



CASE STUDY

EquityTool assessment sheds light on a sanitation projects' customer profile, and informed rationale for implementing subsidies

Non-profit research and development organization works to increase the reach of their sanitation services in underserved populations in urban Haiti, and uses the EquityTool to better understand both their current clientele and unmet need in their market.



METRICS FOR MANAGEMENT



BACKGROUND

Haiti, a Caribbean island nation, faces significant challenges stemming from recurring climate shocks, political instability, and economic hardships, making it one of the most vulnerable countries in the Latin America and Caribbean region. Haiti's location makes it extremely vulnerable to meteorological disasters, with more than 96% of the population exposed to these types of events.¹ Additionally, only 30% of Haiti's population has access to improved sanitation, and less than 1% of waste is safely treated. This combination of factors has fueled one of the largest and most virulent cholera epidemics in recent global history and places Haiti in a state of chronic vulnerability to fecal-borne diseases.

Sustainable Organic Integrated Livelihoods (SOIL) is a non-profit research and development organization working in Haiti to support meaningful improvements in wellbeing and quality of life, including an increased sense of dignity and personal safety compared to customers' previous sanitation practices. Since 2011, SOIL has designed, tested, and implemented safe, sustainable, dignified, and equitable container-based sanitation (CBS) services in Cap Haitien, Haiti, in consultation with the national Ministry of Water and Sanitation. The project currently serves over 3,200 households. In order to evaluate ways to expand their reach, including those with the greatest need, SOIL explored a way to assess equity on the ground in their market.

CHALLENGE: FINDING AN EQUITY ASSESSMENT TOOL THAT FITS THE CBS MODEL AND MARKET

As a safe sanitation service provider, SOIL's objective is to install and retain as many households in the service as possible. This requires receiving regular, on-time payments from customers to ensure they do not accumulate debt and fall out of the service. While this service model includes cost recovery, prices designed to achieve full cost recovery would exclude a large proportion of the Cap Haitien target market.

In October 2022, in response to a national cholera outbreak, SOIL identified households in geographic zones that were particularly vulnerable to the spread of the disease and offered temporarily reduced service fees in those areas. However, once the special contracts expired, households who benefited from this intervention struggled to retain access to the toilets by paying the full service fees. Community-wide positive health impacts can only be achieved by providing safe sanitation coverage of at least 80% of the population, thus additional financial support is required for the poorest households to access safe, dignified CBS sanitation services.

A subsidy program would support existing, vulnerable customers to retain their services, and has the potential to increase coverage among the poorest potential customers over time. An internal study of SOIL's customer payment behaviors suggested that targeted subsidies for the poorest households would likely improve customers' on-time monthly payments and retention. Before offering a subsidy program,

¹ <https://www.worldbank.org/en/country/haiti/overview>

SOIL needed a way to reliably and cost-effectively identify the poorest and most vulnerable households in their market, to determine eligibility for a subsidy. SOIL tested wealth measurement tools, including the Poverty Probability Index and the full Demographic Health Survey Wealth Index, but found each to be either too time-consuming or not sufficiently relevant to the operational context to be useful.

SOLUTION: A PRACTICAL, RELIABLE WEALTH ASSESSMENT TOOL FOR URBAN HAITI

While exploring mechanisms to target sanitation subsidies, the SOIL research team was introduced to the EquityTool and identified it as a promising option, which they piloted among a sample of existing clients.

The [EquityTool](#) is a simple and easy-to-use tool that allows users to measure relative wealth by comparing the wealth of respondents to the national or urban-only population of the country. It provides a short set of questions that can be incorporated into any survey platform and is free to use. The short set of questions facilitates easy, fast, and inexpensive data collection and analysis of wealth distribution. This allows for fast and accurate comparisons across programs and populations into five wealth quintiles (quintile 1 is the poorest, quintile 5 the wealthiest). EquityTool data lets users make near real-time adjustments in program delivery that increase organizational effectiveness and strengthen program outcomes.

We decided to do a pretty wide-scale pilot of the EquityTool. So, we sampled over 300 households randomly in our service and collected the EquityTool data to kind of match it up against payment behavior. And we were real excited to find that it worked.

Maya Lubeck-Schricker, Research Associate, SOIL

The short EquityTool survey, which can be completed in a few minutes, measures household wealth based on country-specific questions that can be adjusted to the context. It is available for over 65 countries and survey questions are pre-translated into many local languages. Each country-specific EquityTool questionnaire identifies what percentage of respondents are in each national or urban wealth quintile, and supplies the appropriate statistical code and assessment instructions for analysis. Compatible with any data collection platform – even paper-based systems – the EquityTool requires only six to 18 questions from the DHS Wealth Index for a respondent's country, reducing the number of variables needed for accurate wealth assessment.

In August 2023, SOIL surveyed 306 randomly selected customer households across nine service zones. SOIL researchers translated the EquityTool's 12-question survey into Haitian Creole and trained their local sales agents to administer the survey. Sales agents collected and entered EquityTool data into the service's field data collection system,

TaroWorks, which integrates with customer records in Salesforce. The researchers also collaborated with SOIL's operations team to develop the following indicators for favorable payment behavior to use with the EquityTool analyses:

- proportion of bills paid in advance or on time throughout the household's duration in the service;
- proportion of months the household had its service cut due to debt; and
- longest streak of consecutive payments made in advance or on time.

