

Sustainable WASH Systems Learning Partnership

DRIVING CHANGE: STRENGTHENING LOCAL SYSTEMS IN THE WATER AND SANITATION SECTORS

December 2021



PHOTO CREDIT: MARTIN WATSI



USAID
FROM THE AMERICAN PEOPLE



**SUSTAINABLE
WASH SYSTEMS**
A LEARNING PARTNERSHIP

Prepared by: IRC, with input from Tetra Tech, LINC, Environmental Incentives, and the University of Colorado Boulder.

Acknowledgments: The document is based on 5 years of collaborative work and is the synthesis of many earlier reports, studies, analyses, and strategic reflection sessions involving a wide range of stakeholders. The work was funded by the USAID Sustainable WASH Systems Learning Partnership; case study 4 presents work co-funded by the USAID Lowland WASH Activity.

The authors would like to acknowledge the Government of Ethiopia and the Government of Uganda for their partnership and dedication to WASH systems strengthening, without which this work would not have been possible. In particular, in Ethiopia, the Afar, SNNPR, and Oromia regional governments, Mille and South Ari woreda governments, and Woliso town government. In Uganda, the Kabarole district local government. The learning alliances and action research teams in each context are the champions of this work and contributed insights, analysis, data collection, and feedback on emerging findings and recommendations from each context. Environmental Incentives provided editing and design support; Dechan Dalrymple (IRC) prepared the graphics.

Front cover: Members of the learning alliance in Kabarole District working on an action-research strategy. Photo credit: Martin Watsisi

About the Sustainable WASH Systems Learning Partnership: The Sustainable WASH Systems Learning Partnership is a global United States Agency for International Development (USAID) cooperative agreement with the University of Colorado Boulder (UCB) to identify locally driven solutions to the challenge of developing robust local systems capable of sustaining water, sanitation, and hygiene (WASH) service delivery. The consortium of partners — Environmental Incentives, IRC, LINC, Oxford University, Tetra Tech, WaterSHED, Whave, and UCB — are demonstrating, learning about, and sharing evidence on systems-based approaches for improving the sustainability of WASH services in four countries.

This report is made possible by the generous support of the American people through USAID under the terms of the Cooperative Agreement AID-OAA-A-16-00075 with the University of Colorado Boulder, USA. The contents are the responsibility of the Sustainable WASH Systems Learning Partnership and do not necessarily reflect the views of USAID or the United States Government. For more information, visit www.globalwaters.org/SWS, or contact Ryan Mahoney (rymahoney@usaid.gov) or Amy Javernick-Will (amy.javernick@colorado.edu).

Table of Contents

Acronyms.....	v
Glossary.....	vi
Executive Summary.....	1
Introduction	3
Structure of the Document	3
Pillar 1: Understanding Systems.....	4
Case 1: Improved Understanding of Sanitation Systems in Woliso, Ethiopia.....	5
Pillar 2: Learning Alliances for Collective Action.....	11
Case 2: Setting Up New Learning Alliances in Mille and South Ari Woredas: Compromises, Mistakes, and Successes	14
Case 3: The Kabarole District WASH Task Team: An Established Learning Alliance in Uganda.....	18
Pillar 3: Action Research.....	22
Case 4: The Importance of Local Facilitators in Strengthening Monitoring: The Case of Asset Management in Ethiopia.....	25
Case 5: Action Research to Encourage Borehole Maintenance in Kabarole, Uganda	35
Discussion: Wisdom and Advice for Using this Approach	42
Contextual Considerations: When and Where to Use this Approach.....	42
Tips, Tricks, and Pitfalls to Avoid.....	45
Conclusion.....	49
Appendix 1: Tools and Resources.....	50
Appendix 2: Sustainable WASH Systems Learning Partnership	57

List of Figures

Figure 1. Simplified Theory of Change.....	4
Figure 2. Coordination Network with Clusters Circled.....	7
Figure 3. Fecal Sludge Disposal for Woliso, September 2017.....	8
Figure 4. The Change Process within the Learning Alliance Model	12
Figure 5. Steps Involved in Developing the Master Plan.....	20
Figure 6: The Action Research Cycle with Its Four Steps: Plan, Act, Observe, and Reflect.....	24
Figure 7. mWater Landing Page of App and Sample Question	27
Figure 8. Screenshot from the Mille Scheme Asset Inventory and Functionality Dashboards	28
Figure 9. Water System Functionality Updates in Mille.....	29
Figure 10. Implementation Timeline for Afar Asset Management System	31
Figure 11. Issues Submitted in Afar.....	33
Figure 12. Components in the System over Time.....	33
Figure 13. Project Implementation Is Rarely a Linear Process, Despite What Logical Frameworks or Project Reports Might Say	44
Figure 14. Example Timeline during which a Learning Alliance Is Established and Engaged in Change Making	47

List of Tables

Table 1. Learning Alliance Priorities in Woliso, Ethiopia	9
-----------------------------------------------------------------	---

Acronyms

AMS	Asset Management System
ARWIEB	Afar Regional Water, Irrigation, and Energy Bureau
KAHASA	Kabarole Hand Pump Mechanics Association
NGO	Non-Governmental Organization
O&M	Operations and Maintenance
ONA	Organizational Network Analysis
PAYF	Pay-as-You-Fetch
SDG	Sustainable Development Goal
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SWS	Sustainable WASH Systems Learning Partnership
UGX	Ugandan Shillings
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene

Glossary

Term	Definition
Action Research	An active learning and research process carried out by practitioners together with researchers in real-world settings. There are many different methodologies for action research, but all involve an iterative research process (often in cycles of plan, act, observe, reflect) and have a goal of solving real-world problems. Action research in learning alliances generates knowledge, tests hypotheses, and builds evidence for decision making.
Civil Society Organization	Non-governmental organizations (NGOs), faith-based organizations (FBOs), and community-based organizations (CBOs) working on various dimensions of WASH service delivery that have an organized structure and mission and are typically registered entities and groups within the jurisdictions where they operate.
Coalition	An alliance of stakeholders and/or organizations formed for combined action and knowledge sharing (e.g., learning alliance, sector working group).
Collective Action	A process in which: sector stakeholders regularly convene and take joint actions to address shared problems; problems are complex, and their solutions require deliberation and action by many actors; members agree on a shared vision and shared problem definition; and stakeholders clarify responsibilities and hold each other accountable for actions.
Coordination	The process of organizing people or groups to improve information flow or reduce duplication of efforts, in line with a common vision.
Enabling Environment	A set of interrelated sector functions that permit governments and public and private partners to engage in the WASH service delivery development processes in a sustained and effective manner. This includes all the policy, capacity, and institutional and financial frameworks necessary for sustaining and replicating WASH schemes. A positive enabling environment builds the attitudes, capacity, and practices for effective and efficient functioning of organizations and individuals.
Governance	The political, institutional, and administrative rules, practices, and processes (formal and informal) through which decisions are made and implemented. Governance systems comprise governments, local authorities, the private sector, civil society, and other WASH stakeholders.
Intervention	A specific activity or sets of tasks undertaken by one or more organizations in order to strengthen the system or test the merits of an approach.

Learning Alliance

An approach to social learning and collective action whereby a group of stakeholders is engaged in a formal platform(s) for problem definition, solutions development, and testing, in pursuit of a shared goal. The platform(s) are at different institutional levels (national, district, community, etc.) in order to speed up the process of problem identification and the development and scaling up of solutions.

Local Systems

An interconnected set of actors — governments, civil society, the private sector, universities, individual citizens, and others — that jointly produce a particular development outcome. The “local” in a local system refers to actors in a partner country. Because these actors jointly produce an outcome, they are “local” to it. And because development outcomes may occur at many levels, local systems can be national, provincial, or community-wide in scope.

Local Systems Approach (“Approach”)

A methodology and set of concepts and associated tools that seek to understand how local systems behave, interact with their environment, and influence each other. Common to all of these approaches is a conviction that particular actions and outcomes are best understood in terms of interactions between elements in the system.

Networks

The formal and informal structure of actors and their interconnections (relationships) that influence WASH service delivery. WASH networks are inherently complex and diverse in their structure, goals, and functions. The way in which actors within each network relate to one another will vary considerably across contexts.

Preventive Maintenance

The proactive servicing, repair, and replacement of hardware to reduce downtimes and life-cycle costs of water and sanitation facilities.

Scale

The temporal or spatial boundaries within which decisions are made. For example, a river basin, a country, a district, and the coverage area of a water supply scheme are all different (and overlapping) spatial and administrative scales.

Service Providers

The entity responsible for day-to-day management of WASH services, including operation and maintenance. Examples include utilities, local water authorities, private maintenance services, hand pump mechanics associations, and pit-emptying contractors.

Stakeholders

Persons or organizations with a vested interest or influence on WASH systems.

Systems Change

Desirable changes in the strength of a WASH system that lead to an improved likelihood of service sustainability. Systems change is often a non-linear process involving policies, regulations, institutional capacities, organizational practices, and a range of actors working to produce a set of conditions that improve WASH services.

Systems Leadership

A collaborative approach to leadership based on the application of systems thinking, network strengthening, and vision-oriented group process facilitation. Systems leaders lead from within the system and take a behind-the-scenes role in guiding positive change in complex environments.

Systems Thinking

A perspective of seeing and understanding systems as wholes, rather than as a collection of parts, where the outcomes of the system are a result of the complex, dynamic interaction and interdependence of the components (factors) of the system.

Theory of Change

An examination of assumptions and explanations of how activities are understood to contribute to a series of outcomes and impacts. Usually represented in a diagram called a logic model.

Water Users Association or Committee

A group of stakeholders, often local residents, tasked with the management of local WASH infrastructure (e.g., borehole, communal latrines). User associations or committees are often responsible for operations and maintenance, as well as financial responsibility for the collection and savings of tariffs for payment to technicians for repairs.

Executive Summary

Drinking water, sanitation, and hygiene (WASH) services are provided by networks: networks not only of infrastructure, but also of institutions and individuals. The term *WASH system* describes all the actors (people and institutions) and factors (infrastructure, finances, policies, environmental conditions, etc.) that are vital to the quality and sustainability of WASH services.¹ Changing WASH systems for the better requires vision, champions, and continuous adaptation while making lots of mistakes.

This guide offers insights, tips, and advice to improve public services like water and sanitation through multi-stakeholder collective action and action research. It builds on 5 years of local systems change processes in Ethiopia and Uganda, as well as the authors' decades of experience around the world. The aim of the guide is to equip the reader with some of the tools and knowledge needed to become a champion and "systems leader" for radical improvements in public services. This is achieved through a series of case studies, including reflections and wisdom from systems change facilitators in each context.

Facilitating systems change, and doing it urgently to solve a human rights crisis, is not a mechanical process. Fostering more radical change in local systems happens by changing perspectives and attitudes, in addition to applying specific tools or solutions. IRC's approach uses established tools for working in public systems, and solving problems, to generate collective action among the stakeholders with the power to create real change.

The case studies in this guide were written to demonstrate three main pillars of local systems change: (1) understanding systems, (2) using learning alliances to convene stakeholders and develop a vision and change agenda, and (3) using action research for developing and testing innovations and making direct changes to the system.

Many tools are available and effective for **understanding systems**. It is important to choose a tool that is appropriate for the context and the stakeholders engaged in the system. **Learning alliances** are platforms for convening stakeholders with the purpose of developing a shared vision and change agenda. They are usually established to try and find new solutions to difficult problems. **Action research** is conducted together with learning alliances to identify and test solutions while building the skills and knowledge of participating stakeholders. Action research combines the experimental nature of research with the results orientation of action and implementation.

Each of the three pillars is demonstrated through case studies, for a total of five case studies from the 2016–2021 United States Agency for International Development (USAID)-funded Sustainable WASH Systems Learning Partnership (SWS).

¹ In some countries, the WASH system is well-defined, with a clear and visible boundary; in others, it is more abstract and consists of several linked systems and sub-sectors that all contribute to water supply, sanitation, and hygiene.

- Case 1 describes how the SWS project team used a series of participatory assessments to build stakeholders' understanding, and capacity to develop solutions, for improving sanitation management in Woliso, Ethiopia.
- Case 2 shows how the SWS project team first initiated engagement through the setting up of new learning alliance platforms in Mille and South Ari woredas in Ethiopia.
- Case 3 demonstrates how an established learning alliance platform is embedded in local politics and structures to support the district leadership in medium-term planning to improve drinking water services.
- Case 4 presents the challenges and successes of action research to strengthen asset monitoring information systems in Ethiopia's Afar Region, pointing to the importance of investment in local process facilitation to increase the pace of adaptation and learning.
- Case 5 revisits the learning alliance from Kabarole District, Uganda, and demonstrates practical challenges to conducting action research with a district-focused learning alliance platform.

The final section presents cross-cutting analysis of the lessons learned through the case studies. It presents some general principles to adhere to, as well as common pitfalls to avoid, when taking this approach. In particular, contextual considerations and funding and project setup must be considered before choosing to embark on a local systems change journey. A legitimate and locally respected (and present) team is critical for fostering a genuine learning environment that is conducive to triggering transformative change. Furthermore, the way in which the process is set up — with patience, through trust building, and through iterative and genuine engagement of diverse stakeholders — is critical. Government is an especially important stakeholder to engage properly; as duty-bearers and authorities for public services, their buy-in, participation, and approval of the approach is fundamental to its legitimacy. Besides technical prowess, the soft skills of the facilitation team are essential to success.

Ultimately, learning alliances and action research are seen as critical accelerators and catalysts for local change, but they must be complemented with continuous investment and the right mix of government leadership, public demand, and long-term multi-stakeholder commitment to change.

Introduction

Water, sanitation, and hygiene (WASH) services are a human right. To meet the target set by the sustainable development goals (SDGs), WASH services² have to be delivered to every child, woman, and man in every household, school, clinic, and workplace. Unlike education or health care, it is not enough to provide a service and have people come to it; the service has to go to them.

Drinking water and sanitation services are provided by networks not only of infrastructure, but also of institutions and individuals. The term *WASH system* describes all the actors (people and institutions) and factors (infrastructure, finances, policies, environmental conditions, etc.) that are vital to the quality and sustainability of these water, sanitation, and hygiene services.³

Changing these systems for the better is a complicated and messy process. It is not top-down or bottom-up, it is both at the same time. There is no step-by-step guide to being an effective change agents; systems change can come about in many different ways. It can be grassroots, expert-led, and/or directed by a motion of government.⁴

The aim of this document is to demonstrate the principles and qualities required for fostering this change and to point the reader to tools and resources that can be used in the process. The guide offers insights, tips, and advice from our experience in facilitating local systems change to improve water and sanitation services. Many of the insights are relevant to those involved in facilitating local systems change in other public services sectors, in particular services that are the responsibility of local government but whose complexity requires action from multiple stakeholders.

Structure of the Document

Each section first presents one pillar of the approach followed by one or more case studies to illustrate how that pillar looks in action. At the end of each case, the *facilitator's reflection* distills key lessons learned from the team of local change agents involved in the case study. In all cases, these three pillars were worked on together. Box 1 provides an overview of the cases included in this document.

All of the cases are from the 2016–2021 United States Agency for International Development (USAID)-funded Sustainable WASH Systems Learning Partnership (SWS). SWS was a 5-year cooperative agreement testing systems-based approaches and tools to improve WASH service sustainability. IRC implemented SWS in three districts in Ethiopia and one district in Uganda (Appendix 2).

² United Nations. 2021. Sustainable Development Goal 6 (SDG6): Ensure Availability and Sustainable Management of Water and Sanitation for All – Targets and Indicators. Available at: <https://sdgs.un.org/goals/goal6>

³ In some countries, the WASH system is well-defined, with a clear and visible boundary; in others, it is more abstract and consists of several linked systems and sub-sectors that all contribute to water supply, sanitation, and hygiene.

⁴ FSG. 2017. Systems Thinking Toolkit: Putting Systems Thinking into Practice. Available at: <https://www.fsg.org/tools-and-resources/systems-thinking-toolkit-0>

The last section of the document offers a discussion of the main lessons learned through these case studies. It offers some general principles, common pitfalls, and tips for others wishing to take a similar approach. The appendix provides a summary of each of the main tools mentioned in the case studies and provides links to additional materials available for putting this approach into practice.

Box I. Case Studies

Pillar I: Understanding Systems

- Case 1: Improved understanding of sanitation systems in Woliso, Ethiopia

Pillar II: Learning Alliances

- Case 2: Setting up new learning alliances in Mille and South Ari woredas
- Case 3: Master planning for collective action: bringing together unlikely stakeholders in Kabarole, Uganda

Pillar III: Action Research

- Case 4: The importance of local facilitators in strengthening monitoring: the case of asset management in Ethiopia
- Case 5: Action research to incentivize borehole maintenance in Uganda

Pillar I: Understanding Systems

Key to creating change in WASH systems is understanding how the system and its subsystems work and getting to know and work with the actors involved. This includes understanding both the technical components and the less-tangible dynamics such as social behaviors, culture, and politics.

At the outset of SWS, we hypothesized that greater understanding of the system and the actors in it would lead to better problem definition and, in turn, more effective and innovative solutions (Figure 1).

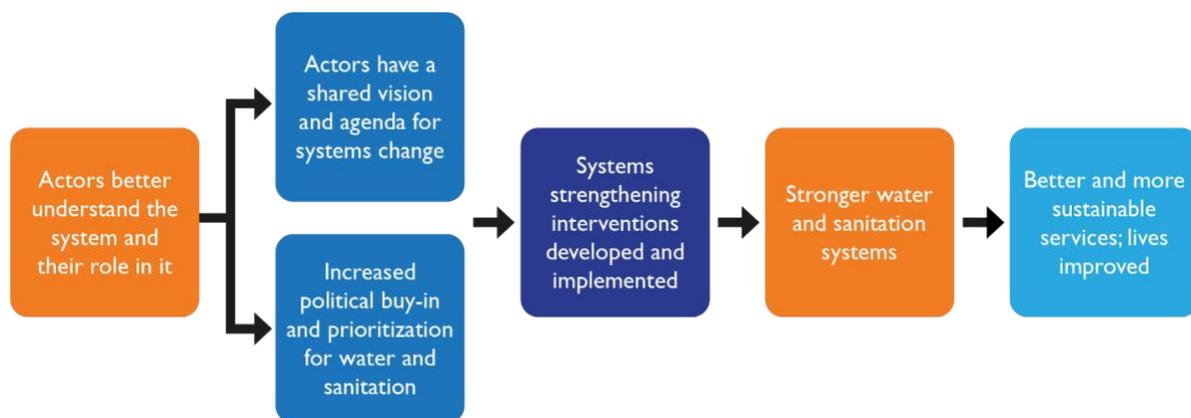


Figure 1. Simplified Theory of Change

Our simplified theory of change visualizes how building systems understanding leads to strengthening systems and, eventually, to more sustainable services. In reality, many factors contribute to whether actors have a shared vision and whether there is political buy-in. Systems understanding is just one part of it.

