**HANWASH**

**Research design for the Mattson Program baseline**

May 2024

**About HANWASH (Haiti National Water, Sanitation and Hygiene Initiative)**

Haiti, a Caribbean country of about 12 million people, is the least wealMthy country in the Americas and one of the poorest globally. Millions of citizens, especially the poor, lack access to basic services including safe, affordable drinking water and sanitation and hygiene education (“**WASH**”).

For many years, and especially since the devastating 2010 earthquake, international Rotarians and their Clubs and Districts have supported Haiti in different ways especially in the WASH sector. However, there was no single coordinated effort to align with the vision and needs of the government and local people and this threatened the sustainability of these investments.

In 2018, Rotary International District 7020 together with the Haitian government’s National Directorate of Drinking Water and Sanitation (“**DINEPA**”) created the Haiti National Water, Sanitation and Hygiene Initiative (“**HANWASH**” or the “**Initiative**”) with a vision of affordable and sustainable access to safe water and sanitation for all in Haiti. Working with a variety of partners, HANWASH investments are made according to national policies, international good practices in the WASH sector, and a set of core values predicated on local leadership and business principles.

HANWASH, Inc is a 501(c)(3) charitable corporation legally registered in the state of Florida under EIN 84-4393469, having an office located at 8200 Seminole Boulevard, Seminole, Florida 33772.

**CONTEXT OF THE BASELINE STUDY**

This baseline study is conducted as a requirement for the Mattson Program. This program, which runs from October 1st, 2023, to September 30, 2028, is founded by the Steve and Mary Mattson Donor Advised Funds (Mattson DAF) with the goal to “Increase access to safe, sustainable and affordable water, sanitation and hygiene (WASH) services in Haiti”. For the upcoming five years, HANWASH aims to deliver some specific outcomes outlined in its log frame and its Performance indicator framework. However, to thoroughly measure the results we will deliver through our interventions over the five years period, we need to know the starting point, which is the condition of WASH at the level of the intervention communes in 2024. That is why HANWASH is conducting this baseline study.

**OBJECTIVES OF THE BASELINE**

* Conduct a systematic inventory and inspection of the WASH facilities existing at the level of the HANWASH target communes (except Léogâne for W element of WASH) in 2024.
* Establish baseline data for each indicator outlined in the HANWASH program's indicator framework (further described below).
* Identify WASH related perceptions, attitudes, behaviors, and barriers related to the adoption of safe practices among the households, schools, and healthcare facilities in the HANWASH target communes.
* Establish performance targets for each indicator in the HANWASH program’s indicator framework.
* Conduct a mapping[[1]](#footnote-2) of the WASH actors (Government agencies, NGOs, Private sector, Community based organizations, etc.) implementing WASH interventions in the HANWASH target communes.

**RESEARCH QUESTIONS**

The research questions are oriented towards the three intermediate outcomes or pillars outlined in the log frame of the HANWASH program.

