

Fundifix

Sustainable WASH Systems Learning Partnership

Conceptualizing Service Delivery Approaches from a Systems Perspective

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Context

Over the past decade, the water, sanitation, and hygiene (WASH) sector has become increasingly aware that the planning and management of sustainable service delivery requires an understanding of the interconnected factors that either enable or hinder WASH services. Service sustainability, therefore, hinges on the ability of local stakeholders to conceptualize and strategize service delivery approaches from a systems perspective. However, evidence is lacking on how different program approaches shift stakeholders' understanding of WASH systems. Accordingly, the study, [Assessment of Shifts in Stakeholder Understanding of WASH Systems](#), sought to build evidence on the impact that systems approaches can have on how local stakeholders conceptualize the complex interaction of factors that influence water and sanitation service delivery sustainability across settings in Ethiopia, Kenya, and Uganda. The study explored how stakeholder understanding of factor interactions shifted over time while engaging within professionalized maintenance and facilitated collective action approaches — the two predominant systems-based approaches applied within the Sustainable WASH Systems Learning Partnership (SWS).

To assess shifts in stakeholder understanding of factor interactions, the research team performed a rigorous analysis of key informant interviews (KIIs) conducted with water and sanitation service stakeholders over the project's 5-year duration. This document summarizes the study approach and findings, with lessons learned on how to improve stakeholders' systems understanding within the WASH sector.

Methodology

The research team worked with local partners and stakeholders in seven East African regions in Uganda, Ethiopia, and Kenya, which SWS grouped into three case contexts, shown in Box 1.

The primary data source for the study consisted of transcriptions from KIIs. To explore shifts in how stakeholders conceptualize the local WASH system, the research team asked interviewees to respond to questions regarding what they thought were the main challenges inhibiting service sustainability, suggest some solutions to address these challenges, and discuss how those solutions would change the system to improve sustainability. In total, the activity interviewed 226



stakeholders across the seven study regions, of which 67 percent represented government, 12 percent represented NGOs, 12 percent represented service providers, 7 percent represented service users, and 3 percent represented part of a local academic institution. The research team audio-recorded, translated (where applicable), and transcribed stakeholder responses verbatim. The activity conducted interviews at three different time steps: project baseline (2017–2018), midline (2019), and endline (2020).

The research team used a systematic process of thematically coding causal statements to extract cause-and-effect relationships between the factors that interviewees mentioned. The coding process followed a simple, yet rigorous approach (see Figure 1) to explore how the stakeholders explained complex challenges and solutions to water and sanitation service delivery cause-and-effect relationships. The research team produced a database of causal interactions between factors for each of the seven study regions from the output of these analyses, delineated by stakeholder groups (e.g., government, service provider, NGO, etc.). Coding of KII transcripts produced a rich and diverse set of factors that the team then affinity grouped to create a list of 17 “cross-case” factors (Box 2). This grouping enabled the research team to consistently compare shifts across the seven East African regions and evaluate improvement in understanding based on the previously mentioned criteria.

The study assessed shifts in stakeholder understanding from baseline to endline time periods based on three criteria: (1) the number of factors and interactions mentioned by stakeholders, (2) shifts in references to factor interactions that align with the core tenants of service delivery approaches, and (3) alignment of stakeholders’ responses within each region.

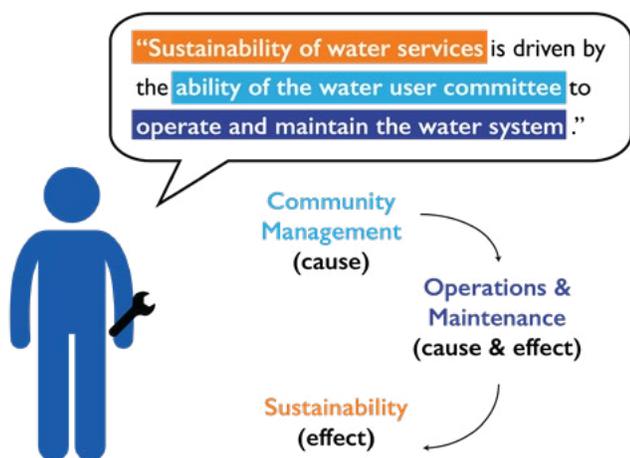


Figure 1. Example of coded causal statement

Box 1: Research Contexts

Case 1: IRC and Tetra Tech are working to better understand and strengthen local systems for rural water and small-town sanitation service delivery in Kabarole District, Uganda; two woredas (districts) in Ethiopia (Mille Woreda in the Afar Region and South Ari Woreda in the South Omo Zone); and two small towns in Ethiopia (Woliso and Debre Birhan). In each location, SWS worked with local partners to promote and facilitate learning alliances as a vehicle for more sector coordination and innovation.

