more than just a 'yes' or 'no) that allow people to give full answers.
  - Avoid too many 'why' questions.
  - Avoid embarrassing questions like 'what did you do about this?'. Rather ask a question like 'What do people around here do about it?'
  - Be sensitive to what is being said, and who is saying what.

**Based on**

Tool 2 in: ZIMWASH, 2010. *Guidelines for Planning for Water for Livelihoods*, Harare: ZIMWASH Project.

Tool 7 in: Bolt, E. and Fonseca, C., 2001. *Keep it working: a field manual to support community management of rural water supplies*, Technical paper series, IRC; no. 36, Delft: IRC International Water and Sanitation Centre.

## Info sheet 6. Mapping

### **Objective**

*To get a good understanding of where the water resources and water infrastructure are in your area, and the potential for Self-supply.*

### **Method**

Mapping can be done at different levels, and in many different ways. Here we focus on three types of mapping through data and information collection and analysis:

1. Participatory community mapping
2. Surveying water resources and infrastructure with GPS
3. Special analysis using GIS

### **Participatory community mapping**

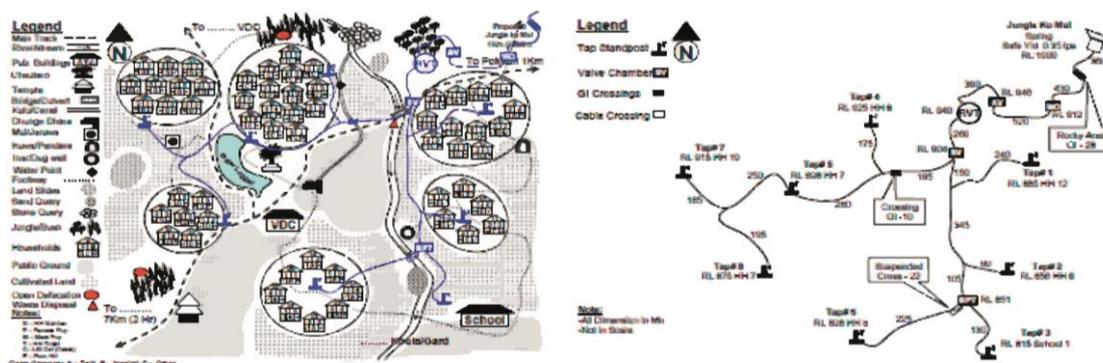
Participatory community mapping might involve a whole community, or a number of focus groups, including men and women, different water users or different wealth groups, or any other grouping that seems useful. For example, for a participatory mapping to look at both communal and household supplies in an area you might include community members who have a good knowledge of their community, including members of the WASHCO, households with their own Self-supply sources and households sharing Self-supply sources of other families.

Someone is required to facilitate this session, and should ask the participants to break into groups of four to six (or more) people.

### **Step 1: Draw your community map.**

The facilitator invites the groups of participants to draw a map of their community and its surroundings. The map must contain the following information:

- Reference points such as roads, buildings, etc.
- Water resources being used by the community.
- Water infrastructure such as wells, dams springs and boreholes. Also include infrastrucute that isnot being used anymore. Note which infrastructure is part of communal systems and which are Self-supply).
- Places where water is used, for example, in homes, gardens, cattle troughs etc.
- If possible, identify where different types of users are living.



Source: WARM-P/Helvetas and RVWRMP, 2007

## Step 2: Analyse your community map.

The participants answer the following questions in order to analyse the information:

- What do you notice about your water – where it is, how it is used, what shape the infrastructure is in, and anything else that seems useful?
- Where do you think Self-supply can improve water supply in your community?

## Step 3: Confirm the information on your community map.

- The different groups present their maps and analysis results to each other. Based on this, one final map is drawn, and will depend on agreements between the smaller groups. Where groups have identified different objects or points of analysis, these will be discussed until agreement is reached.

## Tips and tricks

- This exercise can be done using paper and pens, or by using local materials like sticks, stones and leaves.
- Give people enough time and opportunity to draw their map.
- Let people draw their maps without input from the facilitator (unless the question is for getting clarity on the task).
- Take a picture of the map for future reference and leave the actual map with the community.
- A good way to confirm information, especially if there is disagreement, is to walk around the community.

## Surveying water resources and infrastructure with GPS

**Step 1:** Decide on the data to be collected and from where, and develop a data collection sheet.

**Step 2:** Measure the coordinates for each source, using a GPS and collect additional data through measurements, observation and on-the-spot interviews such as type of source, condition (e.g. using sanitary surveillance) etc.

**Step 3:** Draw a map with all the information on it.

**Step 4:** Confirm the data and discuss it with water users and service providers.

**Tips and tricks**

- This activity requires a GPS
- This activity can be built on or can be made more useful by community participatory mapping.
- Taking photographs is a quick way to collect information on Self-supply sources as it will show levels of protection and lifting devices etc., but it is important to note down where your photographs come from, and the date on which they were taken.
- Understand the reference grid system used by your GPS, and change it, if necessary to the agree standard. Your results will not be useful if you do not know the reference grid system.
- This survey must take into account data already collected through other surveys like the National WASH Inventory (NWI) (see Info sheet 3: Using National WASH Inventory data). (Please note that the NWI only mapped communal water supplies and not household-owned sources.)

***Special analysis using GIS: Combining different data to get insight into self-supply potential in an area***

- Define the characteristics that influence Self-supply.
- Make a map with layers of each of these characteristics and compare and combine.

An example of such an analysis is presented in the box below.