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| --- | --- |
| **Pillar 1000**: “Strengthened demand for and management of WASH services in the intervention communes.” | |
| **Main research questions** | **Secondary research questions** |
| * What are the main factors influencing the demand for WASH services in target communes? |  |
| * What is the condition of the existing water systems, water points, sanitation and hygiene facilities in the target communes and communities? |  |
| * How effective are the current management structures and practices in place for the WASH services? | What management structures are in place for the WASH services? |
| How transparent and accountable are the service providers? |
| * What are the main challenges faced by local authorities in terms of commune WASH planning and coordination? |  |
| * How do NGOs, Community-based organizations, and private sector entities contribute to WASH initiatives in the intervention communes? |  |
|  | |
| **Pillar 2000**: “Enhanced household access to and use of sustainable, affordable, and safe water, sanitation and hygiene services.​” | |
| **Main research questions** | **Secondary research questions** |
| * What is the current[[2]](#footnote-3) level of access to WASH services in the HANWASH target communes (Cavaillon, Léogâne, Pignon, Ferrier, Terre-Neuve)? | What percentage of households in the target communes have access to at least basic drinking water services? |
| What percentage of households in the target communes have access to at least basic sanitation services? |
| What is the percentage of interventions communities which are verified ODF (Open Defecation Free)? |
| What percentage of households in the target communes have access to at least basic hygiene services? |
| How does the cost associated with accessing WASH services compare to household incomes? |
| How is the maintenance and repair of WASH facilities managed in the intervention communities? |
| How frequently do households use the available WASH facilities? Are there any barriers to regular use? |
| * What are the common practices regarding water, sanitation and hygiene adopted by the households living in the intervention communes? | What is the level of awareness and knowledge about safe water, sanitation, and hygiene practices among the households in the intervention communes? |
| What are the common households’ practices regarding water collection, storage and treatment? |
| How safe are the sanitation-related practices of the households? |
| How prevalent are behaviors such as handwashing with water and soap at critical times among the households? |
| Are there gender-specific challenges in accessing and using WASH services in the intervention communities? |
|  | |
| **Pillar 3000**: “Expanded reach and resources leveraged through collective action with other national and international actors.​” | |
| **Main research questions** | **Secondary research questions** |
| * What are the financial mechanisms in place for funding WASH services in the intervention communes? |  |
| * What are the capacity strengthening needs of DINEPA and the OREPAs to better regulate the WASH sector, oversee and support project/program implementation? |  |
| * What are the other national and international actors involved in WASH initiatives at the level of the intervention communes? |  |

**RESEARCH METHODOLOGY**

In this section, we define the Research methodology which is the pathway or framework we will use to achieve the research objectives and answer the research questions. This includes: the approach for data collection and analysis, the data collection methods, the sampling strategy, the implementation plan, and the data analysis framework.

**The approach for data collection and analysis**

* **Before-and-after study**

We think that the “before-and-after study design” may be a good fit for this baseline study. It is one of the most used designs in evaluation studies. In fact, the before-and-after study design (also known as the pre-test/post-test design) is a type of research methodology used to measure change in a situation, phenomenon, issue, problem, or attitude over time. It is one the most appropriate study design for measuring the impact and effectiveness of a programme in improving the well-being of a targeted population.

A before-and-after design can be described as two sets of cross-sectional data collection points on the same population to find out the change in the phenomenon or variable(s) between two points in time. The change is measured by comparing the difference in the phenomenon or variable(s) before and after the intervention. A before-and-after study is carried out by adopting the same process as a cross-sectional study[[3]](#footnote-4) (You decide what you want to find out about, identify the study population, select a sample (if you need to) and contact your respondents to find out the required information.), except that a before-and-after study comprises two cross-sectional data sets, the second being undertaken after a certain period, usually at the end of the end of the program (endline). This allows researchers to observe any changes or effects attributable to the intervention. The difference between the two sets of data collection points (baseline and endline) is the impact of the programme.

* **A mixed approach (quantitative and qualitative)**

Furthermore, a mixed approach (quantitative and qualitative) will be used for data collection to allow a more comprehensive understanding of the WASH conditions in the target communes.

The quantitative methods will provide numerical data that will help to set baseline value and targets for the program’s performance indicators. The qualitative methods will offer deeper insights into the context, experiences, perceptions and practices of the intervention communities regarding WASH services. Using both approaches will allow for triangulation where quantitative findings can be validated by qualitative findings.

Since this baseline study is conducted in the context of the Mattson Program started in the program year 2023-2024 and ending in 2027-2028, we consider year 2024 as the starting point we need to conduct the baseline study. As a result, the baseline results will be valid only for the upcoming years of intervention, not for the interventions implemented by HANWASH between 2018 and 2024. So, this baseline study will strictly answer the question: “How is the WASH situation in the HANWASH target communes in year 2024?”.

