



Water + 2022 Retrospective Report



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Cover Photo: @RANO WASH. Hortenia, a resident of Morarare Gane, Madagascar, satisfied after having installed a private water connection in her home.

Acknowledgments

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Introduction

Last week, in March 2023, the United Nations convened a UN Water Conference for the first time since 1977. The conference gathered governments and civil society from around the world, and underscored the need to redouble efforts and increase investments if we are to achieve Sustainable Development Goal 6 – the SDG related to water, sanitation, and hygiene. Dialogues emphasized urgency as water insecurity increases across the globe, and stressed the centrality of water and sanitation, which are essential to all other development goals. If SDG 6 is off track, all SDGs are at risk.

Water is central to all of CARE's work. CARE's Water+ programs play a critical role in fulfilling CARE's 2030 Vision, and link directly to CARE's strategies for Food, Water & Nutrition, Climate Justice, and Humanitarian Assistance. Our water+ programs encompass work across four inter-related domains: WASH in emergencies, WASH Systems Strengthening, Water Smart Agriculture, and Water Resources Management and Protection. Within and across these domains, CARE focuses on strengthening local systems, including the conditions and capacities, for sustainable and equitable services. In all of our Water+ work, CARE works to advance gender equality by building the agency of women and girls, changing relations that re-envision gender norms, and transforming the structures that perpetuate inequalities.

Each year, our Water Team publishes a Retrospective report – a small selection of case studies and lessons learned across our work throughout the previous year, with an attempt to focus on the “how” of implementing a systems approach. This year, we have compiled 5 case studies from our Water+ work that we hope will be informative to our CARE teams and many partners, within the WASH sector and beyond.

- Case studies on the RANO WASH program in Madagascar and The Children's Safe Drinking Water Program in Kenya describe the use of systems approaches to advance sanitation and water quality. Though we talk much in the WASH sector about systems approaches for water service provision, there is limited documentation on the use of systems approaches in sanitation, hygiene, water quality, and other topics. These case studies contribute to filling that gap.
- A case study on CARE Ghana's use of Conservation Funds describes key learning from a pilot in which Village Savings and Loans Associations administered loans to farmers wanting to adopt soil and water management practices. This pilot demonstrates the feasibility of local mechanisms for climate finance, and the impact of even small amounts of finance on adoption of conservation practices.
- A case study on the Seizing the Moment initiative in Ethiopia describes our work with the Ministry of Women and Social Affairs and the Ministry of Water and Energy in Ethiopia to identify and address structural barriers to gender equality that influence WASH services. Many efforts at gender equality WASH are focused solely at the community level, but there is a need for greater effort to address structural barriers, and ensure that the institutions that provide and regulate WASH services dismantle the internal gender inequalities that hinder equitable WASH services.
- A case study from CARE Peru describes CARE's collaboration with government and university partners, and Indigenous communities in the Peruvian Amazon to test and support sustainable technical and financial models for water service provision in remote communities of the Amazon. Here, communities established a Water Fund to finance scaling of water services and water resources protection through allocating a percentage of revenues from chestnut production. Students at a local university were trained in rural WASH service delivery and assisted these communities, eventually starting their own enterprise to continue this work.

As always, this report represents only a fraction of CARE's water+ work in 2022. We thank our CARE teams, partners, and participants for their tireless work to strengthen systems for equitable WASH services and water resources management to protect the health, wealth, and well-being of everyone. Happy reading!

The CARE Water+ Team



Impact at a Glance: what CARE Global Monitoring data tells us about our Water+ impact in 2022

By 2030, CARE commits to work with partners around the world to support **75 million people, the majority of which are women and girls, to fulfill their right to food, water and nutrition**. CARE's intent is to directly reach at least 25 million people from 2020 to 2023.

In FY22, our water portfolio **reached 4.3 million participants directly, 51% of them women**, across **36 countries** through **114 projects**. These were development projects (not inclusive of humanitarian response), lasting 3 years on average.

Impact by indicators

Systems strengthening is an essential part of sustainable WASH programming and includes working with government, communities, and the private sector; considering components including maintenance, access to finance, supply chain, planning and natural resources management. CARE projects use CARE's Governance Marker as an internal accountability tool to rate how well their activities are designed and implemented to ensure inclusive governance. Within the global Water+ development portfolio, 26% of projects challenged existing policies and structures to encourage greater inclusion and strengthen government capacities, reaching the highest rating on the Gender Marker 4-point scale.

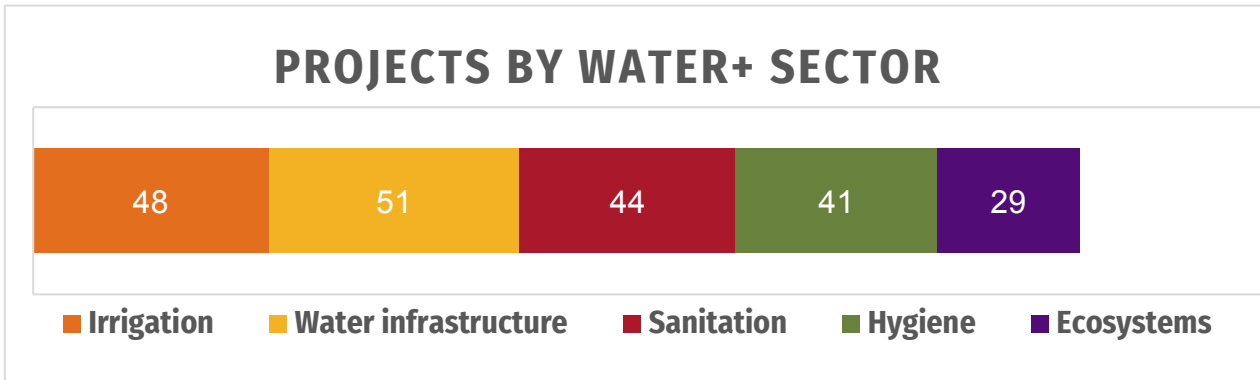
Integrated Gender Approach

CARE is committed to achieving gender equality and empowerment for women and girls through our humanitarian and development programming using the Gender Equality and Women's Voice approach. **In FY22 half of Water+ development projects were reported as Gender Equality and Gender Responsive** (the highest rankings). **38% were Gender Sensitive**. The remaining 12% were gender neutral. While this proportion of gender equality and gender responsive programming is relatively high and demonstrates commitment to structural change, it also suggests room to strengthen gender equality WASH approaches.

