

OBJECTIVE

charity: water requires our partners to collect data that measures outcomes of water, sanitation, and hygiene interventions. This is part of a larger organizational objective to increase knowledge and understanding of the effect WASH programs have on the communities they serve. The charity: water monitoring and evaluation framework – called the MAP Framework – is our tool for measuring these outcomes.

This document describes the process steps and data collection methodology for conducting the **Post-Implementation Monitoring (PIM)** data collection, which was modified in late 2020. This includes the details about the survey methodology, as well as how to complete this work and submit the required information to charity: water.

Indicators

For PIM, the focus is on water point functionality, water quality, and water point management. We also complement that with a snapshot of indicators about household drinking water access. These indicators are collected in three different survey forms: a Water Point survey, Community Management survey, and Household Survey. The PIM indicators are listed below, by survey type:

Water Point Survey	Median number of users per water point
	Median reported time to repair last water point breakdown (in days)
	% of water points with water available on the day of visit
	% of water points fully functional ¹ on the day of visit
	% of water points with low diarrheal disease risk water (<i>E. coli</i> <10 MPN/100 mL)
Community Management Survey	% of communities with an operational WASH committee or Private Operator ²
	% of communities where WASH committees report having financial savings
Household Survey	% of households reporting their primary water point is an improved ³ source
	% of households with basic service (using an improved primary water point within 30 minutes collection)
	% of households reporting their primary water point is reliable (has no seasonal shortages, and shutdowns are communicated)
	Median per capita volume of water collected by households (L/person/day)
	Median household water collection time per trip (minutes) ⁴
	% of households reporting the charity: water funded water point as their primary water point

¹ Fully Functional is defined as providing sufficient quantity of water (20 L in 5 minutes), with no breakdowns or dry periods reported in the previous 14 days.

² An operational WASH committee is defined as one with a basic level for three indices: administration (has a responsible member and has met within six months), finance (collects user fees), and maintenance (knowledge of someone available for water system repair).

³ Improved water points as defined by the WHO/UNICEF Joint Monitoring Program

⁴ Water collection time includes round-trip walking time, plus queueing time for one trip to collect water.

1) POST-IMPLEMENTATION MONITORING PROCESS

The PIM survey process has four steps, detailed below.

Step 1: Budget and Plan for the Activities

- Include the activities in the grant proposal narrative and budget documents
 - In the Proposal Budget, include a line for the “PIM Data Collection” in the Water Supply chapter.
 - All associated budget details should be included in the Methodology tab.
 - Please remember to budget for everything, including (if needed): translations of surveys; arrangements for enumerator training; supplies such as smart phones and *E. coli* testing equipment; salaries, transportation, and per diems for data collection teams; data analysis and report writing.
- Prepare the survey tool for use on smart phones or tablets. Partners must use the standard charity: water survey tools, which are pre-programmed in mWater, and available in English, French, Portuguese, and Chichewa (with questions also available in Malagasy, Bangla, Amharic and other languages).
- charity: water will facilitate a virtual or in-person training session for the implementing partner program and M&E staff.
 - The details of this training session will be decided during the grant proposal review process – for example, whether it will be virtual or in-person.
 - Specify in the grant Proposal Narrative the month you prefer the training to be held.

Step 3: Complete the Surveys

- Prior to data collection, train the enumerators on the meaning of survey questions, survey procedures, and water quality testing (if the enumerators are conducting the testing).
- Follow the PIM Survey Methodology to complete the surveys (see Section 2 of this document).

Step 4: Clean and Analyze the Data

- Partners will review and clean the survey data using their judgement about what reasonable answers are for their context. Enumerators should be consulted to clarify any responses as needed.
- Partners will analyze the data and calculate the standard charity: water outcome indicators.
 - Detailed instructions for calculating the indicators can be found in the PIM Analysis Plan Excel document.

Step 5: Write a report with the survey results, and submit with the Grant Completion Report

- Preferably, use the charity: water PIM Report Template.
 - If the partner decides to use a different report format, the following sections must be included: Executive Summary, Introduction, Methods, Results (including a table of all indicators), Conclusion.
- The PIM report is required to be submitted with the grant completion report.
- Cleaned survey data in Excel format is also required to be submitted.
- In the charity: water grant completion report, answer associated questions about the PIM results.

2) POST-IMPLEMENTATION MONITORING SURVEY METHODOLOGY

When to conduct the survey

Partners should conduct the PIM survey at any point in the funded grant, provided there is enough time to complete the data analysis and report prior to the grant completion date.

Methodology Overview

The PIM data collection consists of the following components:

- Community management survey
- Water point survey
- Water quality testing at water points (fecal indicator bacteria such as *E. coli*)
- Household survey

The main focus of the PIM data collection is the sustainability of charity: water funded water points – specifically with regard to functionality and water quality. Therefore, the sampling strategy and surveys are focused on the water point level. Community management and household surveys provide additional information about management and use of those water points.

Sample Size

charity: water will calculate the required sample size for the PIM water points for each program. The sample size will be calculated based on the ability to measure a proportion metric with a 95% confidence interval, 80% power, 10% precision, and accounting for clustering of projects within a geographic area and by technology type.

