



Sustainable WASH Systems Learning Partnership

# Tracking Network Analysis in SWS: Debre Birhan, Ethiopia

April 2021

## Challenge

In Debre Birhan, Ethiopia, the local government struggles to provide reliable, long-term sanitation services to its 113,000 residents. This rapidly growing town has no centralized sewer network, meaning most sanitation facilities contain waste onsite, and only about 50 percent of these meet global standards for quality. In addition, only an estimated 18 percent of fecal sludge (FS) generated in Debre Birhan is safely managed through disposal. The large number of dispersed government agencies and entities mandated to manage the town's sanitation make it difficult for all actors to fully coordinate or agree on each stakeholder's precise roles, responsibilities, or workflows.

Sustainable WASH Systems Learning Partnership (SWS) partners IRC and Tetra Tech are working to improve WASH systems in Ethiopia by supporting Learning Alliances to coordinate on improvements to services. In Debre Birhan, Tetra Tech is working to improve the town's FS dumping functionality, formulate and operationalize plans for public and communal latrines, address industrial waste dumping, and advocate for sanitation investments. As part of the SWS work, LINC used Organizational Network Analysis (ONA)<sup>1</sup> to better understand the relationships and dynamics among Learning Alliance members – a group of 20 public authorities, non-governmental organizations (NGOs), private sector, donors, and academics – who LINC and local WASH actors identified as key to the sector.

ONA was chosen as an appropriate method because it helps identify opportunities to improve network cooperation and information sharing and develop capacity and leadership. Ultimately, SWS hopes that a better understanding of these network relationships will help the Learning Alliance to develop sustainable and systemic solutions to the town's sanitation operations and management.

## Approach

LINC prepared a baseline, midterm and endline ONA, utilizing a roster-based, whole-of-network approach to assess relationships and structures in Debre Birhan's sanitation service network. Participants were interviewed in-person and asked

<sup>1</sup> ONA is a powerful tool to study complex networks and focuses on aspects of relationships among studied organizational actors. It has the capacity to highlight strengths and weaknesses in communication, resource flows, power structures, and overall network functionality.

about their organization's services and other organizational attributes (e.g., type of organization, organizational mission) and their relationships with other members.

Relationships were categorized as Information-Sharing, Coordination, and Problem-Solving to encompass the range of relevant stakeholder interaction types. For each type, Learning Alliance members were asked which other members they had recently interacted with and the quality of the interaction (i.e., frequency of Information-Sharing, type of activity coordinated, or status of problem-solving request).

In addition, qualitative data were collected, asking interviewees: i) the main problems with water and sanitation service delivery; ii) ideas and recommendations for solutions; and iii) priority actions.

## Results

ONA data showed trends over time in relationships and dynamics between Learning Alliance members. Overall metrics improved, indicating increased knowledge sharing and coordination.

Debre Birhan Learning Alliance membership is highly diverse and has remained consistent and committed, despite some turnover, since its inception. The engagement, strength, and cohesiveness of the network increased successively from the baseline to the endline ONA. The number of Information-Sharing connections more than doubled from baseline to endline; Direct Coordination relationships more than tripled; and Problem-Solving relationships increased by nearly 40 percent. Even with a steady increase in Learning Alliance members from baseline through midterm to endline, Density, a measure of network cohesion, increased overall and either increased or stayed consistent for each relationship type taken separately.

On the ground, Information-Sharing increased from the baseline, through the midterm period, and again at the endline ONA (see Figure 1), reflecting the feedback from the SWS team and in line with trends observed against the project's performance indicators.

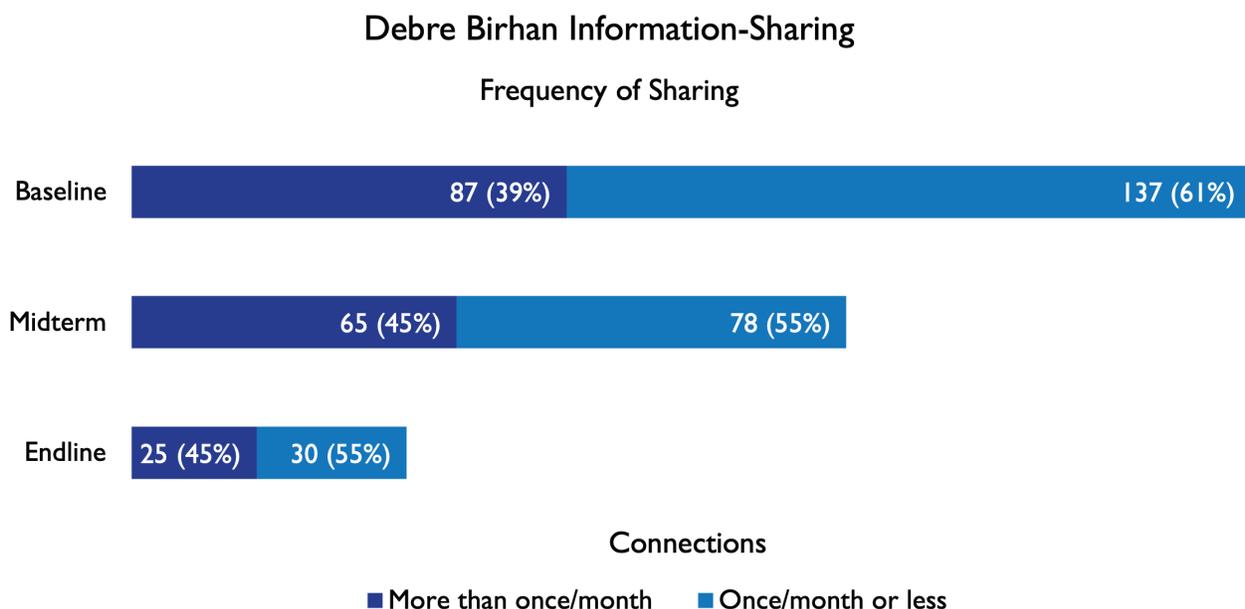


Figure 1. Debre Birhan Frequency of Information-Sharing from Baseline to Endline

The Debre Birhan Information-Sharing Network Map (see Figure 2) shows how critical certain Debre Birhan government departments (e.g., Water Supply and Sewage, Town Health) are for the flow of information within the network.