An additional 68% of projects reported working within existing governance structures – the second-highest rating within the Governance Marker.

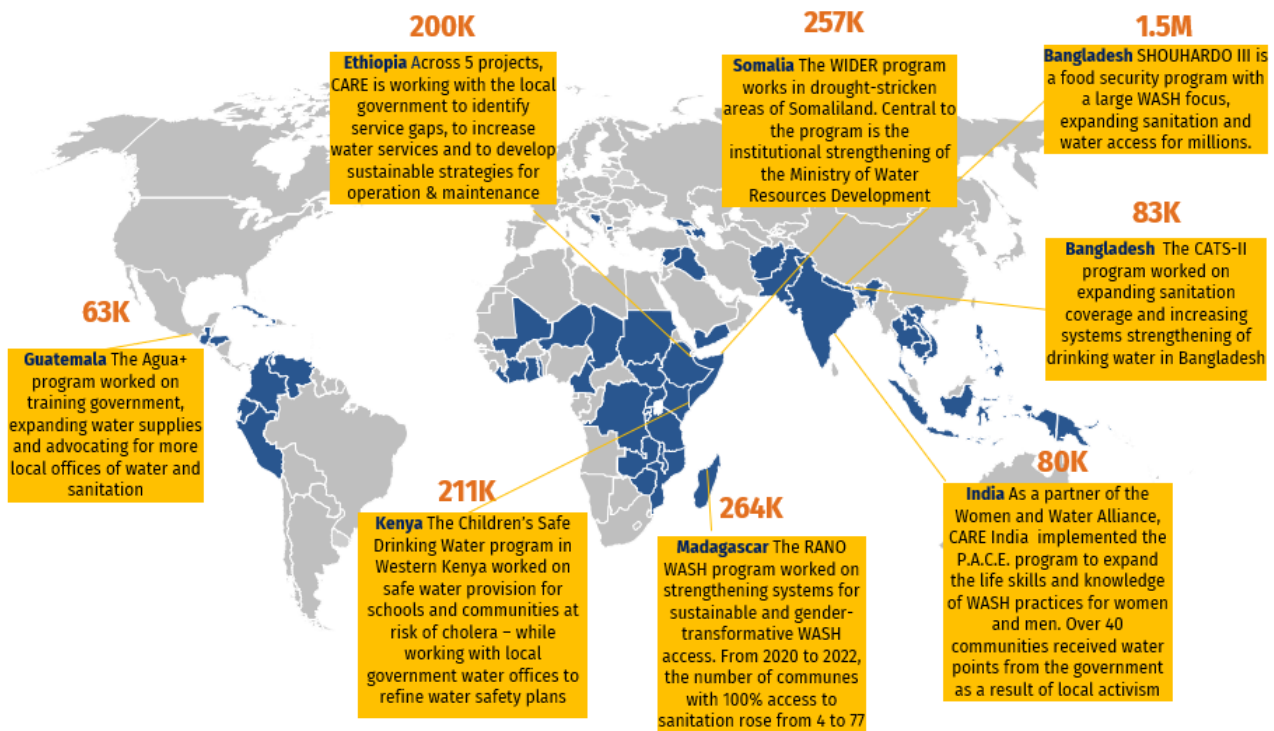
Across CARE’s global Water+ development portfolio:

- **51%** of projects include technical assistance or support to local organizations, demonstrating an emphasis on localization and strengthening local actors.
- **1.9 million people** gained access to at least basic **drinking water services**.
- **1.4 million people** gained access to at least basic **sanitation services**.
- **CARE worked with 2.3 million people** to gain access to water for agriculture through irrigation or other technologies.



CARE implemented a total of 114 Water+ development projects in FY22 across 36 countries. Of these, many projects addressed multiple sub-components of Water+. Thus, the total of the figures above is greater than 114 to account for this overlap.

Example Programs by Direct Reach #s (water and sanitation development programs) for FY22



Countries with CARE Water+ Programming

Testing Conservation Funds in VSLAs: Financial Mechanisms for Increasing Adoption of Water Smart Agriculture Practices in Ghana

In arid regions of Northern Ghana, small-scale farmers' lives and livelihoods are increasingly affected by climate change. These communities already suffer from higher levels of poverty than the rest of the country. Women dealing with existing gender inequalities are also forced to cope with greater threats and gendered responsibilities including more time spent collecting water, worsening food security and nutrition from poor harvests, and less capital to drive economic independence for female small-scale farmers. Faced with rising temperatures and erratic rainfall, these agriculture-dependent communities are seeking new strategies to adapt to the effects of climate change and secure a future where they have the resources necessary to thrive and fulfill their own priorities.

CARE conducted a pilot program from December 2020 – March 2022 in northern Ghana to understand how small-scale farmers in Village Savings and Loan Associations (VSLAs) could be incentivized to increase and sustain the adoption of Water Smart Agriculture (WaSA) practices by overcoming high-labor inputs or additional up-front investment through a revolving conservation fund model.

Adopting WaSA practices provides numerous benefits to ecosystems and livelihoods, such as promoting biodiversity, conserving water and protecting water sources, conserving soil and increasing soil water carrying capacity, and capturing carbon dioxide. WaSA has also proven to increase yields for small-scale farmers, particularly women, working in areas facing increasing water scarcity due to climate change. However, WaSA adoption rates often suffer because the practices can be labor and capital-intensive.