There are a large number of tools available for understanding systems (Appendix 1); most important is to choose a tool (or tools) appropriate for the stakeholders involved in order to be able to understand and engage in the learning processes.

As an overarching framework for studying WASH systems, IRC uses a generic set of **building blocks** to help unpack the complexity of the many factors involved and make them more manageable. These building blocks can be used as a framework to study and learn about the system. Even a simple narrative assessment of the system against these building blocks helps to get diverse stakeholders to a shared understanding of what the system is and where some of the challenges lie.

For WASH, IRC defines the building blocks as institutions, policy and legislation, planning, finance, regulation and accountability, monitoring, infrastructure, water resources management, and learning and adaptation. However, numerous similar frameworks exist and can be valid in different contexts.

Want to Know More?

To learn more about building blocks of WASH systems:

- Watch [this short animation](#) (2 minutes) introducing the nine building blocks of sustainable WASH systems.⁵
- Take the WASH Systems Academy's course, [WASH Systems Strengthening: The Basics](#), which discusses the origins and rationale for systems strengthening.⁶
- Read the paper [Understanding the WASH System and Its Building Blocks](#).⁷

Case 1: Improved Understanding of Sanitation Systems in Woliso, Ethiopia

Characteristics of sanitation services in the small town of Woliso in Ethiopia's Oromia Region included low service levels, fragmented sanitation sector institutions, a lack of budget for maintenance of sanitation facilities, and poor management of shared latrines. SWS objectives in Woliso were to increase

⁵ IRC WASH. 2019. Taking a Systems Strengthening Approach. Available at: https://www.youtube.com/watch?v=he9LkKXNa7k&ab_channel=IRCWASH

⁶ Verhoeven, J. 2019. WASH Systems Strengthening: The Basics. Available at: <https://www.ircwash.org/news/wash-system-strengthening-basics>

⁷ Huston, A., and Moriarty, P. 2018. Building Strong WASH Systems for the SDGs: Understanding the WASH System and Its Building Blocks. Available at: https://www.ircwash.org/sites/default/files/uploads/084-201813wp_buildingblocksdef_web.pdf

stakeholder understanding of the sanitation system, develop a shared vision and common agenda for systems change, and prompt the political prioritization of sanitation.

The process started in September 2017 by conducting a sanitation baseline with key sanitation stakeholders (see list of stakeholders in Box 2). The survey involved mapping the status of sanitation services (i.e., sanitation service levels received by users) and all actors involved in delivering sanitation services through an organizational network analysis (ONA). The aim was to create a joint understanding of what sanitation service entails and identify possible entry points for systems strengthening to improve sanitation service delivery.

Box 2. Stakeholders Involved in the Woliso Learning Alliance

- Town water supply and sewerage enterprise
- Municipal representatives from different public works departments: Health, Finance and Economic Development, Environmental Protection, Forest and Climate Change, Construction Permit and Control, Infrastructure Development, Culture and Tourism, Job Creation and Food Security, Land Administration, and Government Communication Affairs
- Alegnita solid waste disposal microenterprise and vacuum truck operation unit
- Refera hotel and restaurant (represents users of sanitation services)

Baseline Survey Results

The ONA showed generally poor coordination, information sharing, and problem solving between sanitation actors in the town (Figure 2). The fecal sludge disposal diagram showed that 82 percent of the fecal sludge was not safely managed; there was open defecation, waste was not contained at the start of the sanitation chain, and very little was ever treated or processed for safe disposal (Figure 3). Because Woliso's water table is about 10–15 meters deep, this poses a high risk for contamination of groundwater and some water supplies. Only 18 percent of waste was safely managed.

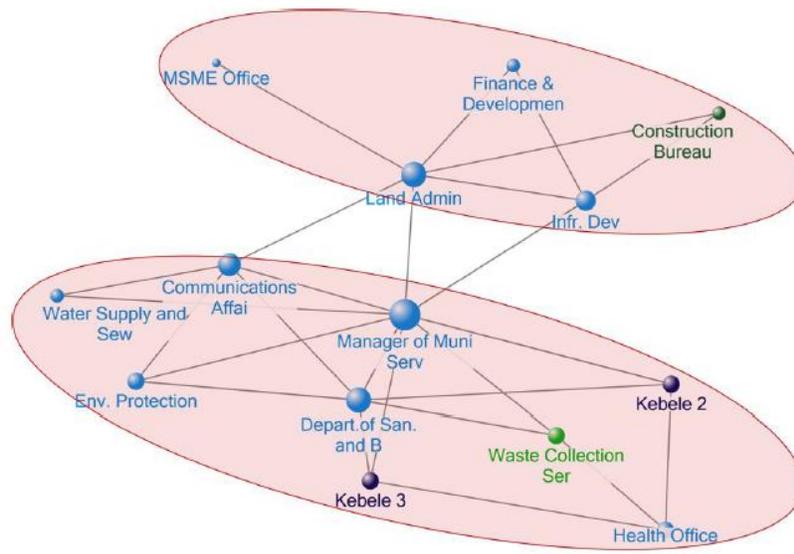


Figure 2. Coordination Network with Clusters Circled, from the ONA in Woliso⁸

⁸ Tetra Tech. 2018. Sanitation in Small Towns – Woliso, Ethiopia: Baseline Assessment Synthesis Report. SWS.

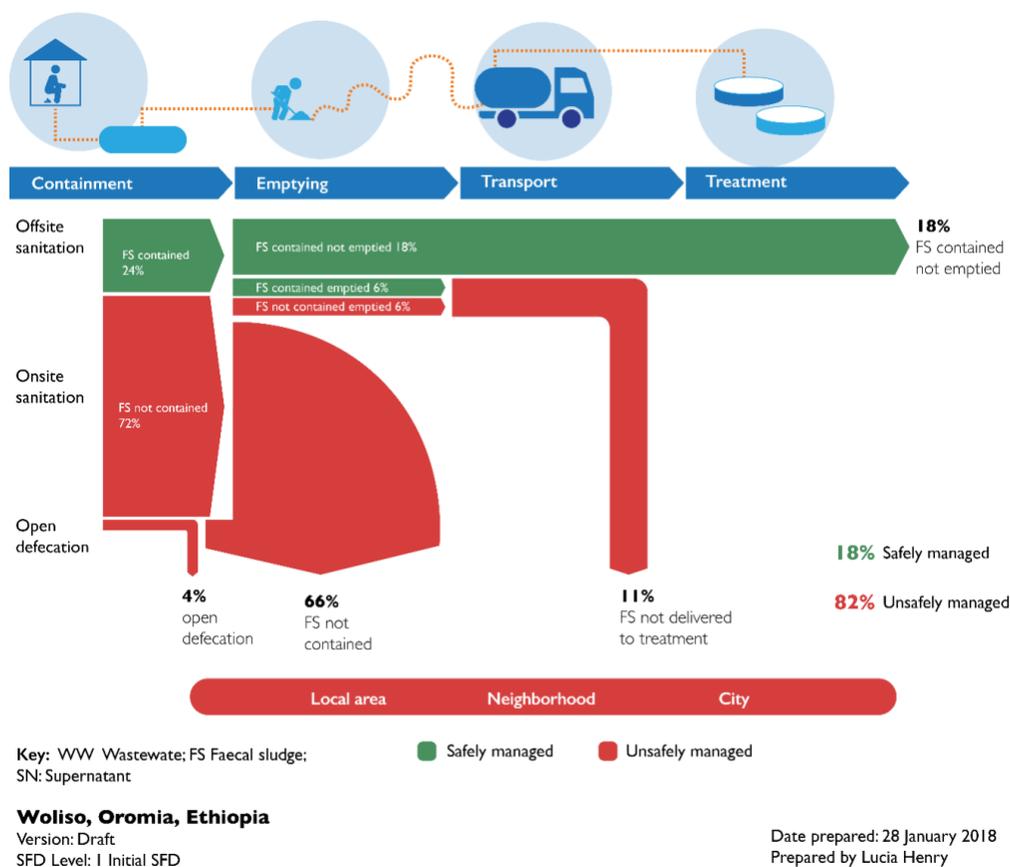


Figure 3. Fecal Sludge Disposal for Woliso, September 2017

Using the Findings

The stakeholders and the SWS project team discussed and validated the findings of the sanitation baseline and ONA with stakeholders in a November 2017 workshop. The workshop was also used as a launch for the learning alliance process. After the presentation of the baseline results, participants discussed sanitation issues: the lack of a fecal sludge disposal site, poor management of shared latrines, weak coordination, solid waste management, lack of enforcing rules and regulations, and low priority for sanitation (budget, human resources, logistics, etc.). They prioritized the first three as key intervention areas and started to discuss possible ways to address them.

In these early discussions, the project team noted that the group had relatively low capacity and understanding of how the town sanitation systems should function. With key stakeholders unable to critically engage in analysis and planning, it limited the size of the group and number of stakeholders that could contribute to identifying pathways and opportunities to improve the situation.

Shared Vision and Agenda

The project team worked with local authorities to organize a follow-up workshop with town sanitation stakeholders in May 2018. The aim was to facilitate a deeper discussion of “How do we solve this?” and “Who should be responsible for doing what?” While it was not yet possible to identify clear solutions, the workshop resulted in a shared vision for improving the sanitation situation and three key actions for a shared agenda:

1. Establish a learning alliance to facilitate local sanitation actors.
2. Identify key action research areas and learning questions: build consensus to address the lack of a fecal sludge disposal site, and improve poor management of shared latrines.
3. Establish a task force for building consensus to address the issues of needing a fecal sludge disposal site and improving communal and public latrine facilities, along with prioritizing integrated sanitation planning, budget allocation, and collective actions.

Action Item 1: The Learning Alliance

With coordination support from the project, learning alliance members began holding quarterly meetings to discuss the town’s sanitation challenges. The meetings were also used to present findings from Action Items 2 and 3. The town cabinets also showed appreciation for the vision of the learning alliance and started participating in learning alliance meetings and allocating resources for procurement of land for fecal sludge disposal site development.

Action Item 2: Action Research

Stakeholders brainstormed several possible ways to address the problem of finding a fecal sludge dumping site and improving shared latrine management. In doing this, they noticed that the inability to agree on a location and the absence of an agreed-upon model for latrine management were blocking any action from being taken. Finding consensus and developing a management model were identified as necessary first steps. Rather than assuming these first steps would automatically lead to solutions, they drafted learning questions to ensure the team would reflect on progress and correct their course if the chosen approach did not prove effective (Table 1).

Table 1. Learning Alliance Priorities in Woliso, Ethiopia

Learning Alliance Priority	Learning Questions
Building consensus on fecal sludge disposal management	Can a learning alliance of stakeholders overcome constraints in the identification and management of fecal sludge disposal sites?
Improving management of communal and public latrines	Supported with information on relevant best practices, can the learning alliance develop an improved management model for public and communal latrines?

Action Item 3: Establishing a Task Force

A task force was founded to drive progress. The task force initiated dialogue with town sanitation sectors and decision makers about the consequences for human health of water resources contamination and environmental pollution due to the lack of a fecal sludge disposal site. Through continued efforts at awareness creation and engaging the community, Woliso town, and woreda administration, the task force team successfully raised the profile of a disposal site and increased buy-in and support for the process.

The task force also contributed to a communal and public latrine management manual and translated it into the local language. They established a communal latrine management committee and trained the committee on how to manage their sanitation facilities. They also trained public representatives in managing solid and liquid waste of households and public institutions.

Results: Higher Political Prioritization of Sanitation

During the first 3 years since the learning alliance was founded, the members made observable progress on their two main goals. They moved from building consensus to finding a location for a fecal sludge disposal site and then to constructing the initial phase of a disposal site facility (i.e., the fence). They improved shared latrines by developing management structures and latrine user groups.

The process to increase systems understanding among leadership led to a higher political prioritization of sanitation. One key success was mobilizing resources to make change possible. Following advocacy efforts by the learning alliances to mobilize funds, almost \$300,000 was allocated to sanitation activities under the World Bank's Urban Local Government Development Project and in the town water supply and sewerage enterprise budget.

A higher political priority for sanitation is also reflected in the clear organizational structure, role, and responsibilities for communal latrine management.

The Facilitator's Reflection: What Promotes Sanitation Systems Understanding?

In this case, supporting and developing systems understanding started with collecting baseline information and using that with sanitation stakeholders, identifying gaps in knowledge and stakeholder networks, and building interest in collective problem solving. The main systems understanding activities were:

1. Establishing and facilitating learning alliances;
2. Facilitating and hosting training events and workshops;
3. Improving coordination and communication through high-level meetings with town decision makers and other actors;
4. Ensuring continuous interactions through regular technical support visits;

5. Organizing exchange visits that exposed members to best practices in towns with more advanced sanitation systems; and
6. Documenting and sharing all lessons learned and continuously reflecting on the process.

Using this approach, the learning alliance developed a better understanding of their respective systems, and through action research, they explored and developed interventions for strengthening their local systems through improved sector coordination and facilitation. More-informed stakeholders were better advocates, and their connection in the learning alliance increased attention to the issues. In parallel, decision makers learned, changed, and acted, resulting in concrete budget shifts.

Want to Know More?

To learn about strengthening sanitation systems in Woliso, Ethiopia:

- Read how social network analysis was used at [baseline](#),⁹ [midline](#),¹⁰ and [endline](#)¹¹ to track changes in the stakeholder networks influenced by the project
- See the findings of the baseline assessment: [Sanitation in Small Towns – Woliso, Ethiopia](#).¹²

Pillar 2: Learning Alliances for Collective Action

As stakeholders come to a shared understanding of a system, tangible steps to creating change can be identified. Learning alliances are multi-stakeholder platforms in which members develop a shared vision, strategy, and commitments for taking action to address shared problems.¹³ As a *collective action* approach, this differs from conventional stakeholder coordination and knowledge-sharing forums (such as working groups and joint sector reviews) because it emphasizes *joint* action, mutual accountability mechanisms, and working together to come up with solutions and to tackle shared risks.

Learning alliances can take many forms, but they always include multiple stakeholders who meet regularly, engage in joint planning and action, and focus on documentation and reflection to generate

⁹ Guttentag, M. 2018. Mapping Stakeholder Connections to Improve WASH Collaboration in Ethiopia. Available at: https://www.globalwaters.org/sites/default/files/ethiopia_baseline_ona_report_8.7.2018.pdf

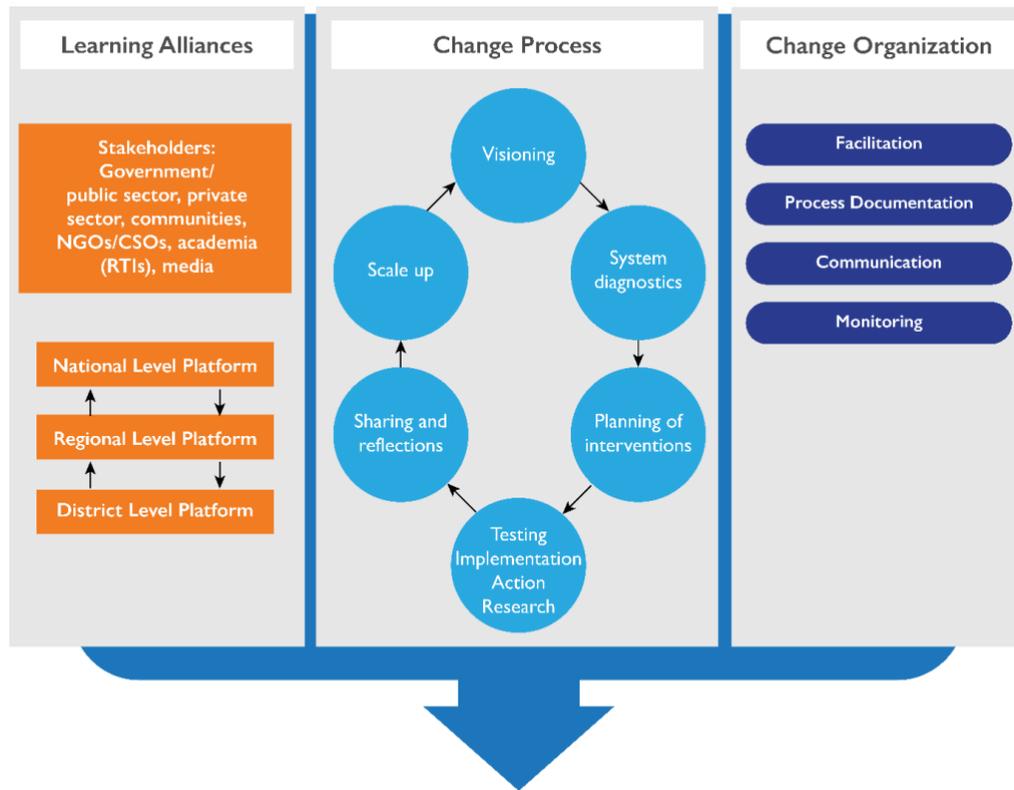
¹⁰ LINC. 2020. Ethiopia Midterm Organizational Network Analysis Report. Available at: https://www.globalwaters.org/sites/default/files/ethiopia_midterm_organizational_network_analysis_report.pdf

¹¹ LINC. 2021. Ethiopia Endline Social Network Analysis. Available at: https://www.globalwaters.org/sites/default/files/ethiopia_endline_social_network_analysis_final.pdf

¹² Henry, L., and Annis, J. 2018. Sanitation in Small Towns – Woliso, Ethiopia: Baseline Assessment Synthesis Report. Available at: <https://www.globalwaters.org/resources/assets/sws/sanitation-small-towns-woliso-ethiopia-baseline-assessment-synthesis-report>

¹³ University of Colorado Boulder and Environmental Incentives. 2020. Defining Collective Action Approaches in WASH. Available at: <https://www.globalwaters.org/resources/assets/sws/defining-collective-action-approaches-wash>

new insights and iteratively solve problems.¹⁴ In addition, a “hub” organization is needed to play the role of facilitator, motivator, connector, and monitor. As shown in cases 2 and 4, this role is especially important during the early phase of a learning alliance when members are still building their capacity, trust, and commitment to the collective action process. Figure 4 shows how learning alliances operate as change-oriented platforms for engaging and empowering stakeholders to improve collective results.