Case 2: Whave is operating as a Ugandan regional service provider in Kamuli, Nakaseke, and Kumi districts and is working to cultivate a sustainable model for rural water service delivery by testing a professionalized maintenance approach. An important component of Whave’s model is incentivizing local technicians to prevent breakdowns by paying them based on the number of days a water source is functional instead of paying them to make repairs.

Case 3: The University of Oxford is working with partners UNICEF and Rural Focus Ltd. to develop, scale up, and test the FundiFix model as one response to rural water challenges in Kitui County, Kenya. The goal is to provide a model for universal, rural water service delivery. FundiFix provides a performance-based approach to maintaining water infrastructure, using “smart hand pumps” that collect real-time information on abstraction volumes and breakdown incidents.

Findings

Conceptualization of Complexity: Stakeholders’ understanding of service delivery complexity generally increased, with five out of the seven regional stakeholder groups or coalitions mentioning more unique factors, and four out of seven regional stakeholder groups mentioning more unique interactions, between the baseline and endline interviews (Figure 2). These results reveal an increased awareness and improvement in understanding of the complexity of systems that deliver sustainable water and sanitation services.

Shift Toward Service Delivery Approach: The findings also showed an increase in stakeholders’ references to

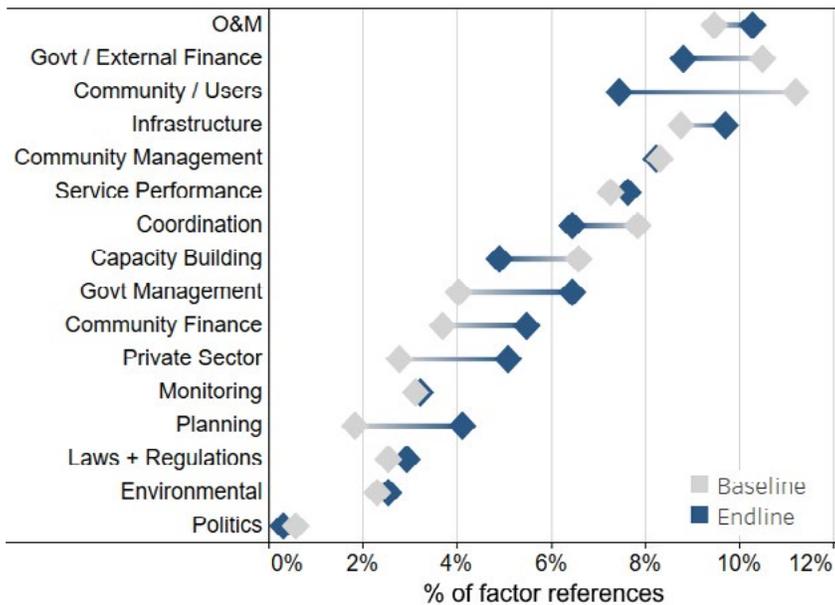


Figure 2. Percent reference to causal factors for stakeholder reference to solutions to service delivery

Box 2: Cross-Case Factors

- Capacity Building
- Community Finance
- Community Management
- Community/Users
- Coordination
- Environmental
- Government Management
- Government or External Finance
- Infrastructure
- Laws and Regulations
- Monitoring
- Operations and Maintenance (O&M)
- Planning
- Politics
- Private Sector
- Service Performance
- Sustainability

causal factors that closely align with the tenants of a service delivery approach as compared to hardware-focused or community-based management approaches (Figure 3). In particular, the results show an increased understanding and appreciation of the role of the private sector and government management as a solution. This appears to suggest an increased awareness of stakeholders that scaling up of a professionalized maintenance-type engagement with adequate government oversight (as seen in Cases 2 and 3) would promote more sustainable services while relying less on the role of community/users and external finance (both decreased as solutions).

Stakeholder Alignment: Study findings also explored the drivers of alignment in stakeholder perception on factor interactions that influence service delivery. Of the five programmatic conditions of the regional coalitions analyzed,¹ the role of stakeholder turnover revealed the clearest impact on aligned understanding. SWS designated each regional context as having either manageable or unmanageable turnover.² These results show a greater alignment in understanding (indicated by reduced variance in responses) of factors and their interactions for regions with manageable stakeholder turnover. In the case of Kitui County, Kenya, which had manageable turnover, the alignment between stakeholders improved 34 percent from the baseline to endline (Figure 3). In contrast, stakeholder coalitions with unmanageable turnover had, on average, a 17 percent decrease in alignment. This demonstrates a substantial difference in outcomes for coalitions that were able to manage the turnover of stakeholders.