- Water Point Surveys: The typical number of water points visited will be 80-100; however, sample sizes will be larger in country programs with many projects over distinct geographic areas.
- Community Management Surveys:
 - For point sources like boreholes with hand pumps, one community management survey will be completed per water point.
 - For piped systems, one community management survey will be completed per system or “community”, or per water point – depending on how the management structure is arranged.
- Household Surveys: Six households should be surveyed per water point. These should be selected from the intended users of the water point. If fewer than 6 households use the water point, all should be surveyed.

Sampling Methodology

Water Point Selection

charity: water will do the random sampling and provide the list to the implementing partner in advance of the data collection. The following criteria will be used:

- The community sampling frame will include all communities served by charity: water-funded water points constructed in the prior 1-10 years.
- Water points will be selected by probability proportional to size sampling based on the estimated population served in each community.

If any of the selected water points are unable to be located, or are inaccessible due to road blockages, alert charity: water, and a replacement will be provided.

Household Selection

The implementing partner or the survey enumerators will do the random sampling of the households. If the partner has a list of the household names served by the water points, these can be selected in advance. If they do not, the enumerators can do the random selection in the field.

The household sampling frame will include all households that are intended daily users of the selected charity: water-funded water point.

Six households will be selected through one of two methods:

1. Random selection (preferred): Obtain a list of households from a community leader, or make a list of households, and number them 1, 2, 3, etc. Use a random number generator (for example: <https://www.calculator.net/random-number-generator.html/>) or a mobile phone app (such as [UX Apps Random Number Generator](#)) to select six households and four alternate households. Visit those households with the numbers that were selected.
2. Semi-random selection (only if making a list is not possible): Have the enumerator spin a bottle on the ground and walk in that direction, skipping a pre-determined number of households between selected households. This is not preferred.

If there are fewer than six households that are intended daily users of the selected water point, all households should be interviewed.

Survey Tool

Survey data will be collected by trained survey enumerators who orally administer questionnaires to respondents.

The implementing partner must use the charity: water standard survey tools, which are pre-programmed in the mWater mobile data collection platform, and available in English, French, Portuguese, and Chichewa (as well as other languages). The survey must be translated into the appropriate local language(s) to ensure accuracy and consistency in asking the questions.

NOTE: For a partner that previously used an older version of the mWater surveys, it is possible to use those same forms again, or to update to the newest version of the survey forms. However, the newest versions of the surveys are shorter, so charity: water recommends updating to the new surveys.

Survey Respondents and Informed Consent

Water Point and Community Surveys should be completed with a water point manager or another community leader who is knowledgeable about that water point. This may be a member of a WASH committee, the “tap minder” or “vendor” who is responsible for selling water, or another community leader.

Household Surveys should be completed with adults (over age 18). The preferred respondent is the household water manager – who is often the mother, or other female household member. If that person is not available, the survey may be conducted with another adult household member who is knowledgeable about household water practices.

Household survey respondents must provide informed consent before the survey can be completed. The consent explains the survey process, how long it will take, that participation is optional. Below is an example that can be used for the consent. The respondents for the water point survey do not need to provide consent for the water point survey, because that survey does not ask for personal information.

“Good day, I am - [INSERT NAME]. I am representing [INSERT PARTNER ORGANIZATION]. I am part of a team interviewing people about drinking water in [INSERT NAME OF DISTRICT OR AREA]. This will help us learn about practices and improve water supply in the future.

You have been randomly selected to participate in this survey. If you agree, I will ask you questions about your household’s drinking water sources. These questions take about 5 minutes of your time. The information you give will be confidential. That means no one except me will know it was you who gave these answers.

Are you interested in participating in this survey today?”

Water Quality Testing

Samples from all surveyed water points will be tested for fecal indicator bacteria (such as *E. coli* or thermotolerant coliforms). Water quality testing may be done in one of three ways:

- 1) By survey enumerators on site with field test kits
- 2) By a water quality test officer or technician, either on site or at a central field office
- 3) By a central laboratory, with samples collected by enumerators

IMPORTANT NOTE: If testing is done at a laboratory or other central location, samples must be collected, stored in a cooler box on ice, and processed within 8 hours of collection.

Water Sampling Method

At each water point, samples should be collected in sterile containers directly from the water point outlet (tap or spout), without touching any other container.

Water Quality Test Methods

E. coli should be measured by a quantitative or semi-quantitative test method. One option is a most-probable number method with the Compartment Bag Test kit (by Aquagenx, LLC). This test kit may be used by enumerators on-site, and does not have stringent incubation temperature requirements. Other possible methods include the IDEXX Quanti-Tray (also a most-probable number method), or membrane filtration (with a Wagtech kit or other).

Testing for thermotolerant coliforms (TTC) is also permissible; however, testing for total coliforms (TC) is not, because total coliforms are not a type of “fecal indicator” bacteria.

Quantitative or semi-quantitative test are required, so that results can be grouped into quantitative risk categories of <1 MPN/100 mL, 1-10 MPN/100 mL, 11-100 MPN/100 mL, and >100 MPN/100 mL. As such, presence-absence test methods are not sufficient.

Samples must be incubated according to manufacturer instructions - either at ambient temperatures in a closed container (if average ambient temperatures remain $>25^{\circ}\text{C}$), or in an incubator at 35°C for 24 hours. Results are read after incubation.