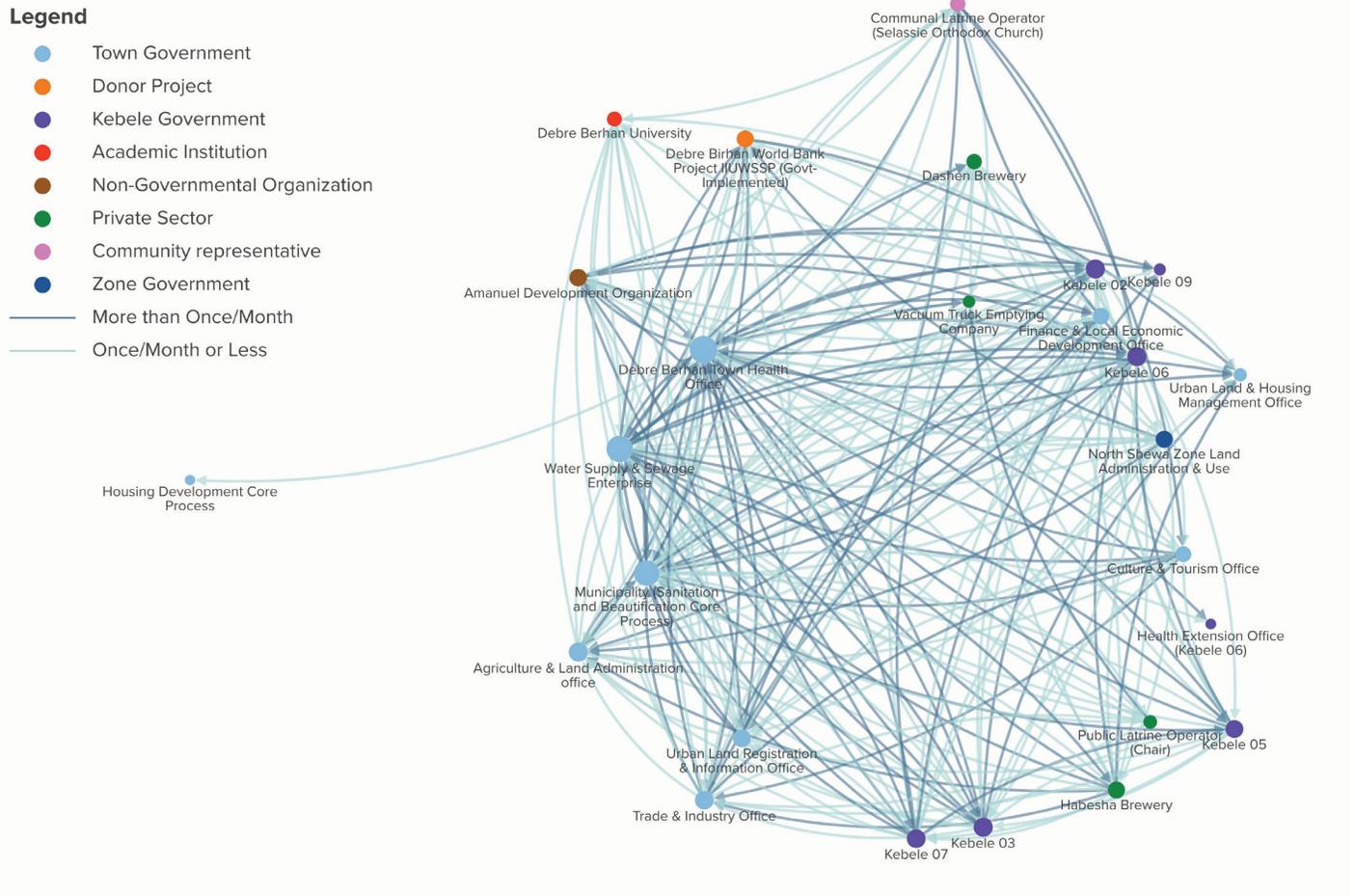


Figure 2. Debre Birhan Endline Information-Sharing Network

SWS reports recent achievements related to decision-making, town sanitation budget, and stakeholder dialogue, much of which corresponds to ONA findings. Overall, the ONA shows significant network strengthening, backed by observations of the SWS team. ONA proved a useful tool to track and report the project’s impact in improving information sharing, coordination, and problem solving among WASH actors in the town. Interactive ONA maps can be found [here](#).

**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 to identify locally-driven solutions to the challenge of developing robust local systems capable of sustaining water, sanitation, and hygiene (WASH) service delivery. 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](http://www.globalwaters.org/SWS), or contact Elizabeth Jordan ([Ejordan@usaid.gov](mailto:Ejordan@usaid.gov)).