Following recommendations from research on the feasibility of Payments for Ecosystem Services to finance the adoption of WaSA practices, CARE concluded that VSLAs offer a potential vehicle to provide such financial incentives to farmers. In response to these findings, CARE leveraged funding from the Shockwave Foundation to start its pilot program, which funded conservation agriculture funds in 10 VSLAs in three communities in the Garu and Tempene districts of northern Ghana where farmers have previously learned WaSA techniques through the WADA She's Smart Program. CARE conducted an assessment in July and August 2022 to understand whether and how the conservation fund had been sustained in each of the VSLAs, and what changes have resulted from the first conservation loan and repayment cycle.



Key Findings

- **VSLA members used the conservation fund to pay for the increased cost of adopting WaSA practices**, such as the use of drought-tolerant seeds, labor for planting soybeans and applying compost, and hiring bullocks to assist with minimum tillage.
- **No defaults were recorded, and the funds grew by as much as 100%** from interest on loans. Members reported that high repayment rates were due to increased yields and incomes from the adoption of WaSA practices. VSLA members noted the environmental benefits of the adopted WaSA practices, most notably improved soil fertility and increased soil moisture-carrying capacity. **Due to higher yields and incomes from WaSA practices, VSLAs have increased their weekly savings from 33 - 100%**
- **Women benefited because they could plant earlier.** The conservation funds afforded them the extra money needed to hire bullocks, typically only available for use later in the season after men finish planting. Challenges remained, such as too few bullocks, the need for additional labor, and improved access to certified seeds.
- Though this pilot was small, **the conservation fund model shows promise in helping small-scale farmers overcome barriers to adopting WaSA practices** and needs further testing and scaling in different geographies and contexts.

Fund and VSLA Structure

The conservation fund was loaned to VSLA members for expenses related to the adoption of WaSA practices with an interest rate of 10% - the same as the main VSLA Fund - payable within a specific period after harvest. The conservation fund proved to be a useful alternative to the main VSLA fund because the main VSLA fund has little money available for borrowing outside of household expenses and is shared out during the rainy season – an inopportune time for farmers.

Table 1: Key findings from the conservation pilot study, which compared key informant interviews from VSLAs with a conservation fund and neighboring VSLAs without one.

Area of Change	Benefits	Challenges
Fund and VSLAs	Provided an alternative to the main VSLA fund which has little money available for borrowing outside of household expenses, and is shared out before the rainy season.	The initial seed funding of 2,000 cedis (\$165 USD) per VSLA, with an average loan of 100 cedis per member, was not enough to provide loans to groups with more than 20 members.
Effects on Savings	There were no defaults, and the fund was able to grow due to payback with interest. Fund growth ranged from 28 - 100% per VSLA. Due to increased yields and incomes from WaSA practices, VSLAs have increased their weekly savings from 33 - 100%	In order to pay back their loans, some members had to supplement their payments with the sale of firewood, petty trade, or small amounts of savings from the main VSLA fund

<p>WaSA Practices Adopted</p>	<p>WaSA practices adopted included use of certified seeds, intercropping maize and soya, minimum tillage using bullocks, spreading compost, and planting soya at the recommended distance and leaving the plant matter to decompose instead of burning it.</p> <p>Benefits from WaSA practices include increased yields and incomes from improved soil fertility and moisture, and the ability for certified seeds to survive in more water scarce environments.</p> <p>Women benefited in particular because they were able to plant earlier due to the availability of extra funds to hire bullocks that are typically only made available to women after they are used by men.</p>	<p>Access to bullocks and certified seeds is still challenging for some VSLAs.</p> <p>The funds were not always enough to scale WaSA adoption as desired due to high costs of labor involved in intercropping, planting at the recommended distance, and transporting and spreading compost.</p>
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Conclusion

The first year of this conservation fund model in northern Ghana provided promising evidence that such a model can provide VSLA members with the necessary finance to overcome the high capital and labor costs of adopting WaSA practices. However, challenges remain as markets for certified seeds need to be made available in addition to resources such as bullocks and access to labor.

There were also other enabling factors that may have influenced the increase in incomes, such as favorable prices for produce. As a result, further scaling, testing, and adapting of the model is recommended to demonstrate its efficacy in varying contexts, including differing climates outside of semi-arid regions.

CARE Ghana continues to follow this first cohort of VSLAs using the conservation fund mechanism to learn whether and how they continue to use the conservation fund over several planting seasons. As of March 2023, the VSLA is entering its second lending cycle of the conservation fund. We will conduct a similar assessment in August 2023.



RANO WASH / Photos : Daheery Razaka Raifemanana

Moving Beyond Village-Centric Sanitation Approaches in Madagascar

Achieving sanitation at scale continues to be an important challenge for the WASH sector. CARE uses approaches like **Community-Led Total Sanitation (CLTS)** to increase demand for toilets, **market strengthening** activities to increase availability of affordable and quality toilets, and subsidies to ensure the poorest customers can purchase toilets. CARE also strengthens governance, including local government capacities to plan, budget and monitor sanitation, as well as mechanisms to hold service authorities accountable for sustaining sanitation.

Successful sanitation strategies, however, can no longer rely on a single approach, but must layer and sequence these different activities to achieve and, most importantly, sustain elimination of open defecation. System strengthening provides an effective framework for designing and implementing sanitation approaches that promote coordination and collaboration between the public sphere, market systems and individuals.

RANO WASH in Madagascar

In Madagascar, the RANO WASH project has been a key implementing partner in supporting government, private sector, and communities to meet the goals of the national *Madagasikara Madio* plan to eliminate open defecation by 2025. As of 2023, the project exceeded its life of project targets. More than **742,494 people** have improved access to sanitation (basic and limited) and **85 communes** (municipalities) have been certified Open Defecation Free (ODF), ensuring cleaner environments and protecting health and dignity.