Outcomes: Capacity building, sector strengthening, decision support, improved collaboration, joint planning and decision making, improved transparency and accountability.

Figure 4. The Change Process within the Learning Alliance Model

¹⁴ Darteh, B.A.T. 2017. The Scope of Learning Alliances as a Mechanism for More Innovative Urban Water Management. Available at: <https://gala.gre.ac.uk/id/eprint/23501/1/Bertha%20Akosua%20T.%20Darteh%202017%20-%20redacted.pdf>

Want to Know More?

To learn about learning alliances for collective action:

- Watch 2-minute animations on [what collective action entails](#)¹⁵ and [how learning alliances can drive collective action](#)¹⁶ in water and sanitation systems.
- Read the paper [How to Use Learning Alliances to Achieve Systems Change at Scale](#).¹⁷
- Check out this [annotated bibliography](#) of journal articles, policy briefs, and books about learning alliances.¹⁸
- Read about [Whole System Change: Capturing the Change Process in the Ghana Rural Water Sub-Sector](#).¹⁹

¹⁵ Available at: <https://www.youtube.com/watch?v=mhwyOdtntTo>

¹⁶ Available at: <https://www.youtube.com/watch?v=WCOOMcGbEVg&t=8s>

¹⁷ Darteh, B., Moriarty, P.B., and Huston, A. 2019. How to Use Learning Alliances to Achieve Systems Change at Scale. Available at: <https://www.ircwash.org/resources/how-use-learning-alliances-achieve-systems-change-scale>

¹⁸ IRC. Annotated Bibliography on IRC Learning Alliances. Available at: https://www.ircwash.org/sites/default/files/annotated_bibliography_on_learning_alliances.pdf

¹⁹ Lockwood, H., and Duti, V. 2015. Whole System Change: Capturing the Change Process in the Ghana Rural Water Sub-Sector. Available at: <https://www.ircwash.org/resources/whole-system-change-capturing-change-process-ghana-rural-water-sub-sector>

Case 2: Setting Up New Learning Alliances in Mille and South Ari Woredas: Compromises, Mistakes, and Successes



Mille Learning Alliance, Adnan Hussen presents group discussion points in a plenary session, April 2019. Photo credit: IRC Ethiopia

Background

Two projects joined forces in late 2016 to find new solutions to the challenge of sustaining water supplies in rural Ethiopia. The USAID Lowland WASH Activity (Lowland WASH) included a mix of infrastructure building, rehabilitation, and governance-strengthening activities to improve WASH access in 34 lowland woredas in Afar, Somali, and the Southern Nations, Nationalities, and People's Region (SNNPR). The SWS project team, with its focus on research and learning, worked alongside stakeholders to jointly develop and test possible solutions to address the frequent failures in managing services from rural water supply schemes.

Two woredas were identified for initial collaboration based on scoping visits and studies: Mille in Afar and South Ari in SNNPR. The critical factor, apart from being focus woredas of Lowland WASH, was the interest of the woreda governments in improving rural water management arrangements and building new schemes. With limited staff resources and budgets, sometimes the sole focus of woreda governments in rural water supply is to build new schemes.

In both woredas, community management is the main model for service delivery, with support from government at woreda, zonal (in SNNPR), and regional levels. Beyond that, the schemes are vastly different. In South Ari, springs and boreholes with hand pumps can tap shallow groundwater. In Afar, deep boreholes and motorized pumps are required to access deeper aquifers. Patterns of usage are different due to stronger seasonality and the movement of nomadic populations. The schemes in Afar have more complex maintenance requirements, which is normally only available from the regional level and is extremely limited.

Why a Learning Alliance?

The rationale for convening a district-level learning alliance was that identifying better solutions to rural water maintenance could reveal and then might scale and/or sustain solutions linked to the existing challenges, failures, initiatives, and interests of local stakeholders. Partners recognized that space for local innovation had limits and needed to be linked to engagement at regional and national levels, where sector policies are framed.

These were new partnerships, with neither project having established or past activities in these woredas: CARE (a Lowland WASH partner) had worked in Mille, and the IRC (also a Lowland WASH partner) had a local presence and activities in South Ari.

Starting Up

During 2017, based on discussions with woreda governments, as well as parallel discussions with national and regional officials, memoranda of understanding were developed between IRC and the Mille and South Ari woreda governments and their respective regional offices. These agreements set out plans for collaboration, including the creation of learning alliances that were intended to drive the search for locally rooted solutions. The intention was not to create platforms that necessarily sustained themselves, but to create sufficient local interest and engagement in change (around the sustainability of rural water supplies) and to develop and test some possible solutions and learn from those efforts. The learning alliances were set up to try and find solutions through an action research approach.

Extensive baseline activities used many different methods and tools.^{20,21} One of the baseline activities with the most local demand — from woreda governments and partners involved in Lowland WASH — was an asset inventory of all water supply schemes in each woreda. Data were collected by woreda staff and provided a much-improved basis for discussing challenges in rural water supply, as well as ways to make improvements.

Other baseline activities included a life-cycle cost analysis, a sustainability check, and an ONA. The mix of local and external engagement in these exercises varied. The asset inventory had external support and used new externally supported tools like mobile data collection, but all visits to schemes and all data collection were performed by local officials and stakeholders. The life-cycle cost analysis was an expert study that led to rapid political engagement and discussions with woreda and zonal cabinets (in South Ari and South Omo). The sustainability checks made use of earlier tools that been developed, tested, and adapted by IRC with the United Nations Children’s Fund (UNICEF) in Ethiopia and was undertaken by IRC staff. The ONA was undertaken by a dedicated partner, LINC, who recruited a team of

²⁰ Adank, M., Hailegiorgis, B., and Butterworth, J. 2019. A Local Systems Analysis for Rural Water Services Delivery in South Ari and Mille, Ethiopia. Available at: <https://www.globalwaters.org/sites/default/files/A%20Local%20Systems%20Analysis%20for%20Rural%20Water%20Services%20Delivery%20in%20South%20Ari%20and%20Mille%20Ethiopia.pdf>

²¹ Veenkant, M., Abera, M., and Butterworth, J. 2018. School WASH in Addis Ababa: Landscaping Study Report. Available at: https://www.ircwash.org/sites/default/files/school_wash_in_addis_ababa_-_landscaping_study_report.pdf

(national) consultants that traveled to the districts to collect data. Analysis used specialized software relying on international experts, with results fed back to learning alliances by the facilitator.²²

Results and recommendations of these baseline analyses were shared during the first learning alliance meeting in South Ari woreda in November and Mille woreda in December 2017. The ONA showed limited connection between WASH stakeholders working in the woredas and recommended supporting coordination, which buttressed the concept of a learning alliance.²³

Formalizing the Learning Alliances

In the first meeting with a small group of interested actors, the participants developed a list of additional stakeholders to invite as formal learning alliance members, including the offices of the woreda administration, water, education, health, agriculture, finance, and women and children; the town water utility; non-governmental organizations (NGOs) working on WASH; academic institutions; zone stakeholders in South Ari; and regional²⁴ stakeholders in Mille. Participation of regional and zonal actors was intended to create space for innovation and to support learning from woreda activities.

The learning alliances nominated steering committee members who would set meeting agendas and dates and follow up on implementation of agreed-upon actions from meetings. They developed a Terms of Reference, decided to meet every quarter, and indicated the roles and responsibilities of the steering committee and each member organization. SWS (represented by the IRC facilitators; initially one facilitator working from Addis Ababa and later two local facilitators based in the region from 2019) was nominated to serve as a secretary, facilitate the overall process, and provide backstopping support to the alliance members.

Running Meetings, and Actions in Between

During the first meeting, learning alliance members reviewed baseline data and shared presentations from their different perspectives on problems, then discussed and agreed on root causes and priorities. Subsequent meetings were dedicated to planning for and finding solutions to these issues. The steering committee members were mandated to set agendas and decide the date of meetings. The chair of the learning alliance (the Woreda Water Office) wrote an invitation letter attached to the meeting agenda for the member organizations. Attendance was voluntarily, and all were encouraged to raise issues they believed important to improve water supply service delivery in the woredas. If zone or woreda administrators attended the meetings, they were invited to give opening and closing remarks.

Every learning alliance meeting started with a recap of the previous action points and discussion on implementation status. Presentations were mostly given by water offices, with SWS facilitators supporting the discussion.

²² Mussa, M.E., Michael, T.N., Hailegiorgis, B.G., Morris, M.J., Butterworth, J.A., and Henry, L. 2019. Facilitating Local Strengthening of WASH Systems: Whose Understanding Counts? Available at: <https://www.ircwash.org/sites/default/files/084-201906morris-mjlearningalliancesasg02.pdf>

²³ Guttentag, M. 2018. Mapping Stakeholder Connections to Improve WASH Collaboration in Ethiopia. Available at https://www.globalwaters.org/sites/default/files/ethiopia_baseline_ona_report_8.7.2018.pdf

²⁴ "Region" in the Ethiopian context is an administrative designation between zonal and national government. Regional government administers the number of zones in the case of SNNPR, and the number of woredas in the case of Afar.

Agreed-upon actions and responsibilities were shared among members at the end of each meeting. These included organizing capacity-building trainings for woreda technicians, water user associations, and caretakers; procuring maintenance hand tools for trained caretakers; woreda water office and SWS local facilitator joint scheme management support at the water point; facilitation of the establishment of maintenance and spare parts supply enterprise and of refresher training; and organizing learning visits both abroad and in-country.



A joint South Ari, Baka Dawla, and Woba Ari learning alliance meeting took place in Jinka, September 2020. Photo credit: IRC Ethiopia

The Facilitator's Reflection

Encouraging participation: Dialogue among stakeholders is critical for finding solutions and directions to the challenges of the WASH sector. A learning alliance can create the conditions for this. It takes effort to encourage active participation of some members. This is even more difficult if there are too many people in a meeting or too many discussion points for one meeting.

The local government's role in setting of meeting agendas, sending invitation letters, preparing presentations, and co-facilitating the learning alliance with the SWS facilitator of the learning alliance steering committee is an indication of the **local ownership of the platform**. Unfortunately, high turnover of local staff and representatives from the different organizations limits institutionalizing the platform and needs constant reinvention with some external support.

Having participants from different parts of the system: The presence of community representatives (e.g., water user associations, WASH committees, federations) in the meetings provides an opportunity to discuss the actual service delivery challenges on the ground. Participation of woreda-level officials, especially woreda administrators, in the learning alliance meeting is important to implement the agreed-upon action points and increase ownership.

Context matters: While steps to establish learning alliances and the process used to facilitate the learning alliance meetings in Mille and South Ari woredas were the same, outcomes achieved have been different. In Mille, woreda officials' participation in the learning alliance meetings is low, and member organizations have shown low commitment to implement action points between meetings. On the other

hand, South Ari Learning Alliance members are committed to implementing action plans. This can partly be explained by context. In Mille, the weather conditions are hot and hostile (sometimes up to 42°C, 107°F); this results in different working hours than the other lowland areas (adapted to avoid peak heat) and affects the lifestyle and flexibility of people for joining meetings. Mille also depends on high levels of drinking water scheme technology (mostly deep well with motorized/solar system), which also impacted the appropriateness and uptake of monitoring and maintenance action research activities in Mille Woreda.

Want to Know More?

To learn about the learning alliances and their activities in Mille and South Ari:

- See results of a [local systems analysis for rural water services delivery in South Ari and Mille, Ethiopia](#) using baseline assessments.²⁵
- Read about [facilitating local strengthening of WASH systems](#).²⁶

Case 3: The Kabarole District WASH Task Team: An Established Learning Alliance in Uganda

IRC has been working in Kabarole since 2010, initially implementing the Sustainable Services at Scale Project on the challenge of rural water supply sustainability in Kabarole. In 2016, IRC made a long-term commitment to support the district in achieving SDG 6, refocusing its role as an NGO to acting as a hub for the learning alliance and supporting the district to develop its systems to deliver universal, sustainable, and safe WASH services. Under SWS, the learning alliance (called the District WASH Task Team) has matured. This case discusses the activities of a mature multi-stakeholder partnership in the district, as well as the challenges of linking projects with different goals and sources of funding to support local stakeholders in making continued progress.

Context

Kabarole District faces steep challenges to provide sustainable drinking water services. Many households are more than 1 kilometer from a safe water point. Twenty eight percent of water points in the district are non-functional at any given moment, and only 20 percent have a management system in place to prevent breakdowns, collect fees, and perform timely repairs.

²⁵ Adanke, M., Hailegiorgis, B., and Butterworth, J. 2019. A Local Systems Analysis for Rural Water Services Delivery in South Ari and Mile, Ethiopia. Available at: <https://www.globalwaters.org/sites/default/files/A%20Local%20Systems%20Analysis%20for%20Rural%20Water%20Services%20Delivery%20in%20South%20Ari%20and%20Mile%2C%20Ethiopia.pdf>

²⁶ Mussa, M.E., Michael, T.N., Hailegiorgis, B.G., Morris, M.J., Butterworth, J.A., and Henry, L. 2019. Facilitating Local Strengthening of WASH Systems: Whose Understanding Counts? Available at: <https://www.ircwash.org/sites/default/files/084-201906morris-mjlearningalliancesag02.pdf>

A New Call to Action for an Old Problem

The Kabarole District local government and IRC Uganda organized a reflection and planning meeting in March 2017 to agree on water and sanitation goals and targets that were attainable for local governments and their partners, including ideas for both immediate improvement and longer-term goals to reach the SDG 6 target of universal access to sustainable services by 2030.

At the time, Kabarole's water coverage reached 76 percent of the population. District Chairperson Richard Rwabuhinga observed in his introductory remarks, "If water is life, then how do we expect the 24 percent of the people with no access to safe water to survive for the next 14 years (until 2030)?"

When sitting down to identify short-term goals, it became clear that a longer-term and much larger transition would be needed. The 2030 goals could not be achieved simply by revamping current efforts; a complete overhaul was needed. Several stakeholders — including politicians, religious institutions, the private sector, civil society organizations, and technical staff in Kabarole — were already members of an informal learning alliance for improving water and sanitation through district networks, ongoing projects, and participation in regional learning platforms. However, the magnitude of change called for in Kabarole necessitated a more-intensive approach: a formalized group that could tackle these issues head on and identify opportunities and pathways for a larger change.

Martin Watsisi, IRC's regional WASH adviser, has been working in Kabarole for a long time. He knows the stakeholders and those who might form a small but effective think-tank. Because IRC is a known name in the area, and because of the importance of improving WASH, the people he invited were eager to join the group. Timing worked in Martin's favor, too: SWS was able to provide the support needed to catalyze the process.

A task team of 16 members was selected from NGOs, Kabarole District local government, technical and political teams, religious institutions, the Ministry of Water and Environment Technical Support Unit,²⁷ the private sector, and the media. The district engineer from the Water Office coordinated the first meetings until the task team elected Aron Byakutaga, the Secretary for Works and Technical Services, as the chairperson. The choice of a politician as the leader was deliberate. As an NGO, IRC Uganda can provide support for only a limited time, whereas government programs with political buy-in and leadership will remain responsible for water and sanitation in Kabarole. This type of continuity is critical.

The Kabarole District authorities and IRC Uganda conducted a local systems analysis of water services delivery in 2018. It included a context analysis to understand the environment in which water services are delivered, managed, and supported at district and community levels. The assessment looked at political, socio-economic, financial, institutional, and environmental issues. It also included a technical assessment of the status of rural water supply infrastructure in communities, health centers, and schools, supported by surveys and interviews with households, community water management committees, and leaders within the departments for education, health, and public works. The process,

²⁷ A Technical Support Unit is a deconcentrated body of the Ministry of Water and Environment that supports diverse stakeholders across multiple districts to implement policy and improve sector performance more effectively. They also represent decentralized actors and bring lessons learned into central government decision-making platforms.

though slow, was participatory at each stage, involving many stakeholders in the development of survey tools, the analysis of results, and the development of recommendations (Figure 5).

The group also performed a network analysis and a qualitative analysis of the different systems factors contributing to the observed water service problems. The group coalesced around four priorities: building local government capacity, involving communities, increasing political involvement and engagement, and strengthening management systems for rural water points.



Figure 5. Steps Involved in Developing the Master Plan

To help bridge the gap identified between district-level planners and community realities, the task team was expanded to 25 members to include sub-county-level local leadership, as well as religious and traditional leaders and community health workers. Initially, the task team needed to better understand the relationship between the different problems; for example, political electioneering was influencing community members' willingness to pay for operation and maintenance (O&M) because they would wait for election years to get their supply improved.

Some Outcomes and Achievements So Far

One key result from the task team has been the development of the Kabarole District WASH Master Plan, a detailed vision, strategy, and agenda to achieve the 2030 targets. The plan is aligned with Uganda's National Development Plan II and sets out how national and international targets are to be achieved in the district through coordinated investments and stakeholder activities.²⁸

A learning exchange and capacity-building activity carried out by the learning alliance led to an unexpected sanitation systems development. A technical operations and management unit, called the Kabarole Hand Pump Mechanics Association (KAHASA), was inspired to seek training from the learning alliance, with financial support from SWS, to extend their business model to include maintaining sanitation facilities. KAHASA is now active in safely collecting, transporting, and disposing of fecal sludge, leading to better sanitation services in the urban areas of the district. In addition, the task team has drafted a sanitation ordinance that will provide a legal framework for improving sanitation at the district level.