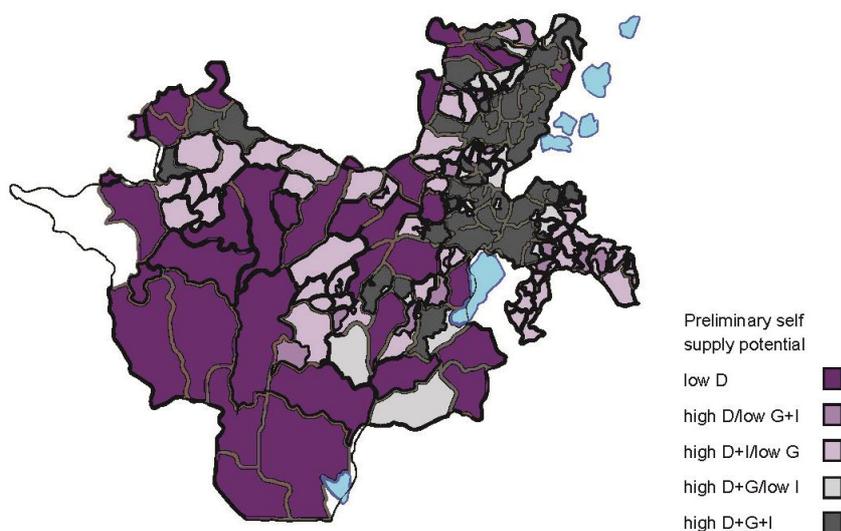
**Box 24: An example of analysis using GIS to assess Self-supply potential in SNNPR**

A mapping approach was tested to assess the potential for Self-supply within Southern Nations, Nationalities and People’s Region (SNNPR), Ethiopia. This was instructive if not entirely successful, and required further development. It was based on three main components:

- The need for household water supplies mapped using water supply coverage data from 2009;
- The opportunity for households to develop their own water supply using shallow groundwater potential as an indicator of opportunity. This was mapped using land surface form (a United States Geological Survey dataset) and long term rainfall, with higher potential being those areas classified as “smooth” or “irregular plain” and having long term rainfall greater than 500 mm.
- The means of households to develop their own water supply, based on income data from livelihood surveys undertaken for the Disaster Risk Management and Food Security Sector (DRMFSS; formerly the Disaster Prevention and Preparedness Agency) in 2005.

The three components were combined to give an overall assessment of the potential for Self-supply as presented in the figure below.

**Figure 2: Overall self-supply assessment in SNNPR Region, based on demand (D), shallow ground water potential (G) and Income (I).**



Source: MacDonald, 2012

### Tips and tricks

- This requires GIS software and knowledge of doing analysis using GIS and multiple criteria.

### Based on

Tool 4 in: ZIMWASH, 2010. *Guidelines for Planning for Water for Livelihoods*, Harare: ZIMWASH Project

Tool 2 in: Smits, S. and Mejía, T., 2011. *Guía para la Planificación e Implementación de Proyectos de Usos Múltiples del Agua*, The Hague / Tegucigalpa: IRC/ RASHON

Tool 5 in: Bolt, E. and Fonseca, C. (2001). *Keep it working: a field manual to support community management of rural water supplies*, Technical paper series, IRC; no. 36, Delft: IRC International Water and Sanitation Centre.

Tool 21 in: Bolt, E. and Fonseca, C. 2001. *Keep it working: a field manual to support community management of rural water supplies*, Technical paper series, IRC; no. 36, Delft: IRC International Water and Sanitation Centre.

MacDonald, D.M.J. 2012 Towards a regional assessment of self supply potential in SNNPR, Ethiopia Ripple Working Paper 24. Available online at: [www.ircwash.org/resources/towards-regional-assessment-self-supply-potential-snnpr-ethiopia](http://www.ircwash.org/resources/towards-regional-assessment-self-supply-potential-snnpr-ethiopia)

## Info sheet 7. Community exchange visits

A community exchange visit is an important learning opportunity when members of one community (the 'visiting community') visit another community (the 'host community') to get ideas on how to deal with a particular problem. The host community is chosen because it has had to deal with a similar problem (or set of problems) in the past, and has made good progress in solving the problem(s). It increases communication and sharing of good practice within and among communities.

### **Objectives**

*To give an opportunity to a visiting community to explore different options to solve their problem(s), and to see possible solution(s) in practice. It allows the visiting community to ask questions and explore different options.*

### **Method**

A community exchange visit must be facilitated by someone who is known and trusted by the visiting community. The facilitator must make sure the following happens:

1. Ask the concerned community if they would like to visit a neighbouring community to get ideas for solving one or more problems they have..
2. If the answer is yes, identify and make contact with the community to be visited, and get their support.
3. Arrange a meeting with the visiting community where people agree on the purpose of the visit, who will represent the community on the visit, what they would like to see and experience, and who they would like to meet. Support them, if necessary, to prepare a draft agenda or list of issues to be discussed with the host community.
4. Ask the host community to think about the problem of the visiting community, and think through how they will share their experiences.
5. In consultation with the host community, agree on the date, purpose and agenda for the visit.
6. At the time of the visit:
  - Ensure the host community talks about the historical background of the interventions, successes and constraints.
  - Ensure people have enough time to walk around and see the solution in practice, and to speak to people who have been involved in solving the problem(s). Ensure that both the host and the visiting community share what they have learnt from each other.

### **Tips and Tricks**

- You may need to make special arrangements for women taking part in the exchange visit, especially if they are staying overnight.
- You will need to draw up a check list with a few members of the visiting group before you go. (This checklist can contain "do's" and "don'ts" while visiting the community.)

**Based on**

Sutton S. and Nkoloma, H. (2011). *Encouraging Change. Sustainable Steps in Water Supply, Sanitation and Hygiene*. St. Albans (UK): TALC (Teaching-Aids at Low Cost).

## Info sheet 9. Technology Applicability Framework (TAF)

The Technology Applicability Framework (TAF) is a decision support tool on the applicability, scalability and sustainability of a specific WASH technology to provide lasting services in a specific context and on the readiness for its introduction.

### **Objective**

*To enable you to run the process of introducing a self-supply technology into an area, or to evaluate the success of an existing self-supply technology.*

### **Method**

For a quick applicability assessment for a Self-supply technology:

- Go through the questions presented in the table on the next page and score the technology for each of the dimensions from the perspective of a user, a producer and a facilitator / regulator.