To achieve these large-scale gains, RANO WASH implemented **a systems approach that focused on the commune government as the entry point** and tested different combinations of approaches to assist communes

in reaching ODF status. The RANO WASH strategy mobilized commune governments, private sector, formal and informal leaders, women’s rights organizations, schools, health facilities and community members. Key components were:



Combined triggering at institutional and community levels, and vocal and supportive leadership from the commune Mayor and their team.



Tackling multiple factors beyond basic triggering for behavior change.



Discussing and addressing resource-based and cultural barriers to toilet use – going beyond basic triggering for behavior change.



Testing the layering of approaches, such as supply-side market strengthening and the availability of toilet inputs and designs.

Why communes instead of villages?

Communes are the decentralized authority closest to the population and in Madagascar encompass an average of 16,000 people each. This is where service authorities work and make decisions that affect the villages that make up their jurisdictions. This means that this is where **strengthening government leadership and support to governance really matters**. Previous efforts in Madagascar focused only on communities, anchored by a belief that communities were solely responsible to reach and maintain ODF status. The RANO WASH team challenged this assumption by acknowledging **that ODF is influenced by the legal and governance frameworks at the commune level**. Therefore, in order for demand and supply-side interventions to succeed, commune governments needed to have a WASH plan and governance frameworks to achieve and sustain ODF.

As part of its larger governance strategy to equip commune governments with the tools and processes to develop plans and frameworks, RANO WASH focused on **building commune government capacity to lead the planning, monitoring, and budgeting of WASH activities**, including public sanitation infrastructure (e.g. public toilets) and social norms and behavior change to encourage household investment in toilets. Key actors and tools were the PCDEAH (commune development WASH plans), STEAH agents (commune WASH agents), and joint institutional and community triggering for CLTS. Communes also engaged in sector reviews, which provide strategic opportunities to discuss bottlenecks and identify promising and effective practices.

This framework of leadership, planning, monitoring, accountability, and coordination created a supportive environment to layer and sequence demand and supply-side interventions like behavior change, sanitation market development and sanitation service delivery infrastructure (i.e household and public toilets). The commune entry point also facilitated engagement with schools and health facilities as this requires inter-agency and intersectoral coordination. The **systems approach helped the team link the public sphere with household demand and the private sector-driven market system** to eliminate open defecation at the commune-level.

“Previous [sanitation] efforts had been focused only on communities, with the belief that the responsibility for maintenance of ODF status is only at the community level. But this isn’t true. ODF is influenced by the legal and governance frameworks at the commune level. Ensuring that commune governments have a WASH plan, and governance frameworks to sustain ODF is key.”

-Harisoa Rasamoelina, RANO WASH Senior Behavior Change Advisor

The graphic below outlines the interventions by WASH system building blocks that helped achieve ODF communes.

USE OF WASH SYSTEM

GENDER AND SOCIAL INCLUSION



Collective inclusive decision-making
Inclusive toilet models

Savings group mobilization
Empower women leaders

INSTITUTIONAL ARRANGEMENTS



Institutional triggering
Commune leadership
Training of Commune technical staff

Distribution of roles and responsibilities
Support to central and regional government

INTEGRATION AND COORDINATION



Support to regional coordination structure

Mobilize actors towards common goal
Commune sector review

MONITORING



Monitoring mechanisms at local and national level
Respect national ODF verification protocol

STRATEGIC PLANNING



Commune WASH Policy & ODF and sanitation plans

Support to WASH institutions
WASH governance analysis
"Clean Madagascar" campaign

FINANCING



WASH budget lines in commune and institutions

Tax generation schemes
Savings groups
Private sector mobilization

SERVICE DELIVERY AND BEHAVIOR CHANGE



CLTS approach and Follow-Up Mandona
Mobilize local masons

Grow-Up Sticker approach
Savings group contest
WASH-Friendly Institutions
Mass media campaign
Sanitation market development

ACCOUNTABILITY AND REGULATION



Communal WASH policy
Social and traditional rules and laws

Various accountability tools
Consultation frameworks
Involve neighboring communes

ENVIRONMENT AND WATER RESOURCES



Standards for toilet construction
Go Green campaign

Pilot phase of fecal sludge management

Figure 1: Key RANO WASH activities supporting commune-level ODF, organized within the framework of the WASH Building Blocks

Linking commune interventions with regional and national policy and strategy

RANO WASH also engaged with the Ministry of WASH to support and align with national priorities and strategies (e.g. *Madagasikara Madio*), which sets priorities and targets for each commune. Linking with these also helps programs scale and share experiences among sector actors. For example, regional coordination structures supported by the project created intercommunal platforms for coordination, joint decision-making, sharing new ways of working (e.g. modifications to CLTS), and critical reflection among public, private and NGO actors. Planning and budgeting by communes are linked up to regions and national-level and base these functions on monitoring data from the national WASH monitoring platform (SE&AM) and regional and national planning and budgeting.

Importance of learning and adaptation

Taking a systems approach and strengthening commune leadership was important for success, but also crucial was establishing a culture of learning and adaptation within the RANO WASH team itself. Team members were encouraged to experiment, innovate, and reflect on what strategies were working and how to adapt or course-correct. The project team encouraged regular reflection and exchange between and across regional teams,

administrative levels, and stakeholders, and discussion of both successes and failures. As sanitation progress leveled, the team reflected on the need to go beyond CLTS and start thinking about how to strengthen the impact of CLTS by addressing its shortcomings and combining it with other strategies. Modifications to CLTS and complementary strategies (e.g. market-based sanitation, VSLAs and Social and Behavior Change) were then tested at the regional level, which allowed the team to assess which combination of approaches could best augment CLTS to impact sanitation adoption at scale.