²⁸ Kabarole District Council. 2019. Kabarole District WASH Master Plan 2018-2030. Available at: <https://www.ircwash.org/resources/kabarole-district-wash-master-plan-2018-2030>

The task team has strengthened the District Water Office’s capacity with information, staffing, and opportunities to learn about new approaches to water and sanitation service provision. The District Water Office now has accurate data and sufficient staffing.

Sustainability and Scale

While IRC still plays a key role in facilitation, government staff regularly convene the learning alliance platform. It is seen as having a key role in planning for and implementation of district WASH activities. The task team has a permanent location for meetings in the District Chairman’s Board Room, and “recommendations from the task team” is a permanent agenda item in key district meetings like the Quarterly Water and Sanitation Coordination Committee Meetings and the Annual Budget Conference.

District learning mechanisms are linked to regional and national platforms through the Ministry of Water and Environment’s Technical Support Unit, a deconcentrated arm of the central government. The unit is a member of the district level learning alliance. It is also connected to the Rwenzori Regional Learning Platform, which is an institutionalized regional platform for learning and coordination of WASH stakeholders.²⁹

Notable examples of scaling out are the establishment of WASH task teams in the neighboring districts of Kamwenge and Bunyangabu. Kamwenge District established its own multi-stakeholder learning platform — the District Investment Planning Committee — in 2018 and is currently working on its own district water and sanitation master plan. Bunyangabu District was formed by splitting off from Kabarole, and the new administration and leadership asked for support from IRC to establish a learning platform of its own, which held its first meeting in 2019.

The Facilitator’s Reflection

The Kabarole District WASH Task Team’s mission is to operate at a strategic level in providing guidance on how to achieve universal WASH coverage. While individual members of the task team have influencing roles in their formal position, the task team itself is a learning and strategy group, rather than a body of decision-making power. This may in fact be the key to their influence, because it allows members to step outside the constraints of their formal mandates to collectively envision a different way of doing things. For complex systems problems, the space to do this, and the cultivation of this thought leadership within local institutions, can be transformative.

Through intensification of its meeting regime and mission-driven agenda of activities, the District WASH Task Team managed to raise the profile of WASH in Kabarole such that it is now rare to find a district political meeting that does not have at least one item about WASH on the agenda.

The learning alliance in Kabarole matured in Phase 3, and the capacity building achieved by members resulted in even greater ambition and more confidence to act and innovate. This type of empowerment is needed not only to achieve big visions, such as those in the SDG agenda, but also to plan and execute

²⁹ Mirembe, 2019. Applying Lessons to Improve WASH Service Delivery. Available at: <https://www.ircwash.org/news/applying-lessons-improve-wash-service-delivery>

bold actions, such as launching the first-ever WASH master plan in Uganda and inviting government officials from different ministries to participate.

For learning alliances to have systemic impact at scale, it is essential to have a hub or committed members with the ability to create links between local, regional, national, and global levels, with different projects and continuous mobilization of funding needed for maintaining the platform. This can be catalyzed by effective monitoring, documentation, and communication and includes the facilitation of cross-country learning and representation in global networks and platforms: continuous building and strengthening of the systems leadership capacities in the membership through supporting multi-level social learning.

As members test innovations, they are regularly gaining new knowledge or changing attitudes about water and sanitation service delivery. Conflicting ideas or solutions not being taken up or bought into by members or government is common and can be frustrating. Guiding members through these discussions and learning cycles with careful facilitation is critical to success.

Want to Know More?

To learn about the District WASH Task Team in Kabarole, Uganda:

- Listen to experiences on the practice of [collective action in WASH](#) by SWS.³⁰
- View a [webinar on Collective Action in WASH](#) that presents results, insights, approaches taken, a robust Q&A, and discussion on the findings from SWS.³¹
- Read the [Kabarole District WASH Master Plan 2018–2030](#) developed by the Kabarole District Council, which outlines the district’s long-term goals.³²
- Read the academic journal article, [Scenarios for Public Systems Transition Using Learning Alliances: The Case of Water Supply in Uganda](#).³³

Pillar 3: Action Research

A learning alliance of stakeholders with a good understanding of the local system unlocks enormous capacity for innovation while priming stakeholder networks to rapidly scale solutions that work.

³⁰ Mussa, M.E., Nyaga, C., Peabody, S., Pugel, K., and Watsisi, M. 2021. Collective Action in WASH: Findings from SWS. Available at: <https://www.ircwash.org/resources/collective-action-wash-findings-sws>

³¹ USAID. 2021. Collective Action in WASH: Findings from SWS. Available at: <https://youtu.be/WQcjheQ6NDE>

³² Kabarole District Council. 2019. Kabarole District WASH Master Plan 2018-2030. Available at: <https://www.ircwash.org/resources/kabarole-district-wash-master-plan-2018-2030>

³³ Huston, A., Gaskin, S., Nabunnya, J., Moriarty, P., and Watsisi, M. 2021. Scenarios for Public Systems Transition Using Learning Alliances: The Case of Water Supply in Uganda. Available at: <https://www.tandfonline.com/doi/full/10.1080/07900627.2021.1969223>

Action research is a way to probe different possible solutions through short cycles of testing and piloting that allow for quick adjustment and improvement along the way.³⁴ The value of action research is that it helps practitioners find their own solutions to problems; it is not directed by a single expert or researcher. The flexibility of action research means that it is possible to pause and adapt an experiment as soon as the group can identify ways to improve its effectiveness.

Action research can be applied in many ways.³⁵ It can be highly academic and may include the systematic use of tools such as modeling or scenario analysis. It may also be applied more flexibly with ad hoc or continuous cycles of adaptation. Either way can be valid if it is well-documented, based on evidence, and involves short enough cycles of adaptation to ensure that learning (research) is balanced with targeted efforts to create change (action).

For this reason, learning alliances are a suitable platform for action research: they allow for a collaboration that combines the skills of experienced researchers and the expertise of local stakeholders in a coordinated manner.

At the heart of any action research initiative is a continuous four-step cycle (Figure 6):

1. **Plan.** Based on an analysis of the situation, stakeholders come up with a plan to make a change. It can be based on solving a problem or based on testing a solution or an idea that emerges in a vision-led process. This is often referred to as an “experiment.”
2. **Act.** Implement the planned experiment, carefully following the proposed approach and documenting any deviation from the plan. The quality of implementation is important, because for it to be a fair test of an idea, the test must be done well. Poorly implemented plans can lead to negative results that have little to do with the validity of the underlying idea but can nevertheless cause stakeholders to believe that the chosen course of action has been a failure.
3. **Observe.** Stakeholders observe the impact of their activities based on monitoring and analysis. The support of experienced researchers and the quality of the research methods is critical here: another role for the hub. An objective framework for evaluating the experiment is important; this should aim to use methods that the involved stakeholders can understand or appreciate. The learning alliance discusses whether the results are as expected, and if not, why not?
4. **Reflect.** Stakeholders reassess their objectives, consider observations, and re-formulate plans for the next phase.

³⁴ Macdonald, C. 2012. Understanding Participatory Action Research: A Qualitative Research Methodology Option. Available at: <https://journals.nipissingu.ca/index.php/cjar/article/view/37/33>

³⁵ McTaggart, R. 1991. Principles for Participatory Action Research. Available at: <https://doi.org/10.1177%2F0001848191041003003>

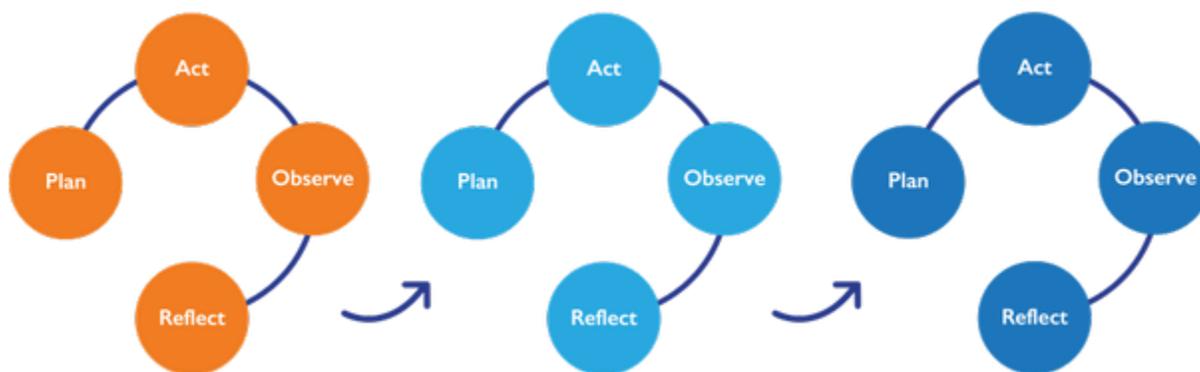


Figure 6. The Action Research Cycle with Its Four Steps: Plan, Act, Observe, and Reflect

Action research with a learning alliance does not always imply that learning alliances are coming up with solutions from scratch. The cycle shown in Figure 6 can also be used to pilot and implement proven solutions from other contexts, to determine whether external solutions will work in the new context, or to discover how they might need to be modified to be successful or rolled out at scale. For example, a learning alliance in Kabarole, Uganda, wanted to test a payment model for water services that was being used in a neighboring district but was not sure if it would be able to gain traction among communities and politicians in Kabarole. This question sparked the action research experiment presented in Case 5.

Want to Know More?

To learn about action research:

- Read how action research concepts and practice were used in *SWITCH in the City: Putting Urban Water Management to the Test*.³⁶
- Read the book *Priceless!* on how action research was used to understand the costs of delivering WASH services and influence key stakeholders.³⁷

³⁶ Butterworth, J., McIntyre, P., and Da Silva-Wells, C. 2011. SWITCH in the City: Putting Urban Water Management to the Test. Available at: <https://www.ircwash.org/resources/switch-city-putting-urban-water-management-test>

³⁷ McIntyre, P., Casella, D., Fonseca, C., and Burr, P. 2015. Priceless! Uncovering the Real Costs of Water and Sanitation. Available at: <https://www.ircwash.org/resources/priceless-uncovering-real-costs-water-and-sanitation>

Case 4: The Importance of Local Facilitators in Strengthening Monitoring: The Case of Asset Management in Ethiopia

Background

Having access to accurate and up-to-date data on the location and status of rural water points is crucial to providing a reliable service. Different types of information are needed by actors in different parts of the system, ranging from local mechanics to national policymakers.

Box 3. Administrative Structures and Responsibilities in Ethiopia

- **National level:** Policy setting, finance allocation as block grant to regions
- **Regional level:** Policy implementation, finance to woredas (districts) in block grant, maintenance support, monitoring through regular reporting
- **Woreda level (district):** Service authority, support maintenance, data collection and reporting
- **Kebele level (village):** Community mobilization for developmental activity scheme administration, preventive maintenance

A need for data is continually reiterated by woreda administrators, regional directors, and national officials. Unfortunately, the process of collecting and managing data is challenging from a technical standpoint. Computer literacy among many stakeholders is low, with data often being compiled in Microsoft Word documents, which limits possibilities for analysis. If data are stored in Excel, sharing the data and keeping them updated is a challenge when the file is located on just one computer and may not always be readily accessible. In these situations, data are often lost or incomplete.

Working with a district learning alliance and regional stakeholders, SWS sought to address these challenges by asking:

- *How can monitoring be strengthened in different contexts and scales (district and regional scales)?*
- *Is monitoring an effective entry point to advocate for, and support investment in, the provision of maintenance services (monitoring building block)?*

This case focuses on Mille Woreda in Ethiopia's Afar Region, where SWS and Lowland WASH wanted to understand whether and how regional-level strengthening of government-led monitoring systems would improve data management, updating, and use — and whether that ultimately led to increased investment in and provision of maintenance.

The Action Research Experiment

mWater, a distributed data collection platform, was introduced for testing as a possible solution (Figure 7). mWater allows data to be collected and accessed by multiple people via smartphone without the need for constant Internet. When Internet is available, data are consolidated in a cloud-based database. The data can then be accessed by any user via smartphone or personal computer and utilized for day-to-day and longer-term planning.

Plan: Initial Findings and Introduction of Data Collection

The team initially focused monitoring efforts in Mille Woreda. At the start of the project, the woreda lacked data on the status of their water assets, hindering preventive maintenance, planning, and general management of existing assets. The focus was on new construction, and resources for maintenance were extremely low.

The SWS project team collected initial data in a different tool, AkvoFlow, but later moved the data to mWater, which allowed for better visualization and analysis and was free to use (Figure 8). SWS hypothesized that enabling the Woreda Water Office with access to better data on service delivery would provide insights into critical gaps and enable management and technical staff to more effectively plan and manage the equitable extension of services and respond to breakdown requests. Additionally, the project hypothesized that increased availability of data could be used as evidence to advocate for greater financing for water supply in the woredas. Overall, their data would be more organized, useful, and available to share and utilize.

Act: Initial Data Collection at the Woreda Level

SWS facilitators gave a small presentation to learning alliance members to introduce the tool and propose it for testing through action research with the learning alliance. Stakeholders, especially water sector technical staff at all levels, were interested in applying the mWater data management system to improve their manual data collection and management and to use the analysis for evidence-based planning.

A baseline assessment was conducted to map all water supply assets, obtain detailed data about them, and understand their functionality. Between April and June 2017, the SWS facilitators worked with learning alliance members to carry out an asset inventory covering all improved water facilities in Mille (29 water schemes with a total of 31 sources).

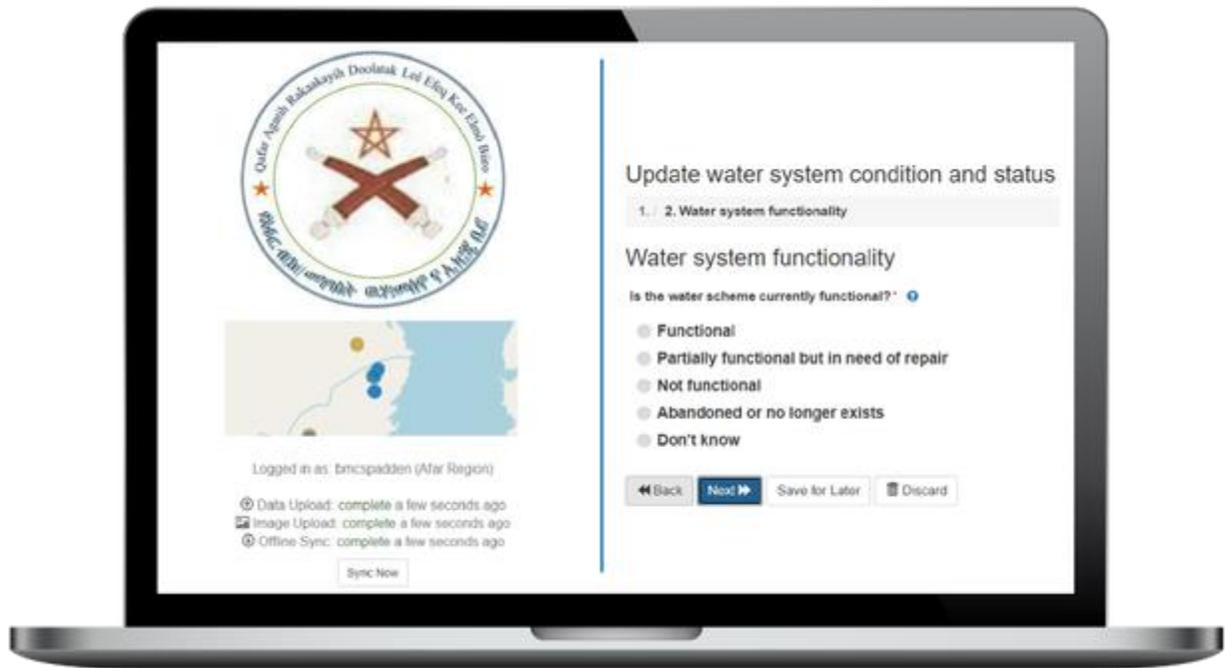
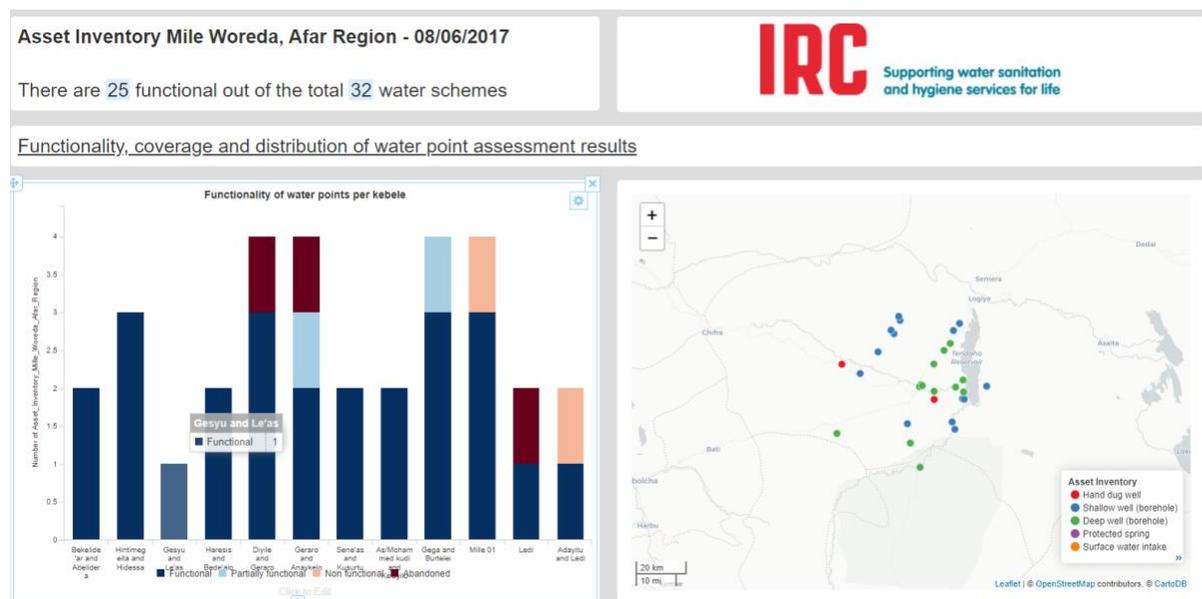


Figure 7. mWater Landing Page of App and Sample Question

To enable storage and access to the asset inventory dataset, the team developed an online dashboard (monitoring portal) available to Woreda Water Office staff for accessing baseline data and analysis and results. They provided multiple orientations and trainings on its use. The team developed and shared surveys for updating scheme status, along with guideline manuals. The team also developed and introduced a process for monitoring and documenting actions, discussions, and challenges to ensure adequate documentation to inform reflection and adaptation.