For a more detailed applicability assessment for a Self-supply technology:

Go through the TAF methodology as presented on

<http://www.washtechnologies.net/en/taf/how-to-use>. Here a set of 3-7 guiding questions is given for each of 18 indicators. These questions help you to discuss the most important issues. For each indicator, a specific scoring question has been defined. To answer these questions, data has to be collected through field visits. Before the field visit, customised questionnaires should be produced based on the generic WASHTech TAF questionnaires.

### **Tips and Tricks**

- It is useful to go through the Technology Application Framework in a workshop setting, involving multiple stakeholders, including representatives from users, producers and facilitators / regulators.

### **Based on**

The Technology Assessment Framework (TAF) as developed under the WASHTech Project. Available at: [www.washtechnologies.net/en/taf/how-to-use](http://www.washtechnologies.net/en/taf/how-to-use)

**Table 8: Simplified Technology Applicability Framework (TAF) for self-supply technologies**

	User / household 	Producer 	Regulator, facilitator 
Social 	Is there a strong demand from target users for the services provided by this Self-supply technology AND a willingness to pay for investment, operation and maintenance costs and rehabilitation costs? Positive Neutral Negative Unknown	Do the producers have resources and effective mechanisms in place to do targeted market research, promotion, product development and follow up as needed? Positive Neutral Negative Unknown	Do self-supply facilitators have the necessary skills and resources to bring about changes to perceptions, attitudes and behaviours for this technology to be sustainable and scalable? Positive Neutral Negative Unknown
Economic 	Is the Self-supply technology affordable for households (ability to pay), in terms of investment and running costs? Positive Neutral Negative Unknown	Can the producer generate sufficient revenues from sales to cover costs of product development, promotion, supply chain development and after-sales support? Positive Neutral Negative Unknown	Are financing mechanisms available or expected to be available in the short term? Positive Neutral Negative Unknown
Environmental 	Is there a risk that negative environmental impacts could result from the use of this technology (e.g. lowering of ground water levels)? Positive Neutral Negative Unknown	Does production of this technology impact negatively on the environment? Positive Neutral Negative Unknown	If this technology is scaled up, could there be negative impacts on the environment, and are any agencies actively monitoring possible impacts who can enforce corrective action? Positive Neutral Negative Unknown
Legal, institutional, organisational 	Positive Neutral Negative Unknown	Is regulation of producers/providers and the quality of technologies/ spares they deliver transparent, enforced and effective? Positive Neutral Negative Unknown	Is this technology aligned with national standards and strategies, and is it in compliance with national quality standards? Are there sufficient capacities in place at national and local level to exercise quality control of this technology? Positive Neutral Negative Unknown
Skills and knowledge 	Based on the current level of skills and capacity within the target user group, will households be able to operate and maintain the technology?	Does the producer/provider of this technology have sufficient business skills to introduce this technology using a cost model that ensures competitive,	Are current capacities and financial resources sufficient at national and woreda level to provide adequate technical advice and support for the introduction of this

		affordable rates as well as profitability?	technology, including coordination, M&E, market research and follow-up?
	<p>Positive Neutral Negative</p> <p>Unknown</p>	<p>Positive Neutral Negative</p> <p>Unknown</p>	<p>Positive Neutral Negative</p> <p>Unknown</p>
<p>Technology level</p> 	<p>Considering all user groups, what is the expected level of user satisfaction with regard to the envisaged performance of this water technology?</p> <p>Positive Neutral Negative</p> <p>Unknown</p>	<p>Do viable supply chains exist or can they be developed for this technology and spares in this target region?</p> <p>Positive Neutral Negative</p> <p>Unknown</p>	<p>What is the level of supportive structures for this Self-supply technology, in particular for funding further innovation and development?</p> <p>Positive Neutral Negative</p> <p>Unknown</p>

Source: WASHTech Project, 2013.

## Info sheet 10. Technology Introduction Process (TIP)

The Technology Introduction Process (TIP) is a tool developed under the WASHTech Project (see [www.washttechnologies.net](http://www.washttechnologies.net)).

In the TIP the uptake of WASH technologies is described in three phases based on key characteristics such as level of investments needed and impact. The three phases are:

1. **Invention phase:** This involves research, development of prototypes, assessing feasibility, testing and piloting on a wider scale and the preparation for the wider launch. The invention phase includes two sub-phases: (i) the testing and the (ii) preparation for launch. Testing includes the development of the new technology, its piloting and assessment of feasibility. If, after testing, the feasibility and the potential are proven, the decision might be made to introduce the technology on a larger scale, e.g. through promotion in a national WASH programme. At this stage, major efforts are made to set up mechanisms for quality control, training of target users, and marketing and promotion, maybe with a special event to create awareness and demand.
2. **Tipping point:** This is the phase when the technology is widely taken up. Sufficient production capacity and a viable and efficient supply chain are needed, as well as promotion and marketing of the technology. Product quality control is required, and support may be needed to improve performance of the uptake.
3. **Uptake and use:** This is when a steady number of individuals or communities continue to use this technology and get adequate services. If services are no longer adequate, there might be a need for a re-launch, which could include a re-design of the technology. It could also include a re-design of the introduction process, such as focusing promotion efforts towards new user groups or combined activities.

### **Objective**

*To guide the introduction of effective and sustainable Self-supply technologies by providing information on role players (all those who have a role to play) that should be involved in the technology introduction process, and by promoting discussion on their roles and on funding to support design or adaption for the technology introduction.*

### **Method**

The application of the TIP is designed as a stepwise process following the phases of the introduction process. It is most useful if the process takes place as a series of workshops and meetings:

**Step 1:** Identify the role players in the three phases: invention phase, tipping point phase, and uptake and use phase. These are explained in detail in the next section, and can include:

- Regulator at national and local level.
- Producer and provider.
- Users (household members, communities or organisations)

- Investors in the introduction process
- Facilitator
- Research and development organisations
- Process leader

**Step 2:** Identify the roles: The roles describe the range and type of tasks to be performed by each role player. The roles are defined by who takes responsibility for what, and may not only be one organisation or person. There also might be some organisation or people who take on more than one role.