Conclusion

Unlike water service delivery, sanitation is not often considered a public good. As a private good, the focus is on individuals and households (e.g. to purchase and maintain toilets) while the role of the service authority, who is mandated to provide WASH services, becomes less clear. The RANO WASH team found success in defining and strengthening the roles and responsibilities of commune governments and generated political will and buy-in that supports institutions, the private sector, and individuals and households to support sanitation coverage together at the commune-level. As a result, household sanitation has been adopted at a much larger scale than in previous village-level approaches, and has so far suffered from much less recidivism. **Nearly 1 million people currently live in an open defecation-free environment as a result of this work, and 95% of communities have remained ODF after 2 years.**



Seizing the Moment: Strengthening Institutional Structures for Gender Equality in Ethiopia's Federal Ministry of Water and Energy

Women's participation and leadership roles in water, sanitation and hygiene (WASH) decision-making increases the provision, satisfaction, quality and sustainability of WASH services. Yet – globally - women participate at far more limited rates than men in community and local WASH decision making, businesses and utilities, and fill a minority of leadership positions in WASH governance and service provision. **This means that decisions about WASH service provision are made predominantly by men.**

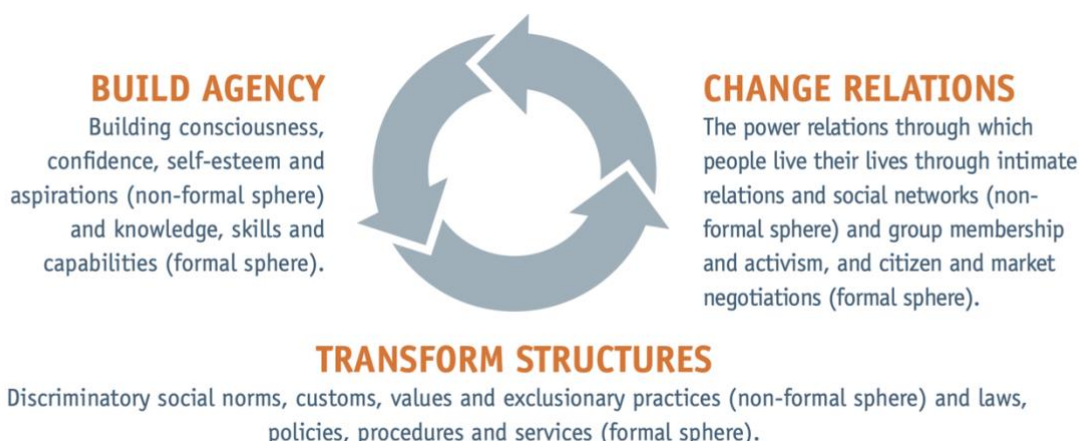
Recent efforts in gender equality WASH have focused primarily at the individual and community levels. However, there is a need for a **gendered approach that also addresses equity at a higher level** - at the very government institutions responsible for ensuring and regulating service provision. A government ministry that doesn't have systems and staff sensitized to gender issues will deliver services that replicate gender inequalities.

In Ethiopia, CARE leads the Seizing the Moment initiative, which is focused on addressing structural gender inequities within the Ministry of Water and Energy and other key line ministries in Ethiopia, which are responsible for scaling and regulating WASH service provision. The Ministry of Water and Energy (MoWE) is a male dominated ministry with a majority of men on staff and in leadership positions. However, the Prime Minister of Ethiopia has established a government mandate for gender equality within Ethiopia's federal government, and charged the Ministry of Women and Social Affairs (MoWSA) with holding other line ministries, including the MoWE, to account for achieving gender parity. With funding from the Conrad N. Hilton Foundation, CARE works in collaboration with the Ministry of Women and Social Affairs (MoWSA) of Ethiopia to:

- Strengthen the MoWSA's internal capacities, tools, and frameworks to perform their role. This includes refining tools such as Social Analysis and Action and the Gender Levelling Tool, which is used to evaluate Ministries along 17 indicators of gender equality.
- Identify and acknowledge barriers to gender equality within the organizational culture, staff capacity, and policies of the Ministry of Water and Energy, other key line ministries, and regional and woreda bureaus of water and energy.
- Strengthen links between MoWSA and the MoWE to incorporate a gender lens into decision-making and service delivery design, and hold the MoWE accountable to Ethiopia's national mandate for gender equality.
- Test and describe processes and best practices in working at structural levels to support gender equity essential for gender equal services.

Seizing the Moment uses CARE's Gender Equality Framework, which defines gender equality change as addressing the **structural causes as well as the symptoms of gender inequality**, with the aim of achieving lasting change in the power and choices women have over their own lives.

CARE's Gender Equality Framework



Findings to Date

The MoWSA used the refined Gender Levelling Tool and CARE's SAA tool to facilitate **self-evaluation processes** with the Ministry of Water and Energy and other line ministries, including the Ministry of Planning and Development, to identify structural barriers to gender equality.

At the end of this self-evaluation process, the Ministry of Water and Energy scored itself with 68/100, which translated to a Gender Sensitive score. The self-assessment helped the MoWE to identify the following internal strengths and weaknesses that facilitate or hinder gender equality:

Gender Levelling Tool Scoring	
Gender Transformative	90 - 100
Gender Sensitive	60 -89
Gender Aware	30 -59
Gender Blind	Below 30

Strengths to build on:

- Gender activities are incorporated into the MoWE's annual plans.
- Affirmative action policies are in place to more effectively recruit women.
- The MoWE collects HR data disaggregated by sex to understand how many leadership positions are filled by women and men.
- An increasingly gender-integrated institutional structure: the MoWE has a gender directorate that has expanded from three to eight staff.

Weaknesses to be addressed:

- Limited women's leadership: Only 10 of 85 managers (12%) in leadership positions within the MoWE are women.
- Insufficient gender budgeting: the budget for the gender directorate within the Ministry of Water and Energy was only 419,000 Birr (less than \$10,000 USD) compared to budgets in the millions for other categories.
- Limited accountability: All 21 departments within the MoWE are expected to have a gender-aware plan, but only 4 are actually incorporating gender into their work.
- Lack of M&E mechanisms to measure gendered outcomes.