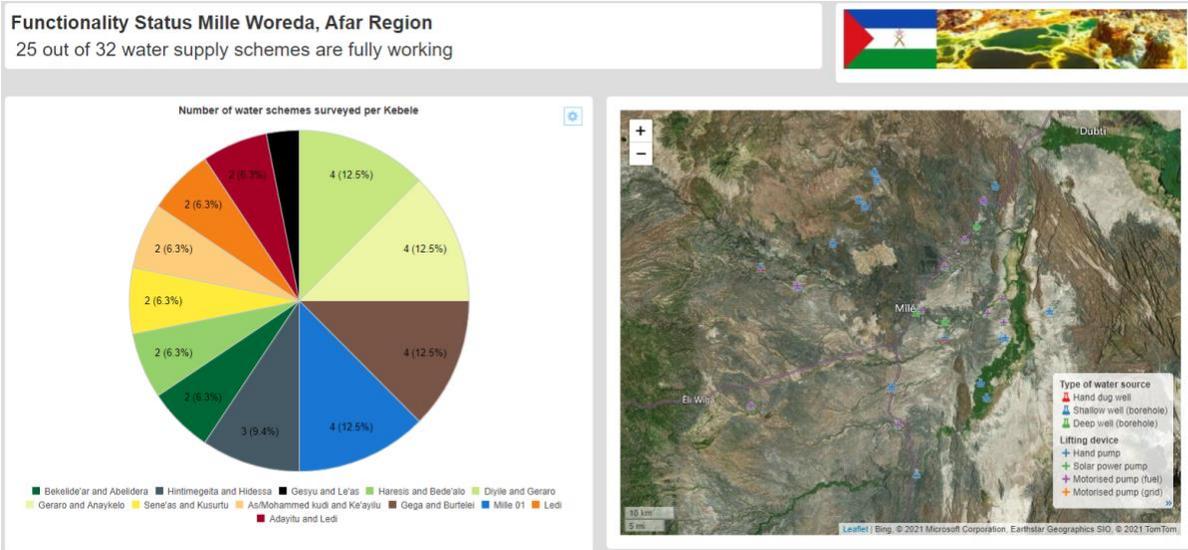


Figure 8. Screenshot from the Mille Scheme Asset Inventory and Functionality Dashboards

To make sure the dashboard was kept up to date, the experiment used an additional component of cellular- and satellite-connected sensors installed at water supply installations. The sensors measure the electrical power provided to the pump and provide data on the number of hours of operation every day. Given knowledge of the yield of the well, the total volume of water produced can be estimated. Adding in information on water scheme users makes it possible to also estimate service levels, such as the maximum average consumption of water per day. The sensors provide operational insights that can inform improved management practices; for example, they can inform the extent to which infrastructure is run in accordance with design and capacity restrictions.³⁸

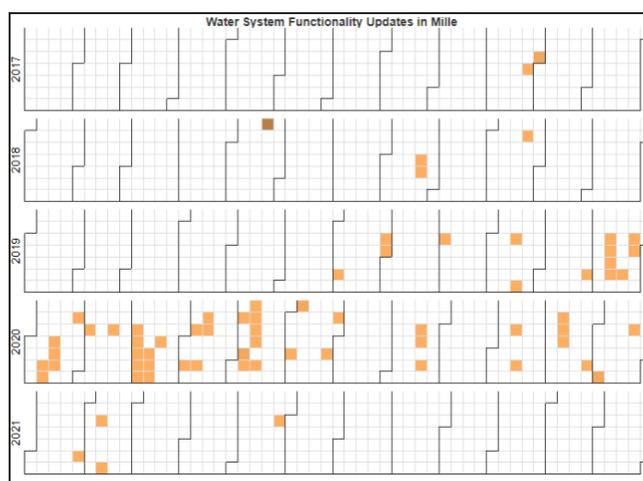
Observe and Reflect: Observations at the Woreda Level and Move to the Regional Level

Initial data collection was successful in documenting all assets in Mille. Results were communicated to the woreda and to other woreda offices and stakeholders, including the region, during learning alliance meetings. Following initial data collection, the woreda was expected to begin to operationalize the tools by (1) using the data insights to inform immediate actions, (2) using the data for planning and requesting additional finance, (3) updating the data to have up-to-date functionality data and add new water schemes, and (4) explore using the data to collaborate with development partners in the area.

Water quality was found to be poor, and chlorination was undertaken to improve it. Afar Region also asked to have the data shared with them. Coverage was unexpectedly low, and as a result there was a dispute between the woreda and the region on the data. Ultimately the data were able to demonstrate the true numbers.

³⁸ Thomas, E., Wilson, D., Kathuni, S., Libey, A., Chintalapati, P., and Coyle, J. 2021. A Contribution to Drought Resilience in East Africa through Groundwater Pump Monitoring Informed by In-Situ Instrumentation, Remote Sensing and Ensemble Machine Learning. Available at: <https://doi.org/10.1016/j.scitotenv.2021.146486>

Unfortunately, updating the data over time was not as successful because limited resources, particularly transport to visit the facilities and check their status, made it difficult to keep it up to date (Figure 9). Data management was not significantly improved, and the woredas relied on SWS to facilitate updating from existing, paper-based sources such as handover documents. They often used Excel exports from the system that SWS provided to utilize the data.



Note no updates after initial data collection.

Figure 9. Water System Functionality Updates in Mille

The monitoring data were valuable in bringing together the learning alliance; other sectors outside the water offices found the data to be useful and helped demonstrate the need for better communication and collaboration among local stakeholders.

In working with the woreda, the SWS project team also recognized that there was a need to expand data collection and use at higher levels of government, specifically the Afar Regional Water, Irrigation, and Energy Bureau (ARWIEB). SWS saw working at the regional level as an opportunity to further the use of the data in influencing finance. Capacity and digital infrastructure was also a challenge at the lower levels of government, so the team thought the systems may be better managed at higher levels.

Plan: Support of USAID in Regional Tool Development

In moving to higher levels of government, the team found synergies with other development actors working in the zone and region.

In Afar Region, SWS partnered with others working in the region to use similar tools and surveys for monitoring rural water assets, culminating in Lowland WASH leading a region-wide approach in which SWS and Lowland WASH supported data collection to establish a regional inventory of motorized boreholes and worked to implement approaches to support regular updating of the inventory through a

network of remote sensors and simple mobile phone-based updates. Support for strengthening asset management within the ARWIEB was focused on its O&M team. Lowland WASH was contracted to strengthen governance, which included building a custom regional monitoring system. Over time, Lowland WASH developed a strong focus on the use of sensors (which were a key target). SWS partnered with Lowland WASH to support learning and documentation, seeking to support change and uptake through the engagement of local stakeholders, now at the regional level.

Act: Develop and Introduce Tools at the Region

In Afar, the custom Afar Asset Management System (AMS), developed by mWater in collaboration with Lowland WASH and the region, was rolled out in 2018. This tool built upon the existing data collected by SWS and introduced more-advanced features to document and manage repairs. The system was piloted in Mille, and the team also trained regional users. A timeline of key milestones in the implementation is presented in Figure 10.

Observe and Reflect: Limited Use at Region and Zone

Following initial training in mid-2018, the team saw no use of the AMS at the regional level. To encourage use and better understand what was happening, the team proposed hiring local technology facilitators to be embedded in the zone and region.

Act: Bringing in a Local Facilitator

The team hired a local facilitator in March 2019 to support the ARWIEB in using the AMS and to support SWS and Lowland WASH in better understanding what was happening at the local level.

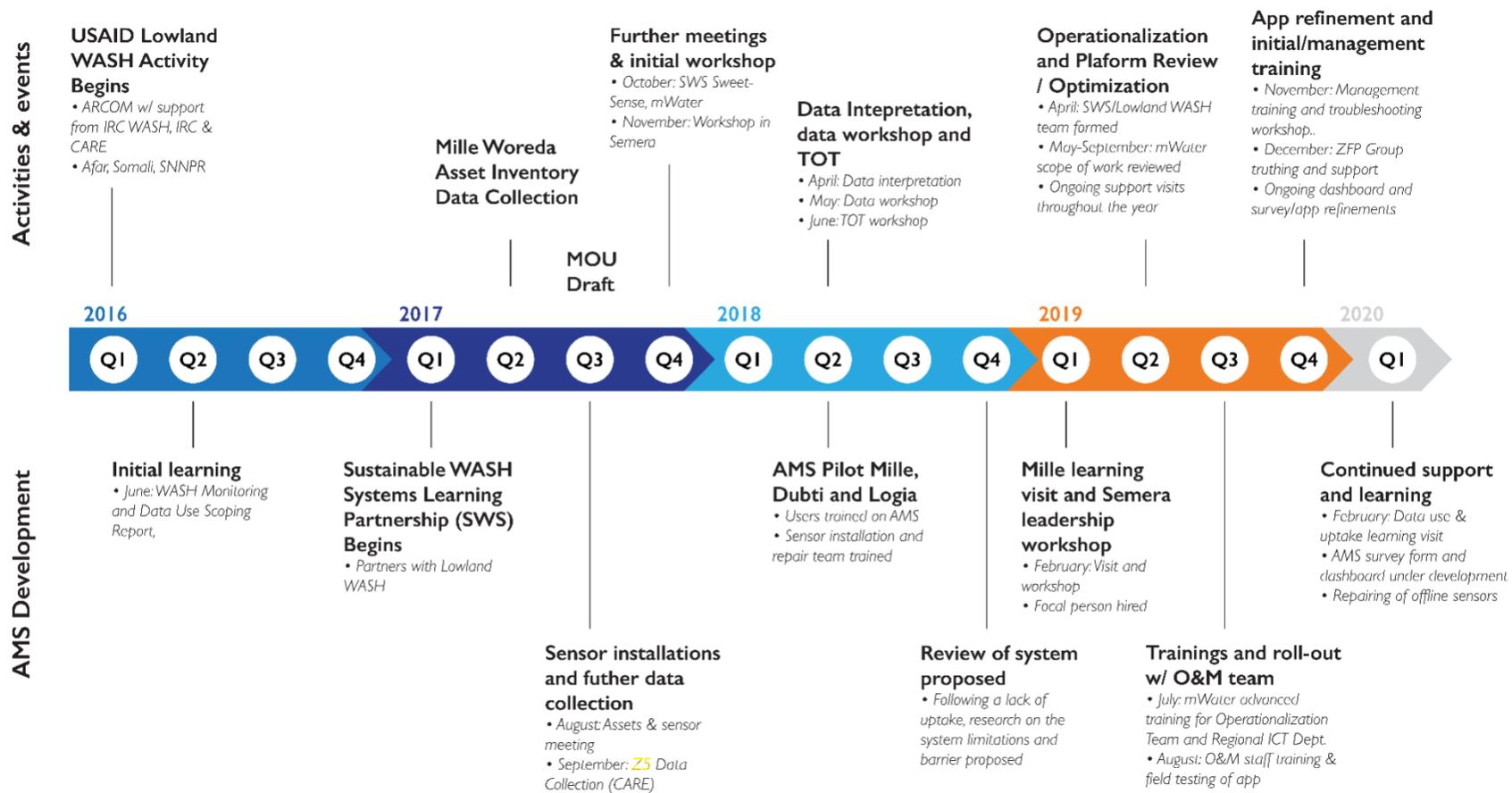


Figure 10. Implementation Timeline for Afar Asset Management System

Although efforts had been made to understand the local context and data needs while the AMS was being developed, the team had not thoroughly explored and determined exactly how the system would be used by regional actors to collect data and respond to maintenance requests. The technology held lots of potential but was sitting idle while business as usual continued in the region.

Observe

With the local facilitator in place, things began to change. The facilitator started by mapping the regional processes for managing maintenance requests and modeling how the AMS could be integrated into existing workflows. Specific actors were designated as responsible for collecting and updating data in the AMS because this could be linked to their regular maintenance activities. Working side by side with the Water Supply and Sanitation Directorate and the O&M team, these processes were refined and new implementations of the AMS — such as appointing zonal focal persons for monitoring sensor data and updating functionality via phone calls — were put in place. Regional staff were encouraged and supported to use the AMS daily. Figures 11 and 12 show the increased use of the AMS once the facilitator was in place.

In addition to understanding regional processes and supporting regional staff, the team's embedded facilitator for the AMS was key to better understanding data needs of other regional departments outside of the O&M team. The facilitator was able to understand the challenges faced by users and help them to better communicate and advocate for changes to the AMS, something that had previously been challenging because users struggled to communicate their needs in a way that allowed the design team to respond to them effectively. Through day-to-day interactions, rather than the normal praise for the AMS during formal meetings without use between meetings, the facilitator was able to understand and explore user challenges and complaints and address these on a more real-time basis with staff and regional leadership. These conversations helped to improve the structures in which the AMS would be used and allow the team to continually understand what was and was not working in implementing the AMS.

The AMS was expanded to include nearly 700 installations, more than 550 water points, and 335 water systems with additional detailed asset data essential to supporting maintenance efforts in the region. Additionally, understanding the data needed for regional reporting, a challenge communicated by system designers throughout the project, was finally explored in detail and the team discovered that the AMS contained very little data that could be used for existing reporting needs. This was corrected as much as possible in the late stages of the project but could have been anticipated earlier.

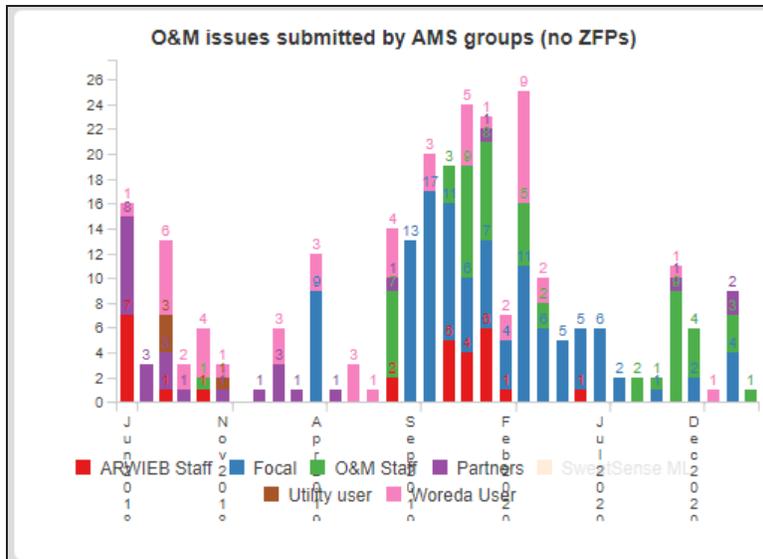


Figure 11. Issues Submitted in Afar

Note the sharp decline after training in mid-2018 and the sharp rise under the facilitator.

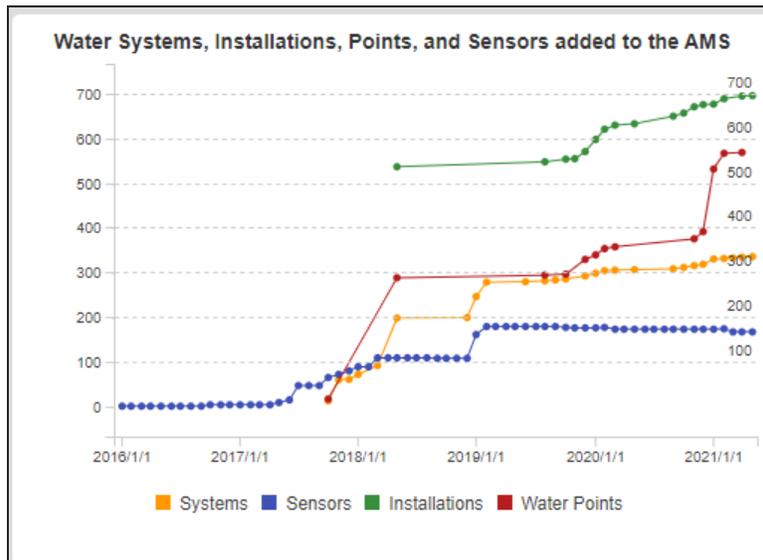


Figure 12. Components in the System over Time

Reflect

Despite the successes, having a regional facilitator did not solve all challenges. One in particular was being able to engage at high levels of regional government. Despite continued efforts to engage, there has been limited success collaborating closely with regional leadership and with departments outside of the Water Supply and Sanitation Directorate. More systematic communication by project leaders to update on facilitator activities, challenges, and needs is recommended in future projects to ensure the

facilitator is supported by project leadership and the partner is supported at high levels to better support their staff working on the project and working with the new technology. The COVID-19 pandemic highlighted this challenge; without regional support and accountability following a change in leadership, AMS use declined.

New data needs are also continually being discovered as more users, departments, and other regional government members are exposed to the AMS and understand its capabilities. Planning for these changes as the AMS gains use and acceptance is recommended. This is a challenge, because the SWS team found implementing the AMS while making changes to be extremely difficult. Planning for these changes ahead of time may help organize and allow for this type of agile development. Additionally, good communication with the region on existing capabilities and a timeline for implementing changes may help this process progress gradually instead of continually getting additional requests for new data types or other functionality.

The Facilitator's Reflection

Overall, the new AMS brought increased understanding of functionality issues at the local and regional level and captured detailed asset data to support more-efficient maintenance practices. However, the use of this data in formal planning processes has been limited, and most applications of it have been led by SWS project partners, not regional authorities. The SWS team used the data to demonstrate that the O&M team's budget request for operations (mainly per diems, travel, and simple spare parts) should be doubled to meet the maintenance needs. This was presented to the planning department, but funding has not yet been achieved. The monitoring systems have not been fully operationalized, leading to a still-incomplete dataset and challenges using data for long-term decision making or to achieve increased funding and higher prioritization for maintenance.