Customer's household wealth was compared to their historic payment behavior records to identify whether the EquityTool's determination of household wealth aligned with customers' payment behavior trends. SOIL hypothesized that this correlation would demonstrate whether the EquityTool was an appropriate measure for evaluating customer subsidies in this context.

RESULTS: USING WEALTH DATA TO UNDERSTAND CURRENT CUSTOMERS' NEEDS AND EXPANDING SERVICE REACH

The SOIL team encountered an unexpected cultural concern with the EquityTool question on whether or not respondents had a bank account. They found that this question was universally uncomfortable for both customers and for the agents administering the surveys. While the reason for the apparent cultural discomfort with this question was not explored during this study, SOIL intends to do further work so see if it can be removed without compromising the wealth assessment results. A second surprise was that none of the customer households surveyed were in the lowest two wealth quintiles. Of 306 households, 91 households (29.7%) were in quintile three, 183 (59.8%) households were in quintile four, and 32 (10.5%) households were in quintile five, with slight variation in proportions between the geographic service zones. This provided valuable insight on the need for a subsidy scheme to reach those most in need.

EquityTool assessment consistently showed that as household wealth increased, payment behavior improved. Households in quintile three consistently demonstrated lower success with on-time or advance payments and a higher proportion of months in the service in a



service suspension due to debt than those in quintile four, with a larger gap between quintiles three and five. Households in quintile three also showed shorter favorable payment streaks than those in quintiles four and five, with quintile five consistently having the most favorable payment indicators. These trends held even after controlling for potential confounding factors such as household location, duration in the service, and degree of geographical vulnerability (e.g. living in a flood zone).

All three definitions of favorable customer payment behavior used in these analyses were significantly associated with the EquityTool assessed national wealth quintiles. These results suggested that the EquityTool is an appropriate measure of household wealth that can be used to identify household eligibility for a CBS service subsidy.

Since piloting the EquityTool in 2023, SOIL has continued to refine use of the EquityTool. In the fall of 2023, they conducted a quasi-census of over 4000 households in new target service zones to understand baseline sanitation access and demographics, including wealth. This study supported service expansion initiatives that have resulted in CBS installations to over 1,200 households within just 9 months.

Exploratory interviews with community leaders showed overwhelming acceptance of the EquityTool as a means of objectively determining eligibility for subsidies. Initial data from these interviews also suggest that the CBS service expansion is producing significant reductions in open defecation within the target communities.

PAYMENT BEHAVIOR TRENDS BY WEALTH QUINTILE

National Wealth Quintile	Average % Bills Paid on Time/ in Advance	Average % Months in Service Suspension Due to Debt	Longest Average Streak of Consecutive Bills Paid on Time/ in Advance
3	48%	40%	2.15
4	54%	34%	2.49
5	56%	31%	3.38

Source: SOIL

As a result of these studies, SOIL is incorporating use of the EquityTool into regular practice. SOIL is moving forward with the subsidy program, which will support existing customers experiencing EquityTool-verified financial need to pay a reduced service fee to retain access their CBS toilet. Further efforts are planned to be able to scale up support of service to households in the lowest two quintiles.

NEXT STEPS

- SOIL will begin offering a targeted subsidy program to existing customers who struggle to make regular payments due to financial insecurity, verified by EquityTool Analysis, to enable them to retain access to their CBS toilet.
- SOIL hopes to expand the subsidy program to new households in the future, enabling those who cannot currently afford the service to gain access. The hope is that the CBS subsidy scheme may eventually enable households in the lowest two wealth quintiles – who are not currently represented in the CBS service’s customer base – to join the service.
- The EquityTool is appropriate for assessing a household’s normal socioeconomic circumstances. SOIL is also working on a means to account for extraordinary circumstances that impact a household’s short-term ability to pay by developing a survey tool that discusses any recent shocks that may have impacted ability to pay for the service. SOIL’s goal is enabling CBS agents to offer short-term subsidies to help households maintain access to the sanitation service during periods of shock, on a case-by-case basis.
- Beyond the CBS service, SOIL’s partners at DINEPA (the Haitian Ministry of Water and Sanitation) and the national Ministry of Public Health have expressed interest in deploying a tool for use in other subsidy initiatives. SOIL has suggested the EquityTool, due to its ease of use and relevance to the local context.
- SOIL intends to make relevant data from this study openly accessible, through publication on open access platforms such as the Humanitarian Data Exchange and OpenWASH Data, to support sectoral knowledge and improve global implementation.



Lessons Learned

1. Wealth status significantly affects customers’ payment behavior and ability to remain in the CBS service.
2. Piloting a tool before adoption is an important step, allowing the identification of cultural and other concerns for the target community.
3. EquityTool wealth assessment is well accepted by the community for evaluating subsidy needs.
4. The ability to effectively assess need for and apply a subsidy facilitated rapid service expansion that powered the beginning of noticeable change in community sanitation.

For more information on how SOIL used the EquityTool to help identify those most in need, read their [article](#), or view a [video](#) discussion of their operations.

M4M can help you create data-driven insights. For more information contact partnerships@m4mgmt.org.