Roles to be considered are:

- **Regulator:** This is the ultimate authority for water WASH issues in the country. The regulator defines and approves laws, regulations and bylaws, sets out rules and is responsible for enforcement of laws and regulations. In general, government institutions at national level take on the role of the regulator. However, some roles may also be delegated to decentralised levels.
- **Producers and/ or providers:** They produce the products, provide products and spares to markets through their supply chain, and provide services. In some cases, an NGO can also be a provider of a technology.
- **Users and/ or buyers:** These are the households, communities or organisations that will use and/ or purchase a technology, and may invest their own financial resources to purchase the technology. For complex technologies the user could also be an operator.
- **Investor:** This is the body that invests in the development and introduction of a product. The investor can be an NGO which provides financial resources and the technology itself, as well as capacity to promote it. The investor can also be a development partner providing mainly financial support, relying on local NGOs to take on the tasks of promoting the technology.
- **Facilitator:** This person or organisation supports the introduction process between the different role players involved by facilitating the interlinkages and contacts, most often between regulator, inventor, and investor. Frequently, the role of the facilitator is taken on by a local NGO or government official at woreda level.
- **Research and development:** This person or organisation develop prototypes, and is often involved in piloting and testing.
- **Process leader:** This is the organisation that drives the process and has a primary interest in taking introduction forward. It could be a private sector business, or another role player.

**Step3:** Decide which roles are relevant in each phase, and which role player should take over or lead these roles. Use the table below to note the information.

**Table 9: Task of role players per key phase**

	Invention phase	Tipping point	Uptake and use
Role player 1...	<i>Task</i>	<i>Task</i>	<i>Task</i>
Role player 2...	<i>Task</i>	<i>Task</i>	<i>Task</i>
Role player 3....	<i>Task</i>	<i>Task</i>	<i>Task</i>
Role player 4...	<i>Task</i>	<i>Task</i>	<i>Task</i>
(Add as necessary)	<i>Task</i>	<i>Task</i>	<i>Task</i>

### Tips and Tricks

- In an ideal case, the assessment of the applicability of a technology is done at the very beginning of a process, and should be based on the TAF (see Info sheet X 9: Technology Applicability Framework).

### Based on

The Technology Introduction Process (TIP) as developed under the WASHTech Project. Available at: [www.washtechnologies.net/en/taf/how-to-use](http://www.washtechnologies.net/en/taf/how-to-use)

## Info sheet 11. The business model canvas

The *business model canvas* is a strategy development tool based on the idea that an organisation has nine basic **building blocks**:

1. Customer segments
2. Value proposition for each segment
3. Channel to each customer segment
4. Customer relationships established
5. Revenue streams generated
6. Key resources
7. Key activities required to create value
8. Key partners
9. Cost structure of the business model.

Each of these building blocks must be understood in order to grow and sustain a business.

### **Objective**

*To use with local artisans and businesses to map out, discuss, design, and invent new or revised business models for Self-supply acceleration.*

### **Method**

**Customer segments** identify the customers the business model tries to serve, and include all paying customers. Customers can be grouped (or 'segmented') based on different needs. In Self-supply there may be households with or without a traditional well. Service providers must be able to offer them different products or services (e.g. one may be interested in well-digging; the other in a new pump).

### **Box 25: Business model for traveling masons and on-site latrine slab production in Shebedino, SNNPR**

PLAN International has been supporting masons to develop businesses to provide latrine slabs. Sanitation marketing has many similarities with Self-supply acceleration so this example may be useful. Masons travel to the household, and cast the slab inside the household's compound. The slab is removed from the mould after about one hour.

- Manufacturing costs are 205 ETB but slabs are sold at 135 ETB (and a lid can be bought at an additional cost). The price was based on the thinking that this is what rural households can afford. PLAN subsidises materials.
- Members of the association of masons live in various kebeles, and they are responsible for creating household interest. Orders are confirmed when households make a small down payment.

With on-site casting the cost of transportation is low, but the cost of each job is high. Perhaps in the short term this can work, but with more clients it will become more expensive. The woreda was recently declared Open-defecation free (ODF).

1. For each customer segment, there is a specific **value proposition** – a group of products and services that create value for customers, e.g., well construction and upgrading of an existing well.
2. **Channels** describe the points through which one interacts with customers to provide a service. Effective channels are those that are fast, efficient and cost-effective e.g., through commission-based sales agents, coffee ceremonies or market place marketing.
3. **Customer relationships** outline the relationships that one establishes with customers. In Self-supply, an enterprise or local artisan may choose to assist during sales as well as with follow-up after sales.
4. **Cost structure** describes the most important financial implications for the different business models. A cost-driven business model focuses on keeping costs as low as possible (e.g. a very basic latrine superstructure). A value-driven business model is less concerned with cost and more on creating value (e.g., a branded water filter that confers prestige). You have to think about the following issues with regard to cost structure:
  - Fixed costs: These are costs that do not depend on the number of products sold or services provided e.g. salaries and rent.
  - Variable costs: These are costs that depend on the number of products sold or services provided e.g. electricity and raw materials.
  - Economies of scale: Costs will go down with greater numbers of products ordered or produced.
  - Economies of scope: Costs will go down when there are useful partnerships between service providers e.g. a rope pump manufacturer who does not also have to manufacture PVC piping.

#### Box 26: iDE rope pump material warehouses

iDE has trained several rope pump manufacturers. iDE hoped that the private sector would develop sustainable businesses. However, manufacturers had difficulties in finding input materials, some were of bad quality, and prices went up and down. iDE decided to set up project area warehouses to stock supplies. As a result rope pump quality has improved and there is assurance of supply with a 40% reduction in price. This is an example of support to supply chains, and an alternative to subsidies.