Table 2: A selection of indicators within the Gender Levelling Tool (of 17 total indicators)

Sample Indicators from the Gender Levelling Tool	
No.	Indicator
1	Policy and legal framework: questions under this indicator examine the extent to which gender equality objectives are integrated within policy and legal documents.
4	Sex and gender disaggregated data: questions under this indicator examine whether the sector has put in place a system for capturing sex and gender disaggregated data, and has adequately analysed available data.
5	Accountability: questions under this indicator examine whether a system of accountability for mainstreaming gender equality is set and practiced in the sector.
16	Women in decision making: questions under this indicator examine whether women get opportunities to occupy decision making roles, and whether women senior professionals and in decision making positions receive capacity building support.

What happens next?

The MoWSA has hired a consultant to conduct an internal gender assessment of the Ministry of Water and Energy. **Data from the assessment and the gender levelling tool will be used to identify additional gaps and outline recommendations** to strengthen MoWE staff capacity to offer gender equality programming.

The MoWSA is planning a high-level public event with Ministerial offices, the Prime Minister, parliamentary representatives, key government officials, and the media. This will be the **first event of its kind, and it is expected to galvanize accountability and pave the way for more gender-responsive government systems and WASH service provision**. MoWSA is working with Parliament and the Prime Minister's Office on a regulation that will enable consequences (e.g. budget cuts, refusal to approve annual plans, or negative publicity) for ministerial offices that do not take action to improve low gender equity scores.

CARE will support the MoWSA and the MoWE and apply the gender levelling tool and conduct similar reflection with the regional and woreda Bureau of Water and Energy. In the next phase of this work, CARE and the MoWSA plan to measure the impact of these structural gender equality on services at the community level.



Improving WASH access, governance, and sustainability for dispersed rural families and Indigenous communities in the Peruvian Amazon

Background

In remote areas of the Peruvian Amazon, small-scale producers and Indigenous communities suffer socioeconomic inequalities, lack access to basic WASH services, and consume water contaminated by agricultural and livestock waste. Deforestation and erratic rainfall patterns attributed to climate change have also reduced the availability of water resources. These families live in especially dispersed settlements where most do not receive technical assistance from local WASH authorities, water quality assessment or installation of water and sanitation systems. In addition, they do not belong to municipal sanitation service committees and do not pay a fee because they access water on their own farms from springs, rain, and other wetlands (rivers, lakes, lagoons). Women and girls are most affected by the compounding risks of water pollution and limited WASH access due to exposure during domestic activities and the effects on reproductive health.

In 2021, CARE Peru worked with families in San Martín and the Amarakaeri Communal Reserve to develop two innovative models of self-financing of water storage and treatment solutions. Families of both producers and Indigenous peoples participated in decisions that affect their access to WASH services and how to acquire cost-effective water treatment systems, paid through the sale of carbon captured in their agroforestry systems or through communal savings funds. Both San Martín and the Amarakaeri Communal Reserve, located in the northern and southern areas of the Peruvian Amazon, respectively, contain communities living in rural and dispersed settlements. While increasing access to water was the overarching goal, both models were created in response to their particular environmental, social, and political contexts, leveraging existing partnerships with WASH authorities, local academic institutions such as the Sedes Sapientiae Catholic University (UCSS), and the local framework for Indigenous governance in Peru, known as a communal reserve.

San Martín

Problem

The amount of water in the district and in the region has been reduced due to deforestation in water recharge zones and the effects of climate change, especially increases in temperature and changes in rainfall patterns. Water quality is also a major concern because water sources are contaminated by heat-resistant bacteria and heavy metals, the latter due to the indiscriminate use of agrochemicals such as glyphosate and illegal, legal, and informal mining activities. This has also led to the spread of diarrheal disease, impacting the health of children in particular.

Model

- The project conducted a needs assessment and gravity-fed systems were determined to be the most feasible due to the presence of hillside springs; the water is generally of good quality and does not require additional treatment, only disinfection.
- CARE worked with UCSS to train a team of engineering students to develop an enterprise to help these communities address their WASH needs. A few families were selected to participate in the pilot.
- The students provided technical assistance in training community members in the operation and maintenance of the systems. Youth gained employment opportunities while communities developed capacities in the design, construction, installation and maintenance of water systems using local materials.

- CARE also worked with UCSS to design a course for university students called “Integrated management of basic environmental sanitation and water access for dispersed rural populations.”
- The project developed protocols for ongoing monitoring of the gravity-fed systems in collaboration with families.



While this financing model is still in development, UCSS works with some families through a program that provides them with carbon credits for any agroforestry activities. The current financing plan is to use some of the revenue from the carbon credits to pay for the scaling and maintenance of these water treatment systems.

Amarakaeri Communal Reserve

Problem

Despite being officially defined as a protected area, the Amarakaeri Communal Reserve still faces many threats and pressures, including illegal and informal mining, illegal logging, roads, blast fishing, land invasions, and other illegal activities. In one extreme case, the state released an oil concession to the US company Hunt Oil, which overlapped with most of the reserve. There are local WASH agencies who are willing to carry out the operation and maintenance of potable water services, however, they are limited to managing systems, not the installation of new infrastructure, and they do not have permission nor budget to expand water supply.

Model

- Diagnosis and selection of families to participate in the pilot by Amarakaeri leaders by assessing their risks and capacities such as payment capacity, accessibility, water source, climatic risks (droughts, floods), etc.
- Design and validation with families of potential water quality improvement technologies such as biofilters and solar purification bags.
- Training for Amarakaeri leaders in the operation and maintenance of prioritized technology.
- Implementation and evaluation of the water access technologies.
- Accompaniment and technical assistance in the operation and maintenance process.
- Facilitating capacity-building activities, including granting scholarships to Amarakaeri representatives to participate in the Virtual Diploma in Water Management promoted by UCSS.
- Connecting community members to Peru's water regulating authority to reactivate its local sanitation management board and support environmental education and community organization aspects related to water use.
- Development of an Indigenous Water Fund to finance the maintenance and scaling of water technologies primarily by allocating a small percentage of revenues from sustainable livelihoods such as chestnut production.