Lessons Learned

These findings provide evidence for the merits of applying approaches, like facilitated collective action, that are focused on convening people together in a structured setting to explore the factors and interactions of complex systems such as WASH service delivery. The work of SWS partners shows that these types of approaches bolster stakeholders' ability to "think in systems" and navigate complex challenges posed by service sustainability. This improvement in systems thinking is amplified through engaging stakeholders within collective action and professionalized maintenance approaches, which are inherently multidimensional and systems-focused.

1 (1) Starting point for collaboration, (2) network or coalition age, (3) stakeholder turnover; (4) presence of a work plan, and (5) external funding types

2 See SWS report: [Collective Action in WASH: Lessons and Findings from 11 Collaborative Approaches](#)

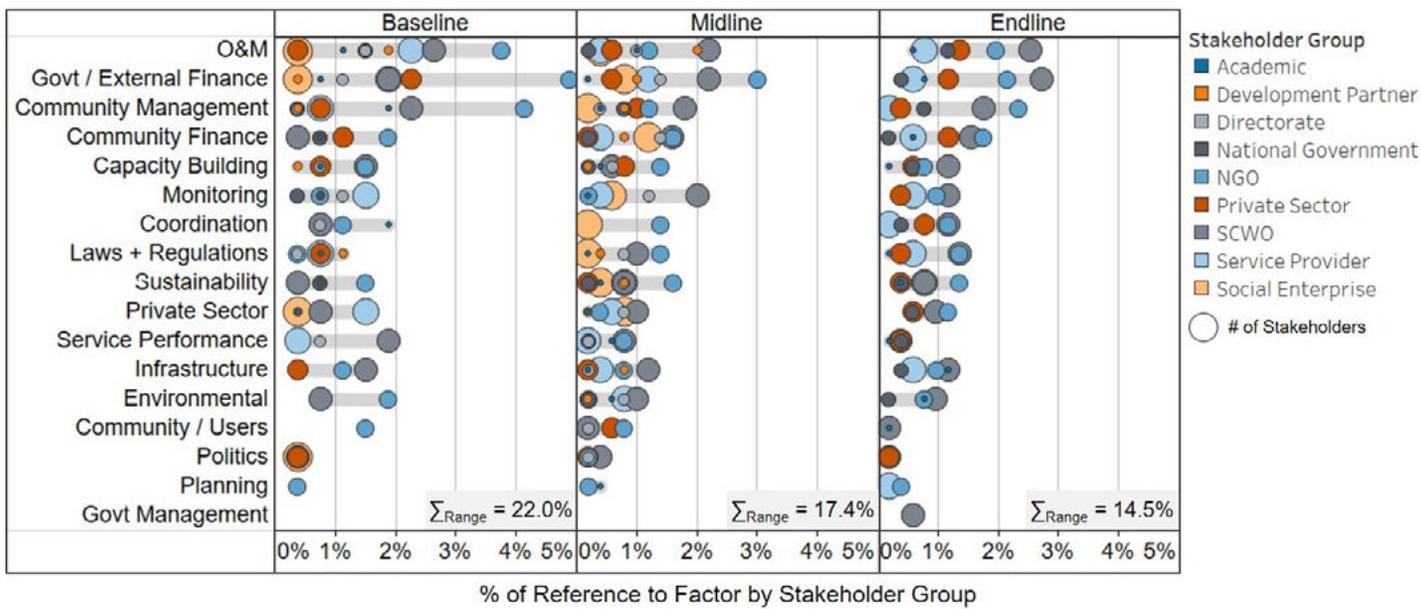


Figure 3. Factor alignment of solutions by stakeholder group in Kitui, Kenya, (Case 3) shows a 34 percent reduction in range from baseline (22 percent) to endline (14.5 percent)

These findings also indicate that a key way to promote and retain stakeholder knowledge on WASH system complexity and nuance toward aligned programmatic strategies is to ensure consistency of stakeholder coalition membership (i.e., to minimize turnover) and to develop mechanisms for efficient knowledge transfer between old and new coalition members. Once stakeholders have a better understanding of the system, keeping those individuals in place and involved promotes a higher level of service sustainability. More broadly, these findings highlight the importance of assessing understanding to evaluate the efficacy of systems-focused service delivery strategies.

While the findings presented here resulted from a rigorous research process, SWS conducted multiple approaches to assess stakeholders' understanding. These include ones that require lower levels of effort such as qualitative evaluations of informal conversations with stakeholders or detailed assessments of semi-structured interviews or focus groups. Regardless of the approach applied, assessing and improving stakeholder understanding of WASH systems starts with increasing awareness of the importance of systems thinking and the development of approaches, tools, and techniques that help stakeholders apply systems thinking to better plan and manage WASH services.

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. 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 Karl Linden (karl.linden@colorado.edu) or Ryan Mahoney (rymahoney@usaid.gov).