The action research process enabled the SWS team to identify problems early on, which led to course correction, greater engagement of individuals in the process, and better alignment of the monitoring tools into existing needs and processes. The need to better align with users' roles, responsibilities, and processes may have been achieved from the start if more time had been given to allow for building relationships and trust through a local facilitator embedded in the various locations. Although the expected outcomes were not achieved, monitoring is still seen as an essential aspect of strengthening the WASH system by local stakeholders. The SWS experience has demonstrated how monitoring can be designed and implemented to better meet local needs and support users through more engagement and collaboration led by a local facilitator.

Want to Know More?

To learn about asset management in Afar and South Ari:

- Read how asset inventory is used as a starting point in [Systems Change at District Level: Where Do We Start? The Case of South Ari District, Ethiopia](#).³⁹
- Read the main research report for both South Ari and Mille on [Sustaining Rural Water Services in Ethiopia](#).⁴⁰
- Read the [baseline studies and systems analysis on rural water services](#) detailing the status of the local WASH systems and service levels.⁴¹
- Explore learning throughout implementation with [real-time monitoring](#),⁴² with the [Afar Asset Management System](#),⁴³ and with [strengthening water supply asset management](#).⁴⁴
- View how [monitoring is used as an entry point for improving water supply maintenance services in Afar](#).⁴⁵

Case 5: Action Research to Encourage Borehole Maintenance in Kabarole, Uganda

The community-based management system, where water is provided — usually free of charge — to communities who manage the sources as volunteers has been institutionalized in Uganda since 1972. It is widely understood to be unreliable, with frequent breakdowns, despite many efforts to improve its performance over the years. In Kabarole District, 54 percent of households using community-managed point sources indicated they were unsatisfied with the management of their water sources, and 21 percent of sources were non-functional.

³⁹ Fonseca, C. 2017. Systems Change at District Level: Where Do We Start? The Case of South Ari District, Ethiopia. Available at: <https://www.ircwash.org/blog/systems-change-district-level-where-do-we-start-case-south-ari-ethiopia>

⁴⁰ IRC Ethiopia. 2018. Sustaining Rural Water Services in Ethiopia. Available at: <https://www.ircwash.org/resources/sustaining-rural-water-services-ethiopia-rural-water-asset-inventory-report>

⁴¹ Hailegiorgis, B.G., Adank, M., and Butterworth, J.A. 2018. A Local Systems Analysis for Rural Water Service Delivery in South Ari (SNNPR) and Mile (Afar), Ethiopia. SWS. Available at: <https://www.ircwash.org/resources/local-systems-analysis-rural-water-service-delivery-south-ari-snnpr-and-mile-afar-ethiopia>

⁴² USAID. 2018. Real-Time Monitoring for Improved Water Services in the Ethiopian Lowlands. Available at: https://www.globalwaters.org/sites/default/files/Ethiopia_Lowland-WASH-Sensor-Brief_FINAL.pdf

⁴³ Pearce, J., McSpadden, B., Seid, J., Butterworth, J., and Libey, A. 2021. Afar Asset Management System Uptake and Use. Available at: <https://www.globalwaters.org/resources/assets/afar-asset-management-system-uptake-and-use>

⁴⁴ Butterworth, J., Libey, A., McSpadden, B., Pearce, J., and Seid, J. 2021. Near Real-time Borehole Functionality Monitoring for Strengthening Water Supply Asset Management. Available at: <https://www.globalwaters.org/resources/assets/near-real-time-borehole-functionality-monitoring-strengthening-water-supply-asset>

⁴⁵ IRC. 2020. Monitoring as an Entry Point for Improving Water Supply Maintenance Services in Afar, Ethiopia. Available at: <https://www.ircwash.org/resources/monitoring-entry-point-improving-water-supply-maintenance-services-afar-ethiopia>

During its initial studies of rural water services, the Kabarole District WASH Task Team (the local learning alliance) identified the low engagement of communities and the poor sustainability of rural water services as interconnected factors.

Choosing an Action Research Focus

During the time of this action research, Pay-as-You-Fetch (PAYF) was being promoted nationally and by district officials as a potential solution to the sustainability challenges for rural water services. In Kabarole, the approach was piloted using 16 newly rehabilitated boreholes because these were functioning well and the community had seen investment going in. The concept was largely based on Water for People's successful use of PAYF under their Water as a Business model, which the learning alliance members had taken an interest in following a learning exchange visit to nearby Kamwenge District.

Despite enthusiasm from both national and local governments and members of the learning alliance, the SWS team and the technical planners desired more evidence about PAYF's potential — or not — to show whether or how the payment model would actually improve water service reliability and sustainability.

PAYF: The Hypothesis

The PAYF concept is simple. Each time a person fetches water from a community water point, they pay a set price (tariff) for each container of water collected. The aim of PAYF is to ensure that water points function continuously by in turn ensuring that money is collected and used for routine maintenance and repairs. The water point operator maintains a savings account with the money collected, eliminating the need to raise money after a pump breaks down and leading to a speedier repair.

The SWS team hypothesized that collecting money from water users continuously could not only speed up repairs but also avoid them all together by encouraging *preventive* maintenance: minor repairs and parts replacement before pumps break down completely. Preventive maintenance also decreases the overall cost of water point management because small repairs avoid major failures and extend the lifespan of facilities.

For PAYF to work, a certain amount of the funds collected by the water source committee (around 20 percent) must be saved for preventive maintenance and repairs (the rest may be used to pay the water point caretaker or operator). The water source committee establishes a contract with the Kabarole Hand Pump Mechanics Association to send a mechanic for periodic small repairs. When a problem is reported with the pump, a mechanic can be called and the operator is ready to pay for spare parts and service.

Why Action Research and Not Just Implementation of the PAYF Model?

Testing PAYF as action research, together with a learning alliance, was intended to accelerate the pace and scope of learning and adaptive improvement of the approach. With learning alliance members committed to help document, analyze, and study its effectiveness, promising aspects of the model could be highlighted and shared with decision makers. Similarly, and perhaps more importantly, problems or

inadequacies would also be documented and shared to inform the local and national stakeholders who were promoting the approach.

The learning alliance members wanted to know: *Does the PAYF model improve preventive maintenance? How can it be strengthened to do this better? And does charging for water lead to exclusion of households and people who cannot afford to pay each time they collect water?*

The learning alliance in Kabarole had been active for years, so they were realistic in their expectation that it would take some trial and error to get the model right. They focused not explicitly on promoting the model and its use (because that was being done by local and national government), but instead on documentation, research, and analysis of the model and its effectiveness. At the same time as studying PAYF, through SWS the members conducted learning exchange visits to other parts of Uganda and to Ethiopia to learn about other payment models that had been successful in encouraging preventive maintenance.

Plan and Act

From reviewing learning and experiences with PAYF in Uganda to date, a checklist was developed and followed closely in setting up the model.⁴⁶ A smaller sub-group of members from the Kabarole District WASH Task Team (learning alliance) were tasked with leading and coordinating implementation of the model as action research. They were supported by the SWS team to develop a monitoring and documentation plan that would both help the water point operators keep track of funds and also collect performance data that would be used to answer the learning questions.

The model depends on both the water management committee's commitment to collect and manage fees and the community's willingness and ability to pay for services that they had previously used for free. The team used community-engagement workshops with local leaders to trigger reflection and willingness to try a new approach that would cost money and require greater water operator time investment but that would ultimately (in theory) lead to higher-quality services and the ability for the operator to earn a small amount. The reflection process facilitated by extension staff and hand pump mechanics demonstrated the potential for PAYF to address the community's needs.

Once motivation for adopting the approach was established, the PAYF facilitation team helped the hand pump mechanics association to establish memoranda of understanding with the communities, resulting in the employment of the mechanics to perform preventive maintenance services at regular periods and for a fee.

Observe and Document

In addition to encouraging regular documentation within the water source committees, the SWS team planned a study to consolidate and analyze the payment and maintenance logs. In February 2018, they

⁴⁶ IRC Uganda. 2017. A Checklist to Effective Adoption and Implementation of the Pay-as-you-fetch Model. Available at : https://www.ircwash.org/sites/default/files/handout_a_checklist_to_effective_adoption_and_implementation_of_the_pay-as-you-fetch_model_.pdf

collected data to provide insight into the model's performance and its potential feasibility, sustainability, and effectiveness in the 16 communities where it was introduced in 2016.

The team collected data on meter readings; breakdowns in the past month, including service downtime, parts replaced, and cost for replacement and labor; financial information, including funds collected, total savings thus far, and monthly caretaker wages; stakeholders' visits to the water point in the previous month; and cleanliness of the water point at the time of data collection.

Reflect

As it was done, the implementation of the PAYF model in the 16 boreholes in Kabarole did not encourage preventive maintenance. Water source committees and hand pump mechanics did not (yet) adopt a system for ensuring that preventive maintenance was done consistently. Only three communities had an ongoing relationship with the hand pump mechanics association for preventive maintenance.

Even *reactive* maintenance was not consistently happening; a household survey showed that the average duration of the most recent breakdown (prior to repair) was 27 days. And there was no mechanism for monitoring response time of hand pump mechanics, tracking preventive maintenance visits, or alerting them.

According to the household survey, the main reason for water points being out of service for more than 48 hours was lack of funds for the repairs. PAYF was not working as hoped. Community members were not regularly contributing money to collect water; in many cases, they had reverted to the status quo. Furthermore, it had become clear that the payment model alone might be a step toward improving maintenance action but that on its own it would not be enough to encourage preventive maintenance by water committees, as had been stated in the hypothesis.

It was also not clear whether PAYF was ineffective as a model or whether political support was inadequate to test it in the intended form. District Water Office staff and learning alliance members rarely visited the water points during the initial phases of action research. They only visited one of the sites, Burungu, once during the 4-month data collection period. Although it is known that politicians can influence willingness to pay for water,^{47,48} politicians visited the water points too scarcely during the study period to have a noticeable effect on attitudes.

Sub-county officials visited slightly more often than national government officials, though still not frequently. NGO staff, water user committee members, and hand pump mechanics visited the water points at least once per month.

⁴⁷ Cardone, R., and Fonseca, C. 2003. Financing and Cost Recovery. Available at: https://sswm.info/sites/default/files/reference_attachments/CARDONE%20and%20FONSECA%202004%20Financing%20and%20Cost%20Recovery.pdf

⁴⁸ Fonseca, C., and Njiru, C. 2003. Financing and Cost Recovery: What Happens after Construction? Available at: <https://www.ircwash.org/sites/default/files/Fonseca-2003-Financing.pdf>

Investigating the Causes for the Observed Results

The current implementation of the PAYF model did not overcome the legacy challenges of the community-based management approach: political influence that discourages users from paying (by offering free water as a political token), lack of transparency of water source committees, and dissatisfaction of water users with performance of water source committees.

Accountability of water user fees affected users' willingness to pay. Water source committees identified several incidents in which water user funds could not be accounted for after a change in caretakers. Safe custody of funds was also a major concern for users whose committees had no bank accounts.

The political commitment at the district council level has not been translated to the political structures at the local level. The willingness of water users to pay continues to be easily influenced by politicians at the local and national level.

The initial community mobilization done by the learning alliance members and SWS team when introducing the PAYF model in the 16 communities was seen as successful. The initiative was well received by communities. The community acceptance of the importance of paying for higher levels (more convenient) water services was confirmed in the research; the study showed that 70 percent of the users are still willing to pay at least 50 Ugandan shillings (UGX) per jerry can (\$0.01), and 30 percent are willing to pay up to 200 UGX (\$0.06).

However, the startup and engagement processes were not adequate to get communities fully on board. Payment per jerry can of water was completely new in some areas, so it was not an overnight shift in behavior. Social marketing was highlighted as one of the strategies for increasing the willingness of users to pay, but it was not widely used by water source committees.

The district and sub-county staff felt that the technology used to meter the hand pumps was not appropriate or the water meters were improperly installed. There was also no drive at the water point level (for water use committees and caretakers) to put the meters to effective use. The meters were the first line of accountability at the water source, so their failure created a big problem for the PAYF approach. Lessons from other pre-payment models for water show that the functionality of the pre-paid meters is a critical factor in the model's success.

Review of similar pre-payment models shows that upgrading the technology to include pre-paid water meters with an automated water-dispensing system and a monitoring dashboard is effective in addressing the found challenges with proper financial management, scheduling maintenance, and ensuring that users pay for water. An interactive and continuous community engagement process will be critical to manage grievances and sensitize users on the use of a pre-payment system.

What About the Question of Exclusion of the Poor?

The study found no serious issues in terms of social exclusion. This could be because people were systematically paying for water in only 5 out of the 16 communities where the PAYF model was introduced. The water source committees and caretakers were aware that vulnerable people unable to pay live in their community, and strongly indicated that their rights and needs should be considered;

those who truly cannot pay should not be required to. The PAYF uptake guidelines did not provide a concrete strategy for dealing with this vulnerability. Another round of action research would be needed.

Plan

Based on the reflections of learning alliance members, the PAYF model needed to be adapted to further test its effectiveness and to further test the implications on exclusion. The SWS team developed recommendations with the learning alliance:

- Develop an accountability mechanism that tracks preventive maintenance visits, response time by hand pump mechanics to requests from the water use committees, and satisfaction of the users with the service.
- Revise the PAYF steps to include guidelines on how vulnerable households can access water at the water points to ensure they are not excluded.
- Take advantage of the strong political buy-in of the district council in Kabarole to bring on board the political leaders at the village and sub-county level. The Local Council V chairperson and Secretary of Works and Technical Services could be supported to get oriented and secure the buy-in of politicians at the local level. In Bunyangabo, IRC could consider working with Kabarole District Council representatives to secure buy-in of the Bunyangabo District Council and thereafter work with the council to bring the cabinet minister and politicians at the village and sub-county level on board.
- Explore upgrading the water meter technology to include pre-paid water meters with an automated water-dispensing system and a monitoring dashboard to address the found challenges with the managing of finances, scheduling of maintenance, and ensuring of payment.

Want to know more?

To learn about PAYF and action research done in Uganda:

- Read the full [Kabarole District PAYF research report](#).⁴⁹
- Read about the [Analysis on IRC's Use of PAYF in Kabarole District management model at boreholes](#).⁵⁰
- Explore this [checklist for effective adoption and implementation of the PAYF model](#).⁵¹
- See IRC's [baseline data for 2017](#) for Kabarole, Uganda.⁵²
- Read about how [lessons are applied to improve WASH service delivery](#).⁵³
- Read case studies [contextualizing success and failure at three hand pumps in Uganda](#).⁵⁴

⁴⁹ IRC. 2021. Kabarole District Pay-As-You-Fetch Research Report. Available at:

https://nl.ircwash.org/sites/default/files/uganda_pay-as-you-fetch_research_report_202101.pdf

⁵⁰ Cord, C. 2018. Analysis on IRC's Use of Pay as You Fetch: Kabarole District, Uganda. Available at:

<https://www.ircwash.org/resources/analysis-ircs-use-pay-you-fetch>

⁵¹ Watsisi, M. 2017. A Checklist for Effective Adoption and Implementation of the Pay-as-You-Fetch Model. Available at:

<https://www.ircwash.org/resources/checklist-effective-adoption-and-implementation-pay-you-fetch-model>

⁵² IRC Uganda. 2018. IRC Baseline Data: Kabarole, Uganda: A District Overview. Available at:

<https://www.ircwash.org/resources/irc-baseline-data-kabarole-uganda-district-overview>

⁵³ Mirembe, L. 2019. Applying Lessons to Improve WASH Service Delivery. Available at:

<https://www.ircwash.org/news/applying-lessons-improve-wash-service-delivery>

⁵⁴ Cord, C.R. 2018. Contextualising Success and Failure at Three Handpumps in Uganda. Available at:

<https://www.ircwash.org/blog/contextualising-success-and-failure-three-hand-pumps-uganda>

Discussion: Wisdom and Advice for Using this Approach

This section synthesizes IRC and partners' lessons learned through 5 years of SWS, including the case studies above, supported by more than 20 years of using learning alliances and action research to drive systems change.

Contextual Considerations: When and Where to Use this Approach

IRC's approach to local systems change is flexible, but it will not work in all contexts. It is important to consider key aspects of the funding and program strategy and targets when considering a learning alliance approach.

Local Presence and Time

As described in Case 4, the presence of a long-term local facilitator to support the process is essential. Because learning alliances take time to mature, 4 years of operation with an embedded local facilitator should be seen as an absolute minimum for establishing a learning alliance platform and generating collective action and measurable systems change. If the facilitator is distant, even operating from a distant office within the same country, the process is slowed down significantly and there is a risk in losing stakeholder interest and group momentum.

Playing the hub role well requires consistent availability, trust, and relationship building with local stakeholders. Encouraging participation and action between meetings, as well as a deep understanding of local social and political dynamics, is important. In a recent SWS study,⁵⁵ 11 collective action initiatives in East Africa concluded that the presence of a resourced hub role was a top factor for successful collective action approaches.

Government Commitment

Government interest, commitment, and buy-in to the goals of the learning alliance are an essential factor for success. They cannot be guaranteed through simple participation in the platform by the government.⁵⁶ Government officials are not a monolith, so it is important to engage with specific actors who have relevant mandates for implementing the goals of the learning alliance.

This guide has focused on the district level, which in many countries is the administrative level responsible for public service delivery. However, policies, budgets, and strategies are often set at higher levels of government, such as within the ministry or even heads of state. In contexts where decision making is hierarchical, the learning alliance offers a unique opportunity for stakeholders but requires greater compromise and strategizing with higher-level officials to ensure the learning alliance is not seen

⁵⁵ Pugel, K., Javernick-Will, A., Peabody, S., Nyaga, C., Mussa, M., Mekonta, L., Dimtse, D., Watsisi, M., Buhungiro, E., Mulatu, T., Annis, J., Jordan, E., Sandifer, E., and Linden, K. 2021. Pathways for Collaboratively Strengthening Water and Sanitation Systems. Available at: <https://doi.org/10.1016/j.scitotenv.2021.149854>

⁵⁶ Peabody, S., Pugel, K., Javernick-Will, A., Buhungiro, E., Dimtse, D., Mukanga, J., and Mussa, M. 2021. Collective Action in WASH: Lessons and Findings from 11 Collaborative Approaches.

as competitive to formal structures. If it is not possible to concurrently engage with influential government actors, the potential for radical changes or scalable initiatives to emerge from the learning alliance will be limited. Likewise, in such a hierarchical context, the idea of empowering local actors to innovate solutions may not be appropriate.