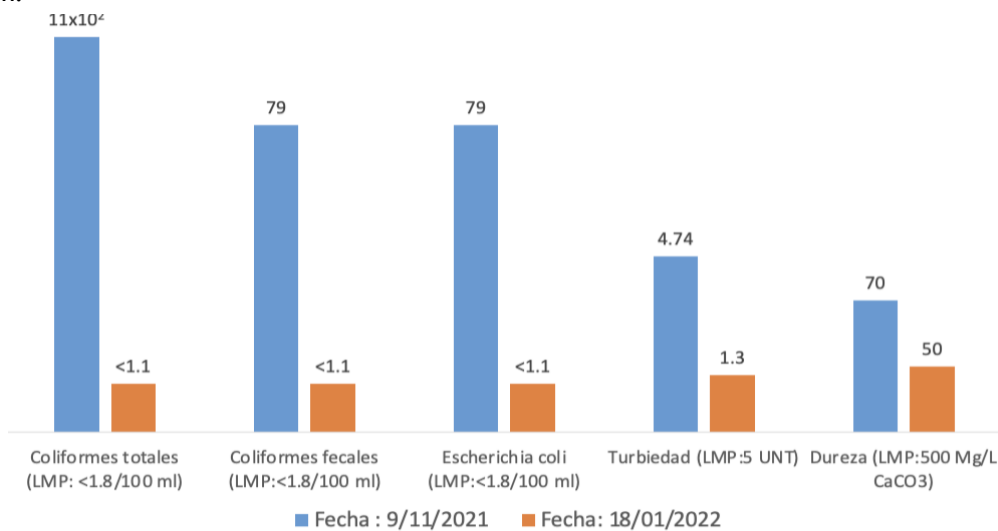


Figure 2: Pre and post-project water quality results from Amarakaeri

Recommendations

- Better understand the needs of dispersed rural families in the Amazon (water supply sources, water quality, climate risks, gender roles, culture and worldview, socioeconomic conditions, etc.) to more accurately define a range of possible drinking water supply solutions.
- Take a landscape approach to closing water supply gaps by including both drinking water treatment solutions and the protection of water-supplying ecosystems (springs, creeks, oxbow lakes, etc).
- Center the participation and leadership of women in the management and protection of water and ecosystems.
- Connect poverty reduction programs with domestic and productive water access solutions.
- Work with local enterprises to manage the provision and maintenance of drinking water supply systems to generate multiple benefits, lower investment costs and ensure greater sustainability.
- Follow-up for further testing and monitoring to validate the sustainability of carbon credits and Indigenous Water Funds as financial mechanisms to fund water systems.

Kenya: Systems approaches to water quality and water safety in chronic emergency settings

Introduction

In the past 15 years, considerable progress has been made in rural water service delivery—due in part to increased donor and partner focus on systems strengthening approaches that emphasize governance, planning, monitoring, and finance. However, water quality and water safety still present significant challenges, mainly due to the lack of integration of these factors into WASH systems strengthening frameworks, building blocks, and toolkits. Water safety approaches often rely on Point of Use (POU) treatment and irregular water quality surveillance—failing to work towards long-term water quality and water safety solutions, and placing heavy reliance on women and caretakers’ unpaid time and labor to routinely treat water.

CARE’s Children’s Safe Drinking Water Program (CSDW) in Western Kenya illustrates this challenge. Devolution of Kenyan government structures to County authorities, including water authorities and budget lines, have resulted in water access gains, but a continued reliance on untreated Lake Victoria surface waters and a lack of proactive approaches to water quality and water safety result in a chronic emergency scenario driven by persistent and recurring disease outbreaks (e.g. cholera, typhoid).

Activities

Framed by this context, in 2020, CARE Kenya and CARE USA’s Water+ Team engaged a global, corporate donor to dialog and co-develop a new theory of change (ToC, see below) for safely transitioning communities, service providers, and county authorities away from POU measures and towards long-term, safe water services. The ToC focused on the resources, capacity, and motivations needed to ensure water quality and water safety, and emphasized the public planning, budgeting, and decision-making processes associated with water quality and treatment. This advocacy also resulted in shifts in donor funding for longer-term, systems approaches to water quality.