5. **Revenue streams** make clear how and through which pricing mechanisms the business is getting value (e.g. cash and carry vs. instalments vs. informal or formal lending groups). How does the business generate income from each customer segment?
6. **Key resources** describe infrastructure to create, deliver and capture value i.e., show which assets are needed and which are not in the business model.
7. **Key activities** show which things must be done to perform well.
8. **Key partners** show who can support the business to make sure it is successful. Partners are necessary because one business doesn't own all resources or undertake all activities on its own.

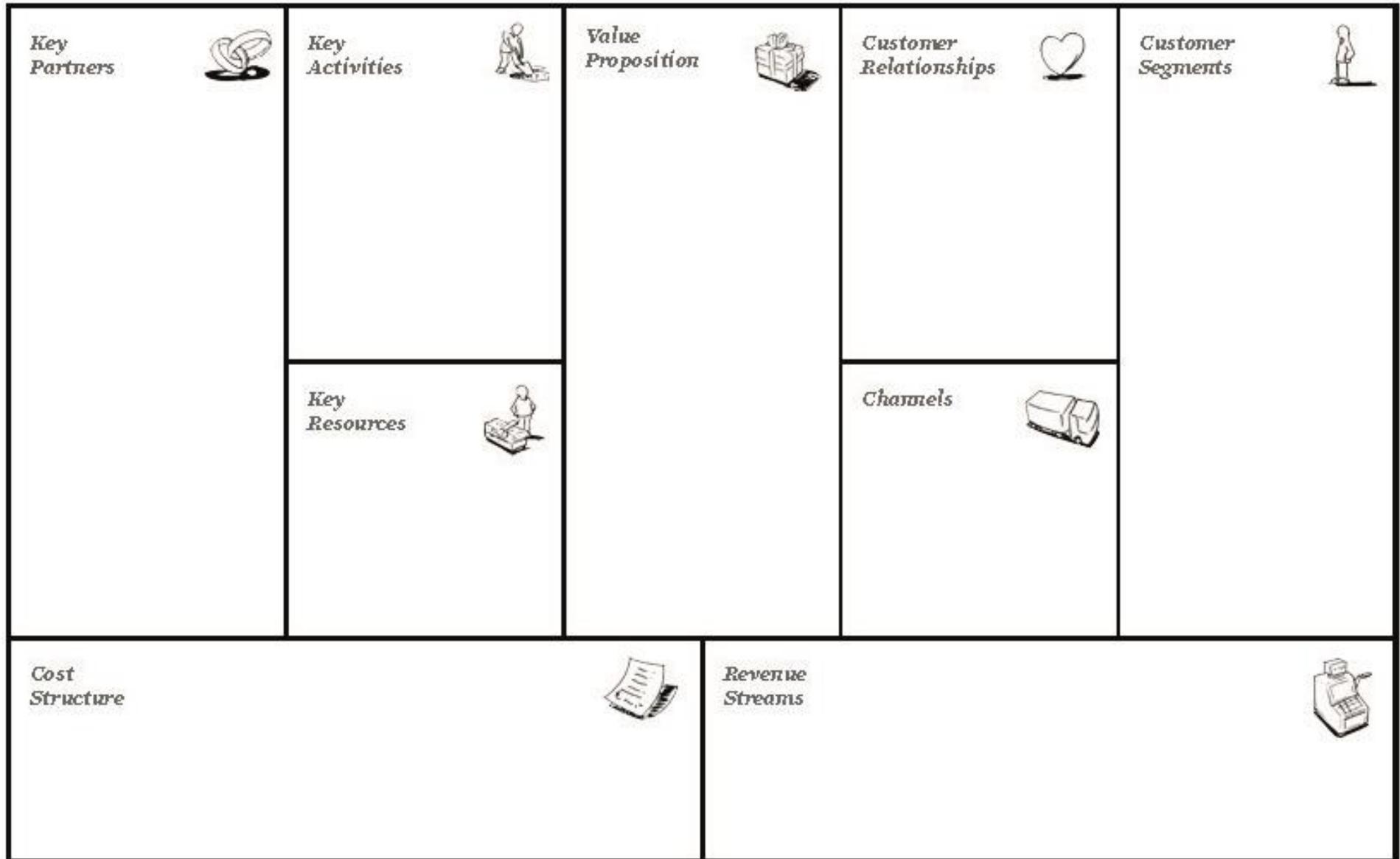
### **Tips and tricks**

- Print the business model canvas (on the next page) on A3 paper and use it in participatory discussions with local artisans and enterprises.

### **Based on**

Osterwalder, A. and Pigneur, Y., 2009. *Business model generation*. Self-published. For more information on Business Model Generation. Available at:

<[http://www.businessmodelgeneration.com/downloads/businessmodelgeneration\\_preview.pdf](http://www.businessmodelgeneration.com/downloads/businessmodelgeneration_preview.pdf)>.



## Info sheet 12. Consumer research: Focus, Opportunity, Ability and Motivation (FOAM) tool

### Objective

*To understand consumer behaviour and what influences people to buy a product.*

### Method

WSP developed a framework to categorise what determines consumer behaviour. They looked at factors such as product attributes, current knowledge and competing priorities. While the framework was specifically developed for understanding *sanitation* behaviour, it can be applied to the Self-supply sector as it identifies opportunities, abilities and motivation of households to invest in upgrading family wells. Consumer data is analysed according to Focus, Opportunity, Ability and Motivation (also called the FOAM tool).

**Figure 2: SaniFOAM Framework**

Focus	Opportunity	Ability	Motivation
Target population	Access/availability	Knowledge	Attitudes and beliefs
Desired behavior	Product attributes	Skills and self-efficacy	Values
	Social norms	Social support	Emotional/physical/ social drivers
	Sanctions/ enforcement	Roles and decisions	Competing priorities
		Affordability	Intention
			Willingness to pay

Source: SaniFOAM Framework

### Tips and Tricks

When completing consumer data, you should highlight three of the most important findings, e.g.