In many countries, it is not possible for an NGO to operate without first having its annual plans and budget approved by the national government. If the government is strict with regard to what activities can be carried out and requires their confirmation prior to the start of a year, this can prohibit use of true action research because the plans and solutions to be tested must be decided up front by the main funder or project implementer. This can be disempowering for members, because it reduces the degree to which members can truly co-create solutions and make quick pivots in strategy in response to emerging insights.

Funding and Funder Constraints

Some project or program funders require meticulous planning of activities prior to approving any budget and are uncomfortable trusting field teams and learning alliance members to take a flexible approach to implementation or to make plans in shorter cycles. While an increasing number of international development donors are willing to allow field teams to be flexible, heavy constraints on documentation and justification of changes can make it cumbersome to play the role of hub adaptively while empowering local stakeholders to truly lead the way.

It is also important for a funder to appreciate the complexity of an approach that is both bottom-up and top-down. Rigorous monitoring or a focus on beneficiary counting can make it challenging to obtain and secure funds for working dynamically across multiple levels of a system. Systems change is about contribution, and even major results will not likely be fully attributable to a single project activity. Even a district-focused approach, like the case studies presented here, required consistent engagement with politicians and technocrats at the regional and national levels in order to ensure district-level activities were relevant to national strategies. These meetings can be time consuming and appear to not offer immediate results, but they are essential to prepare the wider enabling environment for eventual update of any solutions identified in the district that were deemed ready to scale.

Lastly, donors and project teams must be willing to fund over a longer period of time and to allocate resources for documentation and team learning. The costs of coordination, persuading, and motivating learning alliance members between meetings and official activities can be significant, so if a learning alliance is to be “added on” to a conventional project strategy, it is important that local staff and facilitators receive adequate resources.

Not for the Methodological Purist

The introduction to this guide presented the essential theory of how local systems, learning alliances, and action research happen. While these descriptions are based on the experience in SWS on top of decades of earlier work in more than 20 countries, in practice it will always be messier than it sounds (Figure 13). The approach is not conducive to testing through closely controlled studies, and the methods and plans are likely to need to be adapted during implementation. While this flexibility can be a

benefit, it is also a constraint that makes the approach a challenge to align with conventional research and evaluation methodologies.

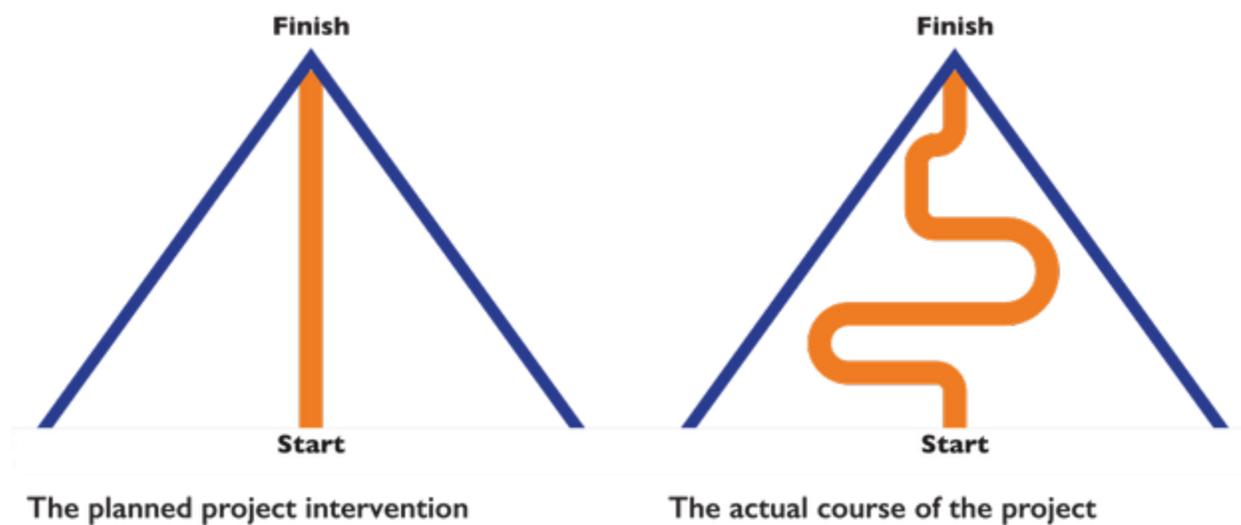


Figure 13. Project Implementation Is Rarely a Linear Process, Despite What Logical Frameworks or Project Reports Might Say. Adapted from Schouten 2007.⁵⁷

Compromise through Confidence-Building Activities: Stakeholders Also Want to See Concrete Project Activities

Although learning alliance members tend to be positive about the experience and their role in action research, “soft” interventions in local systems have a greater impact if they are complemented by visible investments in infrastructure, capacity building, or other priority areas identified by the learning alliance members. To fund a learning alliance, it is important to set aside some budget to support members to actually implement some of the ideas they devise. Without cash investments in local priorities, there is a risk that the momentum and respect for the learning alliance and hub organization may fade over time. When setting up new learning alliances in Ethiopia, the SWS team tried to build confidence through achieving quick wins such as borehole rehabilitation, meeting a specific request (e.g., to provide hand tools), or helping the district to map their water facilities. These confidence-building activities were important in the early stages to develop legitimacy as a hub organization and to secure stakeholder interest.

⁵⁷ Schouten, T. 2007. Learning Alliances Briefing No 6: Process Documentation. Available at: http://switchurbanwater.lboro.ac.uk/outputs/pdfs/WVP6-2_BRN_6_Process_documentation.pdf

Tips, Tricks, and Pitfalls to Avoid

On Understanding Systems:

- **Engage enough of the right people.** Determine the critical mass or “saturation” level for systems understanding and systems change. Working with a few actors alone or in a single district has limited scope for influence, unless the learning alliance really works to identify and support champions who can unlock change in the surrounding system. This means that even when the learning alliance seems to be going well, it is important to invest time and resources into building the coalition and contacts and into reaching higher levels. At the same time, be careful not to lose track of the core commitment to learning alliances and district systems.
- **Recognize that building systems understanding might be more about changing and broadening perspectives than about directly building technical knowledge.** Unsurprisingly, many local actors understand their systems well but know less about how other stakeholders think about the same problems. Technical analysis of systems can be useful, but it is the joint analysis among stakeholders with different perspectives that has proven especially important. When the definition of the problem is clearer and more widely shared, it is easier to objectively discuss different possible solutions.
- **Do not try to measure everything.** When trying to understand a local system or a particular problem, it can be tempting to perform numerous baseline studies and analyses to assess the complexity from many angles. Current emphasis on evidence-informed thinking can also push donors or decision makers to encourage continuous data collection (e.g., to specifically study service delivery, inequality, gender, policy, media influence, etc.). Consider the wisdom and expertise of the learning alliance members, and explore less-costly rapid assessments or methods for using dialogue to explore critical topics more objectively. Also, be realistic about how much information any one person (or project) can process and act on at a given time. “Paralysis by analysis” is a real problem, so it is better to make the most of a smaller set of data rather than overwhelm a project team and stakeholders with too much information. Also, accept that some things cannot be measured quantitatively.
- **Acknowledge different types of expertise and consider rigor by inclusion.** Academic knowledge is only one type of knowledge; some academic methods prevent genuine participation by stakeholders with different technical (or non-technical) backgrounds. Consider using tools that a wider set of stakeholders can understand and interact with. “Rigor by inclusion” can be achieved by unlocking local expertise and enabling insights from a diverse range of stakeholders in order to mitigate bias.⁵⁸

On Facilitating Learning Alliances:

- **Be clear at the outset about why you are using a learning alliance approach and what you expect a learning alliance to achieve.** Discuss this with the project team, the

⁵⁸ Chambers, R. 2015. Inclusive Rigour for Complexity. Available at: <https://doi.org/10.1080/19439342.2015.1068356>

funder, and, most importantly, the learning alliance members themselves when they are first invited to join. Be open to their ideas and jointly come up with a goal and purpose for the group. Think about all the stakeholders that should be involved but start small and involve more stakeholders as interest in the learning alliance's activities develops.⁵⁹

- **Do not over-curate.** The facilitator may have many ideas for the learning alliance. However, they are being given space to support and contribute to a local process, with special permission from government, so they must walk a delicate line between suggesting ideas and simply supporting local ideas and suggestions. As mentioned in Case 3, local government's interest in setting the meeting agenda and coordinating actions is a strong indication of local ownership. At the same time, the facilitation team needs to remain proactive, and at times vocal, in order to support the coalition to continue to progress its agreed-upon goals and agenda.
- **Work in a team.** Managing local and political dynamics while also trying to plan and moderate effective meetings and events for the learning alliance is no easy task. IRC experience suggests that learning alliance facilitation is better implemented by a team that can support the main or most visible facilitator. This also improves self-reflection and documentation, because the group can debrief after meetings and periodically discuss progress in setting up and supporting the learning alliance. Ideally, the facilitation team also includes government and/or other trusted stakeholders who can provide additional perspectives, including critique when needed.
- **Set clear learning questions and milestones for the learning alliance to help reflection.** In the SWS project, the team used outcome mapping to set progress milestones for influencing the decisions and behaviors of learning alliance members and local stakeholders. This included clearly defining what was expected to happen, what the facilitators would have liked to see, and what they would have loved to see.⁶⁰ An example milestone is members dynamically suggesting agenda topics and planning out the approach to document action research. Setting these helps to align the team's vision for the platform, and when done with learning alliance members can also encourage members to be more ambitious about the platform. Having pre-drafted expectations supports a more-critical reflection and can make sensitive topics easier to talk about, such as when discussing the writing and documentation skills of local stakeholders or the responsiveness of government in responding to citizen needs.
- **Just as learning alliances take time to mature, facilitation and leadership skills develop over time.** Systems leadership requires commitment and experience. Organizations playing this role need to invest in developing their staff. The fundamental competencies for systems thinking and the intrapersonal skills to foster reflection and meaningful conversations

⁵⁹ Butterworth, J.A. 2011. SWITCH in the City: Putting Urban Water Management to the Test. Available at: <https://www.ircwash.org/resources/switch-city-putting-urban-water-management-test>

⁶⁰ Ajroud, B., Hollander, D., and Peabody, S. 2020. Measuring Systems Change in WASH Programming: A Practical Application of Two Tools. Available at: <https://www.globalwaters.org/resources/assets/sws/measuring-systems-change-wash-programming-practical-application-two-tools>

are important to bring diverse stakeholders along. In addition to skills, a hub organization must have the legitimacy, funding, and interest to support a local systems change process.

- **Be patient.** Upon attending a single learning alliance meeting, especially in the early phase, it may be difficult to perceive any collective action. Patience and trust in the process are required. Learning alliance members may need small incentives (e.g., snacks and drinks) to attend the meetings, but over time, with good facilitation and time investment, collective action will emerge. Good content and engaging activities are the best incentive. It is okay if formalities take up a lot of time, especially in early meetings; these are important for participants, and over time critical debates and dialogues can be achieved more readily. It generally takes 2–5 years for a learning alliance to start owning and driving action research, and much longer until the large scale impacts will be seen (Figure 14).
- **Remember to budget for activities with the learning alliance.** Discussion and reflection is important, but resources are needed to act on the learning alliance’s ideas and plans. Members who only focus on the learning alliance, and on monitoring its progress and ideas, will eventually grow tired or may lose commitment. The government itself will want to see that the group is concretely contributing to real change. This can be done through partnerships or other cost-share or complementary project agreements. Try to understand the incentives for members to participate and invest resources in making their participation worthwhile.

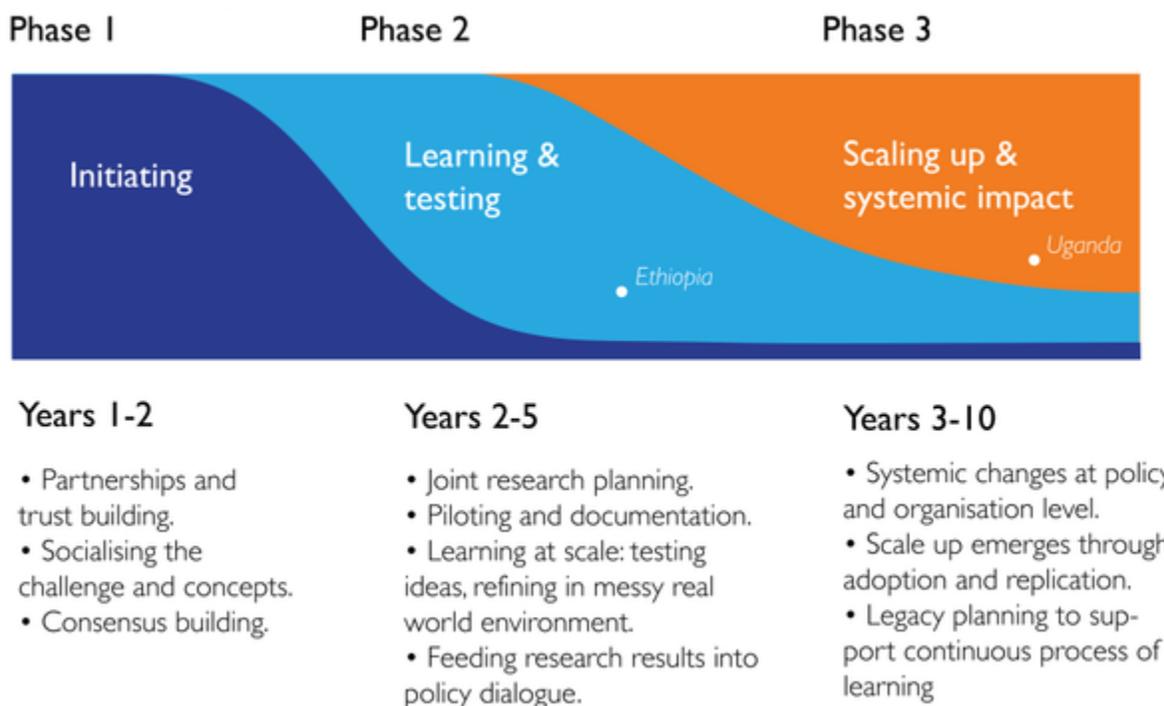


Figure 14. Example Timeline during which a Learning Alliance Is Established and Engaged in Change Making

On Action Research:

- **Do not “reinvent the wheel” when planning action research.** While it is useful to create open dialogue and space for stakeholders to brainstorm new ideas, we believe that bringing in external expertise and tools can be a way to empower, rather than undermine, local expertise. Learning exchange visits and the opportunity to participate in learning events or conferences is a great way to get ideas from other contexts that can be copied or adapted through action research. Some expert guidance and input can help put action research on track to succeed faster, but experts must be reflective and ideally have some systems leadership skills or an ability to introduce ideas into local processes and dialogues rather than overpowering or diverting local plans.
- **Adapt to the context and get buy-in.** While some solutions can be transferred between contexts, some modification is always needed, and people are far more likely to take ownership of and apply new ideas that they have helped to develop themselves. Action research is also about building capacity, buy-in, and momentum for solutions, which is a learning process in itself.
- **Reflect on bias.** Facilitators of action research have bias as to what they hope will be successful and how they wish to see things play out. This is okay, because facilitators are engaged actors and stakeholders passionate about the pursuit of change, but they must remain aware of their bias and mitigate the risk that it obscures analysis. Working in a team and periodically inviting in “quasi-outsiders,” or knowledgeable people with similar experience but who are not directly involved in the work, can help to do this. Within SWS, IRC had the opportunity to reflect on and discuss progress between the teams from Uganda, Ethiopia, and the wider consortium of partners, which prompted critical reflection that would not have been possible if IRC worked in isolation.

Conclusion

There is no clear recipe or single road map for local systems change. For this reason, we have written this document as a guide, with tips, tricks, and case experiences, and it is not a linear tool kit or “how to” manual. Yet some skills, principles, and perspectives have proven essential in our endeavors for local systems change. The ideas in this guide can be used to increase the likelihood of identifying pathways for change, increase the rate of learning, and remove constraints that are known to prevent progress.

Starting with a patient and participatory approach to problem diagnosis is important. There are innumerable tools and methods available for studying systems, but it is important that the right stakeholders are involved and that analyses are appropriate and accommodating to their needs and interests. A simple tool, like a set of building blocks to define key components of the system, can be helpful for establishing a shared perspective, and shared set of priorities or interests, prior to planning more-complex studies or research.

Learning alliances have proven effective in convening interested stakeholders to build their capacity and engage them in the problem analysis and solutions development. However, this requires genuine time and interest of stakeholders, as well as a skilled facilitator to align interests and deliver results. Mutual trust needs to be nurtured and agency strengthened for the members to make decisions and steer the direction of the group.

Action research is a flexible methodology, but care is needed to make sure a project team, and research participants, have a shared understanding of the expectations and principles of this work. Genuine participation of stakeholders can easily be missed or undermined if the research team takes too much control of the agenda, introduces too many sophisticated tools, or fails to generate a feeling of ownership and leadership by local stakeholders. Local stakeholders are ultimately the ones with the power to develop, implement, or scale the solutions being tested.

Facilitating local systems change takes courage, patience, commitment, and teamwork. It is possible and necessary but requires a willingness to fail, learn quickly, and try again. Over 20 people contributed directly to the facilitation and insights presented in this guide, representing a growing number of experts in local systems change facilitation in Ethiopia, Uganda, and around the world. You, the reader, can be among them if you are willing to take on and adapt the ideas here to apply to the local systems challenge you are passionate about.