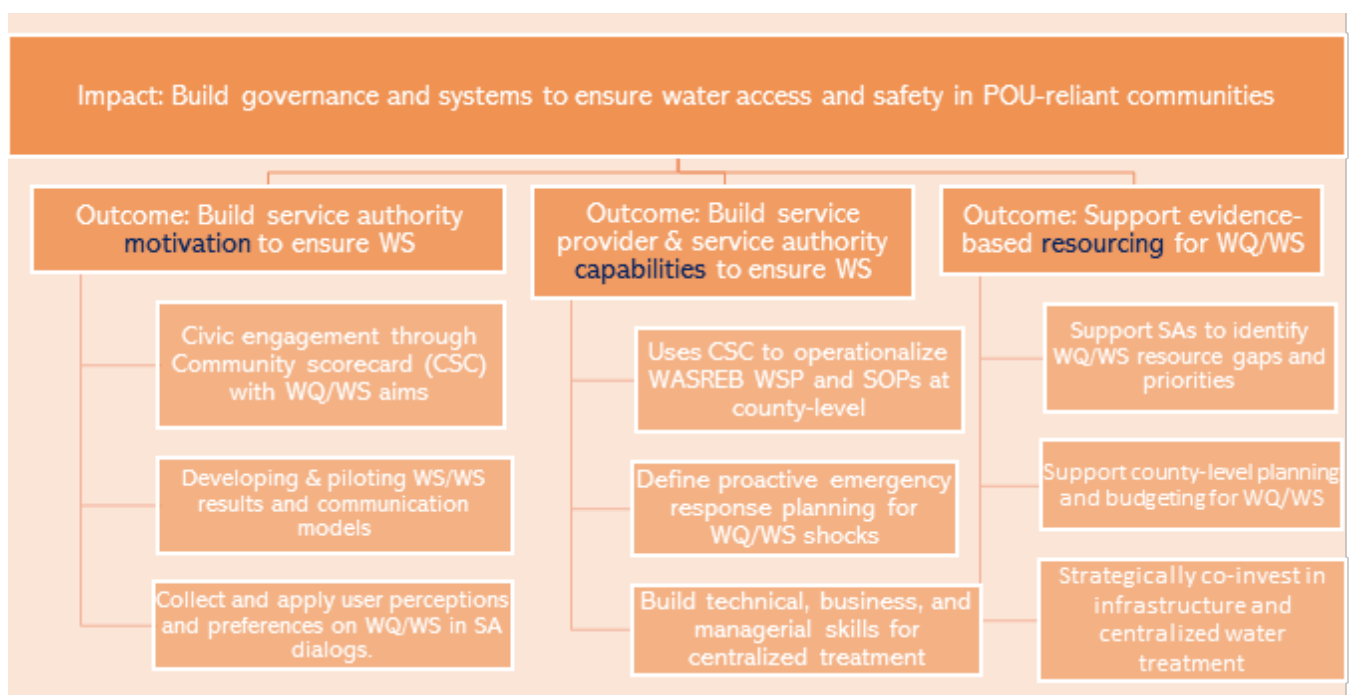


Figure 3: Systems Strengthening Theory of Change

One year into implementation, CARE has piloted a suite of approaches under this ToC to understand their feasibility, user acceptance, and potential impacts on water safety:

Intervention	Method
Stakeholder mapping of WQ/WS stakeholders at county and sub-county level	Policy document reviews and dialog with end users, service providers, and service authorities.
County-level contextualization of Kenyan National Water Safety Plan	Facilitating consultative meetings with users and service authorities Drafting of Migori county Water Safety Roadmap
Co-investment in infrastructure, maintenance training, and governance for communities heavily dependent on surface water and POU treatment methods.	Delegation of Migori County staff to provide technical, managerial, and policy support Rehabilitation of three, reticulated community water services Formation and training of water point committees Water quality testing and communication of results to communities.
Pilot installations of Venturi passive chlorinator in 4 health facilities.	In partnership with UC Berkeley, CARE led installation and stakeholder engagement, and collection of user perception data
Elicit user / customer insights and feedback on demand for and communication feedback loops related to WQ/WS	Baseline assessment in communities with infrastructure investments Customer research surveys in health facilities related to customer satisfaction and Water quality/Water safety (forthcoming) and the identification of more effective behavioral triggers and business models.

Lessons Learned

- Stakeholder mapping and engagement for water quality and water safety solutions are complex, requiring alignment across health, natural resources, and WASH policies and authorities. E.g., water resource management authorities have key roles in source protection and sanitary surveys in Kenya.
- There are limited global learnings to draw on for systems approaches to water quality and water safety, and examples from Uganda similarly highlight the importance of developing clear delegation structures, information channels, and accountabilities for remedial action.
- Kenyan service authorities already recognize water quality and water safety as substantial challenges and have identified specific areas of concern, including the need for basin-level planning, for improved access and reliability of water quality labs, and for empowerment of water resource user associations (WRUAs) to carry out testing.
- CARE supported development of an initial Water Safety Plan Roadmap for Migori County which yielded initial stakeholder mapping and priority issues/barriers to water quality systems in Migori County.
- CARE has engaged with UC Berkeley to pilot the Venturi passive chlorinator in health facilities in Western Kenya. End user feedback collected throughout installation will inform a public sector scaling strategy for Venturi, and initial data suggests there is strong demand for centralized treatment in health facilities.

- CARE has engaged with UC Berkeley students to quantify the relative cost-benefit of treatment methods—yielding initial estimates that centralized treatment, where feasible, is 400 times more cost effective than POU.

Conclusion

Despite significant advancements and investments in rural water service delivery, water quality and water safety remain pressing challenges. CARE's experiences in Western Kenya underscore the importance of developing and implementing holistic, context-driven frameworks for water quality and water safety within existing WASH systems. Through stakeholder engagement, increased accountability of service providers, donor and government advocacy and co-creation, and piloting of new approaches, the accomplishments of the CSDW program provide a roadmap of how to make progress towards sustained water quality and water safety solutions that better serve rural communities.



In Conclusion

In 2022, CARE's Water+ programs continued to play a critical role in addressing the complex challenges limiting sustainable and equitable WASH access, working towards CARE's broader Vision 2030, and contributing to multiple Sustainable Development Goals. By focusing on the work of strengthening systems in the WASH sector and beyond, CARE has been able to create holistic solutions that build community capacities, address harmful and discriminatory gender norms and practices, and transform the underlying structures that sustain WASH systems and the people that rely on them. CARE's global Water+ work reiterates a number of key lessons learned (and re-learned) that should inform policy and practice. These include strengthening and supporting processes that ensure meaningful participation of communities and local leaders, enabling and financing community-led solutions, creating and sustaining strong monitoring systems that help improve disaster risk reduction and responses to interruptions in WASH services, and adopting approaches that seek to understand the specific needs and priorities of women and girls while identifying and addressing barriers to gender equality at structural levels, including in government institutions. We are proud of these accomplishments - made possible through the efforts of our CARE teams, government and civil society partners, donors, and participants across the globe, and we remain committed to further strengthening the WASH systems that support sustainable WASH services for all. As our CARE teams say (and there is no better final word): Water is Life!

Thank you for reading!

The CARE Water+ Team

For more information, visit: <https://www.care.org/our-work/food-and-nutrition/water/>



Founded in 1945 with the creation of the CARE Package®, CARE is a leading humanitarian organization fighting global poverty. CARE places special focus on working alongside women and girls. Equipped with the proper resources, women and girls have the power to lift whole families and entire communities out of poverty. In 2021, CARE worked in over 100 countries, reaching 100 million people through nearly 1,500 projects. To learn more, visit www.care.org.