- Households prefer handpumps over ropepumps.
- Households can better afford during harvest times but prefer to pay in instalments.
- Households invest in Self-supply for health and benefit of their children (productive agricultural benefits are secondary).

**Based on**

SaniFOAM Framework. Available online at:

[www.wsp.org/sites/wsp.org/files/publications/GSP\\_sanifoam.pdf](http://www.wsp.org/sites/wsp.org/files/publications/GSP_sanifoam.pdf)

### Info sheet 13. Consumer research: Pathway to purchase analysis

A part of understanding consumer behaviour is to understand how they experience making decisions to buy the technology, and what they have to do to get it up and running. We know that households may really want to invest in installing or upgrading their Self-supply, but that will always be other important things to spend household income on, for example, school fees and uniforms, home renovations and hospital bills.

If the 'pathway to purchase' is fairly easy then a household is more likely to implement Self-supply. The process to purchase and instal Self-supply mustg be easy and known to the household.

#### **Objectives**

*To understand:*

- *What might keep a household from going through with a decision to install or upgrade Self-supply.*
- *The possible purchasing experience the household faces – especially in terms of time and cost.*
- *The steps needed to install the technology at the house.*

#### **Method**

A facilitator is required to work with a group of households or a community to understand what their 'pathway to purchase' looks like, and to find ways to make the experience of installing Self-supply as easy, predictable and cheap as possible. Therefore the focus of the discussion will be to understand the 'pathway to purchase' for some of the locally available technologies.

#### **Box 27: Here is an example for use in the discussion**

For Kokeb slab production enterprise, the pathway to purchase may seem simple until it is unpacked:

- Householders must walk a long distance to the shop across a steep mountain road to Ancharo kebele, Kalu woreda.
- At the shop they will not get very much advice because the shop owner assumes they know what to do or can ask health extension workers for instructions.
- They must organise transport (usually either a donkey or a camel) to get what they have bought back home.

For some households this will be an easy experience. But for some households it will be very difficult, and it is important to think about ways to make it possible for 'slow adopters'.

#### **Based on**

Catholic Relief Services, 2013

## Info sheet 14. Supply chain mapping

Building the supply chain system ensures that when an NGO leaves or government changes its focus to other activities, the systems remains in place and in operation. Moreover, a healthy supply chain system allows for easy scaling up.

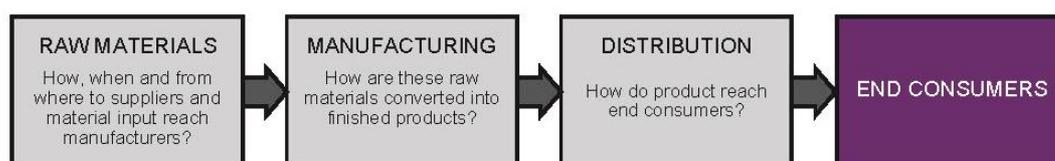
### Objective

*To understand the impact of the supply chain on the consumer, the types of businesses that participate in the supply chain and how they connect to each other, and the needs and characteristics of different business types.*

### Method

Different components of a supply chain can be identified and mapped.

**Figure 3: Supply chain**



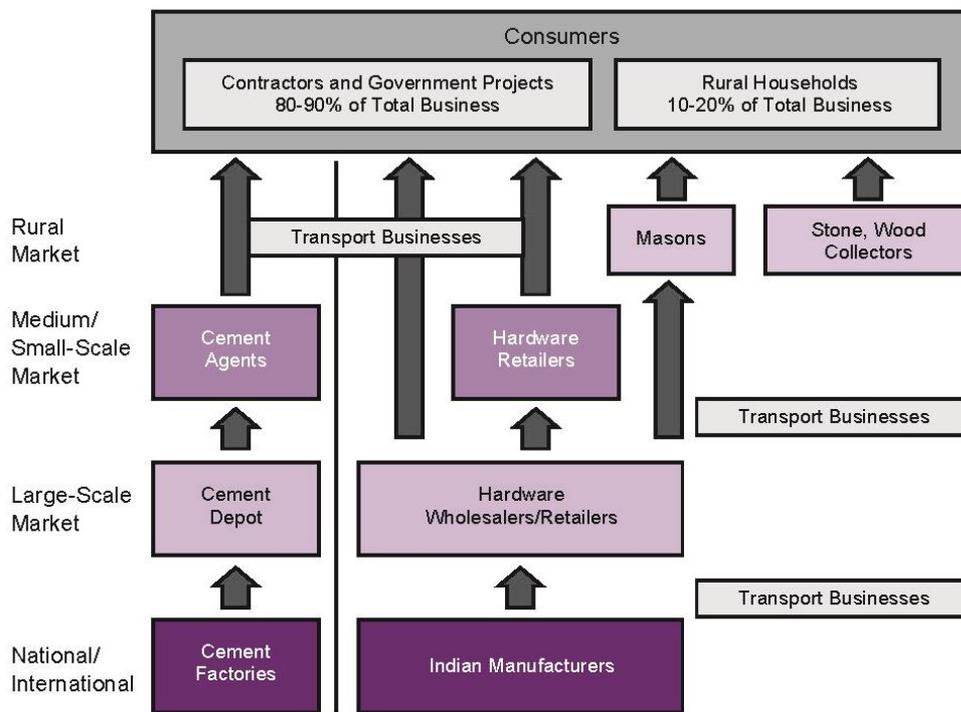
### Box 28: Broken supply chains

In one woreda in SNNPR the Bureau of Agriculture promoted ponds lined with thick black plastic for self-supply. Households along the main road were selected to pilot the technology. One farmer describes how he was able to water his coffee trees well during the early vital growing stage and, as a result, he expects his produce to be three times more than last year. For this reason he would encourage neighbouring farmers to invest in the technology, but the plastic comes from Malaysia, and is not available at the local market.

Are there similar experiences in your woreda of broken supply chains?

With Self-supply you are encouraged to think differently, and with a vision for a sustainable future. The aim is to build strong supply chains where supply meets demand, and for as long as there is demand.