Appendix I. Tools and Resources

This appendix provides a complete list and links to resources for the specific tools mentioned in the document, as well as additional tools that were incorporated into the 5-year systems change process.

Understanding Systems

Tool and Description	References for Further Reading
<p>Context analysis: Provides an overview of the current situation in a country (or a specific area) as an input into the design and startup of a program or learning alliance.</p>	<p>IRC. 2019. It's About Strengthening WASH Systems. Available at: https://www.youtube.com/watch?v=qInlRDcBpwk</p> <p>IRC. 2018. A SIWI Sofa Discussion on Strong WASH Systems. Available at: https://www.youtube.com/watch?v=miCWhtckTRg</p> <p>Sustainable WASH Systems Learning Partnership. 2018. Analyzing and Improving Collaboration Among WASH Stakeholders in Ethiopia. Available at: https://linclocal.org/wp-content/uploads/2018/03/SWS-research-brief_Ethiopia-ONA.pdf</p>
<p>Building blocks assessment: Identifies weak and strong points in the WASH system through a comprehensive participatory assessment against a set of proven benchmarks.</p>	<p>IRC. 2019. Taking a Systems Strengthening Approach. Available at: https://youtu.be/he9LkKXNa7k</p> <p>IRC. 2019. Specialist Course: Building Blocks of Sustainable WASH Systems. Available at: https://www.ircwash.org/news/online-course-building-blocks-sustainable-wash-service</p> <p>IRC. 2019. WASH System Building Block Assessment Tool: How to Analyse the Strengths and Weaknesses of a WASH System? Available at: https://www.ircwash.org/tools/wash-system-building-block-assessment-tool</p> <p>Huston, A., and Moriarty, P. 2018. Understanding the WASH System and Its Building Blocks. Available at https://www.ircwash.org/sites/default/files/uploads/084-201813wp_buildingblocksdef_web.pdf</p>
<p>City service delivery assessment</p>	<p>Blackett, I., and Hawkins, P. 2019. City Service Delivery Assessment for Citywide Inclusive Sanitation: Tool and User Guide. Available at: https://www.susana.org/en/knowledge-hub/resources-and-publications/library/details/3700</p>
<p>Shit flow diagram (SFD)</p>	<p>SFD. 2018. The SFD Promotion Initiative. Available at: https://sfd.susana.org/about/the-sfd-promotion-initiative</p>
<p>Organizational network analysis: Understand and quantify stakeholder network interactions and understand factors affecting a specific context or</p>	<p>Harper, D. 2020. Using Social Network Analysis in WASH Programs. Available at: https://www.globalwaters.org/sites/default/files/using_social_network_analysis_in_wash_programs.pdf</p>

<p>problem.</p>	<p>LINC. 2020. Ethiopia Midterm Organizational Network Analysis Report. Available at: https://www.globalwaters.org/sites/default/files/ethiopia_midterm_organizational_network_analysis_report.pdf</p> <p>Hempfling, C., Ristovsky, B., and Fromer, R. 2021. Ethiopia Endline Social Network Analysis. Available at: https://www.globalwaters.org/sites/default/files/ethiopia_endline_social_network_analysis_final.pdf</p> <p>Sustainable WASH Systems Learning Partnership. 2021. Tracking Network Analysis in SWS: Debre Birhan, Ethiopia. Available at: https://www.globalwaters.org/sites/default/files/sna_brief_ethiopia_final.pdf</p> <p>Sustainable WASH Systems Learning Partnership. 2018. Using Network Analysis to Understand and Strengthen WASH Systems. Available at: https://www.youtube.com/watch?v=hTnYtNWYiUc</p>
<p>Iterative factor mapping and learning: A participatory, stakeholder-driven approach for iteratively building and interpreting factor maps to understand WASH systems and potential areas where systems could be strengthened to increase the likelihood of sustainable services.</p>	<p>Guttentag, M. 2018. Mapping Stakeholder Connections to Improve WASH Collaboration in Ethiopia. Available at: https://linclocal.org/wp-content/uploads/2021/06/Ethiopia-Baseline-ONA-Report_v2_7.30.2018.pdf</p> <p>Sustainable WASH Systems Learning Partnership. 2019. Stakeholder-Driven Factor Mapping for WASH Systems. Available at: https://www.globalwaters.org/sites/default/files/Stakeholder-Driven%20Factor%20Mapping%20for%20WASH%20Systems.pdf</p> <p>Valcourt, N., Walters, J., Javernick-Will, A., Hollander, D. 2019. Factor Mapping for Rural Water and Small Town Sanitation Services. Available at: https://www.globalwaters.org/sites/default/files/Factor%20Mapping%20for%20Rural%20Water%20and%20Small%20Town%20Sanitation%20Services%20%281%29.pdf</p>
<p>Sustainability check: Provide an assessment on the degree to which the necessary conditions for sustainable WASH service provision are in place.</p>	<p>McIntyre, P., Paba, M., Butterworth, J.A., Adank, M., and Defere, E. Measuring Factors that Predict If WASH Services Are Sustainable. Available at: https://www.ircwash.org/resources/measuring-factors-predict-if-wash-services-are-sustainable</p> <p>Adank, M.D., Dimtse, D., and Hailegiorgis, B.G. 2018. Sustaining Rural Water Serviced in Ethiopia: Rural Water Sustainability Check Report. Available at: https://www.ircwash.org/resources/sustaining-rural-water-services-ethiopia-rural-water-sustainability-check-report</p> <p>Adank, M., Hailegiorgis, B., and Butterworth, J. 2019. Local Systems Analysis for Rural Water Services Delivery in South Ari and Mille, Ethiopia. Available at:</p>

	https://www.globalwaters.org/resources/assets/sws/local-systems-analysis-rural-water-services-delivery-south-ari-and-Mile-ethiopia
Service-level assessments	<p>Joint Monitoring Programme. 2018. 1.6 SDG Baselines, Drinking Water Services: An explanation of the JMP service ladders for water, sanitation, and hygiene. Available at: https://youtu.be/hwaaRgG7IUk</p> <p>Adnak, M.D., and Hailegiorgis, B.G. 2018. Sustaining Rural Water Services in Ethiopia: Rural Water Service Levels Report. Available at: https://www.ircwash.org/resources/sustaining-rural-water-services-ethiopia-rural-water-service-levels-report</p>

Setting Up and Facilitating Learning Alliances

Tool and Description	References for Further Reading
Visioning and agenda setting	<p>IRC. 2019. What is a WASH Learning Alliance? Available at: https://www.youtube.com/watch?v=WCOOMcGbEVg</p> <p>Smits, S., Moriarty, P., and Sijbesma, C. 2007. Learning Alliances: Scaling Up Innovations in Water, Sanitation, and Hygiene. Available at: https://www.ircwash.org/sites/default/files/Smits-2007-Learning.pdf</p> <p>Darteh, B., Moriarty, P.B., and Huston, A. 2019. How to Use Learning Alliances to Achieve Systems Change at Scale. Available at: https://www.ircwash.org/resources/how-use-learning-alliances-achieve-systems-change-scale</p> <p>Watsisi, M., Nabunnya Mulumba, J., Mussa, M.E., and Mekonta, L. 2020. Facilitating Collective Action for Sustainable Development Goal 6 through Learning Alliances. Available at: https://www.ircwash.org/resources/facilitating-collective-action-sustainable-development-goal-6-through-learning-alliances</p> <p>Mussa, M.E., Michael, T.N., Hailegiorgis B.G., Morris, M.J., Butterworth, J.A., and Henry, L. 2019. Facilitating Local Strengthening of WASH Systems: Whose Understanding Counts? Available at https://www.ircwash.org/sites/default/files/084-201906morris-mjlearningalliancesasg02.pdf</p>
Process documentation: A systematic way to capture what happens in a process of change and how it happens; to reflect on and analyze why it happens, using a theory of change; and to organize and disseminate the findings.	<p>da Silva, W., Le Borgne, C., Dickinson, N., and de Jong, D. 2011. Documenting Change: An Introduction to Process Documentation. Available at: https://www.ircwash.org/sites/default/files/47_op_documenting_change_introduction_process_documentation_2011_0.pdf</p>

	<p>da Silva, W. 2007. Training Report FINAL Draft 1 to 5 July. Process Documentation for Learning Alliances and Action Research. Available at: http://www.switchurbanwater.eu/outputs/pdfs/W6-2_CLOD_REP_Lodz_process_documentation_training_report_LO_Jul07.pdf</p> <p>Butterworth, J., McIntyre, P., and Da Silva-Wells, C. 2011. SWITCH in the City: Putting Urban Water Management to the Test. Available at https://www.ircwash.org/resources/switch-city-putting-urban-water-management-test</p> <p>da Silva-Wells, C. 2015. Documenting the Innovation Process. Available at: https://www.ircwash.org/news/documenting-innovation-process</p>
Post-meeting surveys, key informant interviews, or hosting reflection discussions at the end of the meetings (assessing change)	<p>There are many ways to obtain participant feedback, but the method and tools for doing so are unique to each project and context. These are standard practices, and ample materials and guidance are available online.</p>
Outcome mapping against progress markers working toward vision	<p>Sustainable WASH Systems Learning Partnership. Measuring Systems Change in WASH Programming: A Practical Application of Two Tools. Available at: https://www.globalwaters.org/resources/assets/sws/measuring-systems-change-wash-programming-practical-application-two-tools/</p> <p>Nuance and Numbers: Monitoring Incremental Change for Sustainable WASH Systems. Available at: https://enviroincentives.com/blog/nuance-and-numbers-monitoring-incremental-change-for-sustainable-wash-systems/</p>
Facilitation team reflection meetings	<p>Muhammed, M. 2020. Learning Alliance Helps to Improve Water Supply in Gazer Town. Available at: https://www.ircwash.org/blog/learning-alliance-helps-improve-water-supply-gazer-town</p>
Confidence-building activities: Something you can do immediately with the learning alliance to get buy-in from members.	<p>Confidence-building activities are quick wins and visible actions to be carried out early on in a partnership to build trust and momentum with a new coalition.</p>
Learning exchanges/visits (international and between districts)	<p>A variety of learning visits were conducted throughout the program. A selection of reports is included here:</p> <p>October 2021 – Ethiopian Water Technology Institute learning visit to the Netherlands. Available at: https://www.ircwash.org/sites/default/files/netherlands_ewti_exchange_visit_report_final_sg_example.pdf</p> <p>February 2020 – Debre Birhan and Woliso Learning Alliance learning visit to Hawassa on urban sanitation. Available at: https://www.ircwash.org/sites/default/files/cl_db_and_wolis</p>

	<p>o_hawassa_learning_visit_report_sg_example.pdf</p> <p>May 2019 – Uganda-Ethiopia dialogue on rural water supply maintenance models. Available at: https://www.ircwash.org/sites/default/files/c1_ind5.1_learning_visit_irc_ethiopia-uganda_sg_example.pdf</p> <p>October 2018 – Woliso Learning Alliance learning visit to Addis Ababa. Available at: https://www.ircwash.org/sites/default/files/c1_woliso_addis_learning_visit_sg_example.pdf</p> <p>October 2018 – Learning visit to Tigray Region on rural water supply. Available at: https://www.ircwash.org/sites/default/files/c1_learning_visit_tigray_ethiopia_sg_example.pdf</p>
<p>Monthly field visits</p>	<p>Field reports were submitted after every visit. Two examples are below:</p> <p>June 2021 – Woliso Town field report. Available at: https://www.ircwash.org/sites/default/files/c1_june_3-5_2021_field_mission_report_woliso_sg_example_0.pdf</p> <p>June 2021 – Debre Birhan Town field report. Available at: https://www.ircwash.org/sites/default/files/c1_may_31_june_2_2021_field_mission_report_db_sg_example.pdf</p>
<p>Participation of members in national and international conferences (All Systems Go!, African Water Association, Africa Water Week, Uganda Water and Environment Week, UNC Water and Health Conference, AfricaSan)</p>	<p>Sustainable WASH Systems Learning Partnership. 2020. Webinar: Strengthening WASH Networks in Ethiopia: Analyzing an Urban Sanitation System. Available at: https://www.youtube.com/watch?v=tl1bLX_UT3Q</p> <p>Sustainable WASH Systems Learning Partnership. 2021. Collective Action in WASH: Findings from SWS. Available at: https://www.youtube.com/watch?v=WQcjheQ6NDE</p> <p>Sustainable WASH Systems Learning Partnership. 2019. Webinar: Designing for Sustainability: Bringing Citywide Inclusive Sanitation to Ethiopia. Available at: https://www.youtube.com/watch?v=490wkRVdPKw</p> <p>Sustainable WASH Systems Learning Partnership. 2020. Webinar: WASH Collaboration: Two Projects, One Result. Available at: https://www.globalwaters.org/resources/assets/sws/webinar-wash-collaboration-two-projects-one-result</p>
<p>Advanced participatory methods training for strengthening leadership capabilities</p>	<p>Kanaan, R. 2019. Basic APM Training for Learning Alliances. Available at: https://www.ircwash.org/sites/default/files/c1_apm_report_woliso_debre_birhan_30-31_jan_2019_sg_example_0.pdf</p>

Designing and Doing Action Research

Tool and Description	References for Further Reading
<p>Writing a hypothesis and learning agenda: Learning agendas provide opportunities to engage in iterative, consultative processes that can foster engagement and buy-in and facilitate coordination and collaboration.</p>	<p>USAID. 2021. Collaborate Learn and Adapt Toolkit. Available at: https://usaidlearninglab.org/qrg/learning-agenda</p>
<p>Interim action research reports</p>	<p>Hailegiorgis, B., McSpadden, B., Boru, G., Ibrahim, J., Pearce, J., Mekonta, L., Adank, M., Abera, M., Mussa, M., and Gashawbeza, N. 2021. Final Report on Action Research to Strengthen Monitoring, Infrastructure Management and Planning in Rural Water, Ethiopia. Available at: https://www.ircwash.org/resources/final-report-action-research-strengthen-monitoring-infrastructure-management-and-planning</p>
<p>Facilitator's diary</p>	<p>IRC Ethiopia. 2019. SWS Rural Water Process Documentation Activity and Event Form: WASH Facilitator's Diary. Available at: https://forms.office.com/Pages/ShareFormPage.aspx?id=d7UwCyzA7Ei3WweGaUtiDfN8wtRsPpxCreTUPKoTxrJUQVpCWTdCRUJYNDhCUTE3MVdKUFiwMEVT Ri4u&sharetoken=s6YZDIXOH49benm3wSDf</p>
<p>Key informant interviews: Obtain stakeholder insights and document changing perspectives to identify emerging change or failures in order to enable adaptation.</p>	<p>USAID. 1992. Performance Monitoring and Evaluation Tips: Conducting Key Informant Interviews. Available at: https://pdf.usaid.gov/pdf_docs/PNABS541.pdf</p>
<p>Master planning: A framework for planning, coordinating investments, and guiding the implementation of a vision. A political and technical tool that can illustrate scenarios to sharpen planning and build collective action.</p>	<p>Asutifi North Ahonidie Mpontuo (ANAM). 2021. ANAM WASH Monthly Updates on the Master Planning and Collective Action Movement in Ghana. Available at: https://www.anamwash.com/</p> <p>Kabarole District Council. 2019. Kabarole District WASH Masterplan 2018-2030. Available at: https://www.ircwash.org/resources/kabarole-district-wash-master-plan-2018-2030</p> <p>Magara, P. 2020. Assessment of the Process of Developing the Kabarole WASH District Master Plan 2018-2030. Available at: https://www.ircwash.org/resources/assessment-of-the-process-developing-kabarole-wash-district-master-plan-2018-2030</p> <p>Nabunnya M.J. 2019. Launching Kabarole District WASH Masterplan: Why Ownership Matters. Available at: https://www.ircwash.org/blog/launching-kabarole%E2%80%99s-wash-master-plan-why-ownership-matters</p>
<p>Training of trainers, and training that follows</p>	<p>Multiple training of trainers workshops were conducted throughout the project. A selection of two</p>

	<p>are included below.</p> <p>October 2019 – Debre Birhan Communal Latrine Management Guideline ToT Report. Available at: https://www.ircwash.org/sites/default/files/cI_communal_and_public_latrine_management_guideline_tot_training_report_db_sg_example.pdf</p> <p>August 2018 – Strengthening Rural Potable Water and Sanitation Associations and Federations. Available at: https://www.ircwash.org/sites/default/files/cI_south_ar_i_training_report_tot_wuas_and_federations_sg_example_0.pdf</p>
<p>Awareness creation workshops</p>	<p>October 2019 – Sanitation in Small Towns: Community Representatives’ Awareness Creation Workshop in Woliso. Available at: https://www.ircwash.org/sites/default/files/cI_public_engagement_awareness_creation_workshop_report_woliso_sg_example.pdf</p> <p>January 2020 – Sanitation in Small Towns: Community Representatives’ Awareness Creation Workshop in Debre Birhan. Available at: https://www.ircwash.org/sites/default/files/cI_public_engagement_awareness_creation_workshop_report_debre_birhan_sg_example.pdf</p>
<p>Development of monitoring forms for monitoring communal latrine functionality</p>	<p>Community latrine monitoring format. Available at: https://www.ircwash.org/sites/default/files/communal_latrine_monitoring_format_sg_example.pdf</p>

Appendix 2: Sustainable WASH Systems Learning Partnership

This guide was developed as part of the 2016–2021 Sustainable WASH Systems Learning Partnership (SWS). SWS was funded by the United States Agency for International Development (USAID) and included four implementing teams taking different approaches to systems change in Ethiopia, Kenya, Uganda, and Cambodia.

This handbook is based on the experiences in Uganda and Ethiopia led by IRC, working with Tetra Tech and LINC.⁶¹ Learning alliances in districts and towns, linked to engagement at regional and national levels, were established and supported to carry out action research with the aim of improving water and sanitation services.

For further information, see: <https://www.globalwaters.org/sws> and www.ircwash.org/projects/sustainable-wash-systems-sws.

⁶¹ While this document focuses mostly on how to facilitate local change, SWS also developed and tested several technical solutions and innovations to improve rural and small town systems for water supply and sanitation. These are documented elsewhere.