**Figure 4: Example supply chain map for cement and imported squat pans**



Source: SNV (2012). Sanitation Supply Chain Analysis: Pemagetshel Dzongkhag. Prepared by Danielle Pedit .

What is the supply chain system for the major materials needed for Self-supply acceleration?

For example, list a number of materials needed for Self-supply products in your area, such as metal for welding pulleys or cement for concrete well heads. Draw a supply chain for your woreda, based on this example. Include transportation type and costs with each role pleyer in the supply chain.

### Tips and tricks

- There may be things you don't know that you need to find out through discussions with businesses. When you do this, take advice from the “do’s” and “don’ts” table in Part 4.
- List the problems of the supply and what must be done to improve it.

### Based on

SNV, 2012. Sanitation Supply Chain Analysis: Pemagetshel Dzongkhag. Prepared by Danielle Pedit.

## Info sheet 15. Sanitary surveillance

Sanitary surveillance provides a rapid estimate of the level of risk of a well in terms of contamination. It is an alternative (or complementary) to water quality testing (see *Info sheet 16: Water quality testing*).

### **Objective**

*To provide information on how modified sanitary surveillance can be used to estimate the level of contamination risk associated with non-standard traditional wells.*

### **Method**

Sanitary surveillance scoring normally uses ten elements of well construction and hygiene to indicate risks of contamination. It is a partial substitute for expensive water-quality analysis and can highlight aspects of a source which need improvement (WHO, 2005). Conventional sanitary surveillance may work for more standard communal installations but is not reliable for non-standard traditional wells (Sutton et al., 2012).

Comparing the standard sanitary surveillance system against wet-season water quality in communal (handpump) sources resulted in an 80% fit. The results for traditional wells were much poorer, with weak correlations identified between score and TTC counts. The sanitary surveillance system pinpointed hardly any of the wells providing water without contamination, and these wells, indicated as being at highest risk, could actually have any level of TTC count.

A broader system was recommended by Sutton et al. (2012), replacing the standard 'yes' and 'no' answers with a five-point scale of increasing protection for 15 aspects of traditional wells under five main headings:

1. Well mouth.
2. Well surround.
3. Well lining.
4. Lifting device.
5. Environmental sanitation.

<b>Modified sanitary inspection scoring for traditional wells.</b> Mark with 'x' in box below nearest relevant description and/or put relevant score in last column.						
Increasing protection Decreasing risks						
OBSERVATION	SCORE					
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)	
<i>Mark relevant box with 'X'</i>						
1.2 Well mouth protective wall	None	Permeable (wood/ rotten drum)	Concrete top slab, no wall	Impermeable <30cm high	Impermeable >30cm	
<i>Mark relevant box with 'X'</i>						
1.3 Level of well mouth/ wall base	Below ground level		Level with surrounding ground		Raised above ground (mound)	
<i>Mark relevant box with 'X'</i>						
<b>2. Well surround</b>						
2.1 Apron	None	Compacted soil	Wood/ cracked concrete	Impermeable <0.5m	Impermeable >0.5m	
<i>Mark relevant box with 'X'</i>						
2.2 Drainage channel	None	Apron/top slab with no lip to divert water	Earth channel diverts waste water away	Apron with concrete lip	Apron, lip + impermeable channel >3m	
<i>Mark relevant box with 'X'</i>						
2.3 Soakaway	None	Waste water to plants within 3m	Wastewater to plants > 3m	Blocked soakaway	Operating soakaway	
<i>Mark relevant box with 'X'</i>						
<b>3. Lining</b>						
3.1 Length	None	Top < 1 metre BGL	Top > 1 metre BGL		Full lining impermeable	
<i>Mark relevant box with 'X'</i>						
3.2 Material	None	Wood / clay/ dung	Wood (close) or dry stone	Masonry with mortar	Concrete rings	
<i>Mark relevant box with 'X'</i>						
3.3 Seal lining and parapet	None, water can flow in		Water cannot flow in, but infiltrate below ground level		No surface water infiltration possible	
<i>Mark relevant box with 'X'</i>						

4. Lifting device						
4.1 Device type	Rope and bucket	R+B + pulley	Windlass.	Rope (low cost) pump	Hand/Mechanised pump	
<i>Mark relevant box with 'X'</i>						
4.2 Functioning	Not functioning		Functioning badly		Functioning well	
<i>Mark relevant box with 'X'</i>						
4.3 Hygiene (observation)	Rope and bucket on ground between drawing	Rope kept off the ground in use	Rope/ bucket hanging on post between drawing	Rope stored in well/in house between drawing	No rope and bucket needed	
<i>Mark relevant box with 'X'</i>						
5. Environmental sanitation						
5.1 Latrine proximity	Within 10m, uphill of well	Within 10m	Latrine within 30m		None within 30m	
<i>Mark relevant box with 'X'</i>						
5.2 Solid/ faecal waste	Within 5 metres of well	Within 10m, uphill of well	Within 10-30m		None within 30m	
<i>Mark relevant box with 'X'</i>						
5.3 Standing water	Muddy/ waterlogged within 3m	Standing water within 10m	Muddy/ waterlogged within 30m		None within 30m	
<i>Mark relevant box with 'X'</i>						
Maximum						0
Well characteristic	User information (where possible to collect)					
Tendency for collapse	Collapses frequently below water	Collapse common near surface		Needs annual cleaning below water	Never collapsed	
<i>Mark relevant box with 'X'</i>						
Well reliability (last 12 months)	Not functioning for >90 days	Not functioning for 30-90 days	Not functioning for 10-30 days	Not functioning for <10 days	Functioned all year	
<i>Mark relevant box with 'X'</i>						
Adequacy	Not enough for everyone's domestic uses		Not enough for irrigation + domestic		Enough for everyone	
<i>Mark relevant box with 'X'</i>						
User satisfaction	Strongly not satisfied	Not satisfied	Neutral	Satisfied	Very satisfied	
<i>Mark relevant box with 'X'</i>						
Water uses	Irrigation only	Bathing/washing /domestic non-potable	Drinking and other domestic purposes	drinking, domestic, animal watering	For all purposes inc animals +irrigation	
<i>Mark relevant box with 'X'</i>						
Maximum						0

WELL PROTECTION	KEY
0-29	Unprotected
30-58	Semi-protected
58-60	Protected
(actual cut-off needs calibration)	

This modified system was found to predict water quality slightly better than the ten-point system but needs further testing to prove useful.

**Based on**

Sutton et al., 2012

WHO, 2005

## Info sheet 16. Water quality testing

Many Self-supply sources do not yet provide water that is safe for drinking. This may be acceptable where alternative (and better quality) drinking water sources are available, or household water treatment and storage is being practised. However, in many situations improving the quality of supplies will be an important objective.

### Objectives

To provide basic guidance on the measurement of water quality in relation to Self-supply.

### Method

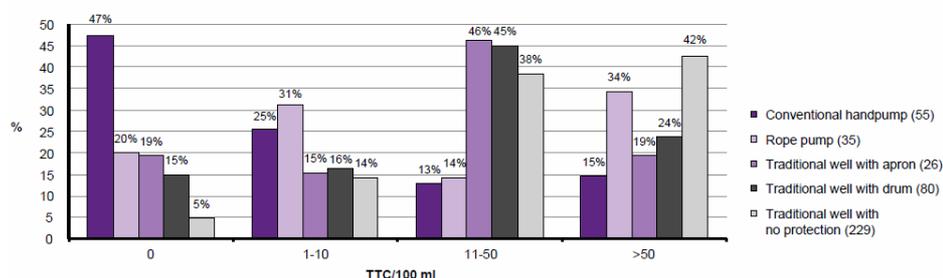
The most important indicator to track bacteriological contamination – which is likely to be the most widespread concern and a result of poor protection of sources, poor sanitation and hygiene practices and pollution – is the number of thermo-tolerant coliform (TTC). This is expressed as a number per 100 ml water.

TTC measurement is not straightforward and careful sampling and analytical procedures need to be followed to get reliable results. You should get specialist help, for example from the regional bureaux of water resources, before you undertake widespread data collection.

You can measure TTC with portable field kits (which include an incubator for the samples) or by taking samples of water to a laboratory.

### Box 29: Example water quality data for Self-supply wells

Combined data from surveys in SNNPR and Oromia clearly show that protected communal sources (conventional handpump) have the best quality water but still pose risks to users. The source water quality from unprotected family wells (traditional wells) is much worse, but does improve with the level of protection provided. Note: (sample size in brackets)



Source: Sutton et al., 2012.

The WHO Drinking Water Quality Guidelines and the Ethiopian Water Quality Standard set zero TTC/100ml as the standard for community supplies. The ultimate

objective should be to achieve zero TTC in both community and Self-supply sources where these are used for drinking. However, source water quality below 10 TTC/100 ml is considered to be of low enough risk for drinking e.g., in the WHO Rapid Assessment of Drinking Water (zero TTC/100 ml being very low risk).

Natural contamination of groundwater with Fluoride is a widespread problem in Rift Valley areas. If Fluoride is known in an area e.g., through monitoring of communal water supplies, it should also be investigated in Self-supply sources. Fluoride levels may vary considerably within an area from one well to another. The WHO norm is that water should not contain more than 1.5 mg Fluoride per litre. Consumption of high fluoride waters can have severe health impacts: moderate exposure levels can result in dental fluorosis, and higher and longer exposure can result in crippling skeletal fluoride.

You can also measure fluoride using portable field kits or by taking samples of water to a laboratory but you should get specialist help to ensure reliable results.

### **Tips and Tricks**

- Equipment must be sterilised to avoid contaminating water samples before TTC analysis.
- It is useful to compare the results of different analytical methods e.g., field and laboratory tests for the same samples.
- Compare your results with health data. Do high levels of microbial contamination correspond with high levels of reported disease that may be related? Do high levels of Fluoride in groundwater correspond with reporting of fluorosis?
- Consider seasonal risks. Microbial contamination is likely to be worse at the peak of the rainy season when contaminated runoff may enter the well. Microbial contamination is likely to be lower in the dry season.
- Multiple sources may be used by households for different purposes. Higher levels of contamination may be acceptable where sources are not used for drinking. However, there may be interest in ensuring that Self-supply wells provide safe water, even when not regularly used for drinking. It is always good to have safe back-up supplies for when communal sources fail (e.g., due to pump breakdown).
- Water quality at source may not be the most important indicator. Water quality may deteriorate a lot between source and point-of-consumption due to contamination during fetching, transporting and storing water. Water quality may improve where household water treatment and storage (HWTS) is practised.

**Based on**

Further discussion of microbial water quality associated with Self-supply sources is included in the Hidden Resource report.

Available at: [www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia](http://www.ircwash.org/resources/hidden-resource-household-led-rural-water-supply-ethiopia) (Sutton, S., Butterworth, J. and Mekonta, L. 2012. A hidden resource: household-led rural water supply in Ethiopia. IRC International Water and Sanitation Centre, The Netherlands.)

A map of Fluoride levels in groundwater. Available at:

<http://r4d.dfid.gov.uk/PDF/Outputs/RiPPLE/fluoride-mapping-poster.pdf>



Self-supply, where households or small groups of households take the lead in the development and improvement of their own water supplies is now a recognised approach to realising universal access to safe water in Ethiopia. It has been recognised by the government in a policy guideline, in the WASH Implementation Framework and in the One WASH National Programme. These guidelines will support planning and implementation of activities to enhance Self-supply at regional, zonal and woreda levels. They focus on what can be done by government and its partners to support households in scaling-up and improving Self-supply. This is known as Self-supply acceleration. An integrated approach is encouraged with links made to related efforts in household irrigation, Household Water Treatment and Storage (HWTS), Community-led Total Sanitation and Hygiene (CLTSH) and sanitation marketing amongst others.