**N.B**: It is noteworthy that the WASH indicators of SDG 6 should be used as a reference when assessing the level of access to drinking water, sanitation and hygiene services in the target communes. These indicators can be found at www.washdata.org.

**Data collection methods**

Given the objectives of this baseline study, we will use the following data collection levels and methods:

1. **Desk review**

Exploration of secondary data sources such as: Commune Action Plans (CAP), existing databases and map of WASH facilities in the target communes, reports on previous WASH-related studies conducted in the target communes, DINEPA’s National Guidelines in terms of WASH, evaluation reports from NGOs, donor agencies, governmental agencies or Community-based organizations involved in WASH interventions in the target communes.

1. **Household survey**

A structured questionnaire will be administered to the selected households to collect quantitative data on the availability and level of access to sanitation and hygiene facilities. We will also use this questionnaire to collect data related to knowledge, attitudes, and practices of the households in terms of WASH, and the potential barriers to the adoption of safe WASH practices in the target communes.

1. **Key Informant Interview (KII)**

Semi-structured interviews will be conducted with **Key Informants** such as: Community leaders (ASEC, CASEC, etc.), local authorities (Mayor, etc.), DINEPA representatives (OREPA, TEPAC, etc.), and other WASH actors to gather qualitative insights on community-level WASH challenges, resources, initiatives, and priorities.

1. **School and healthcare facilities’ survey**

A sample of schools and healthcare facilities will be visited, mapped and surveyed (by observation) in the target communes to assess their level of access to drinking water, sanitation, and hygiene services.

1. **Water facilities survey (community water points & water systems)**

For the community Water points, a structured survey will be conducted by data collectors at the level of the target communities to:

* Assess the FRAPE[[4]](#footnote-5) status of the water points recorded in the existing Water Commune Action Plans (CAPs for Pignon, Ferrier, Cavaillon, Terre-Neuve) to update the data related to water access at the level of the target communes in the year 2024.
* Record new potential water points and collect data on their FRAPE status.

For the water systems, a survey will be conducted, with the water systems managers as respondents, to collect data on the operations and infrastructure, management and maintenance, revenue collection and financial sustainability, accountability system, user satisfaction, challenges encountered, needs and plan for the future.

**Sampling strategy**

In this section, we outline the sampling strategy we plan to use for this baseline study:

* **For the household survey: Stratified random sampling**

Stratified random sampling is a method of sampling that involves dividing the population into homogeneous subgroups called strata and then randomly selecting samples from each stratum. This approach ensures that each subgroup is adequately represented in the sample, which can improve the accuracy and precision of the estimates compared to simple random sampling.

In the context of this baseline, the target population (households) will be stratified based on their geographical location (*Commune, Communal section, Urban area, rural area*). Within each stratum, households will be selected randomly to ensure representativeness and minimize bias. As a result, we may consider skipping a fixed number of households after each household surveyed (maybe skipping 2 households after each household surveyed).

Sample size calculations have been performed using a sample size calculator from Survey Monkey or similar , to determine the minimum number of households to be surveyed to achieve statistically significant results given a confidence level of 95% and a power of 80%.

*Click here to access the sampling table:* [Sampling table\_Mattson Program's baseline.xlsx](https://hanwash.sharepoint.com/:x:/s/MattsonProposal/EeEaV8V17stFgYziLsWgYkMBdENbWvJEDVMpHnkMaX_nDw?e=NXUc9N)

* **For the Key Informant interviews: No sampling is needed.**

All the Community leaders (ASEC, CASEC, etc.), local authorities (Mayor, etc.), DINEPA representatives (OREPA, TEPAC, etc.) available at the time of the data collection will be interviewed.

* **For the survey in the schools and healthcare facilities: No sampling is required.**

We assume that the population of schools and healthcare facilities in each commune is not large enough to use a sample. All the school and healthcare facilities will be surveyed at the level of each commune. These facilities’ locations will be identified prior to data collection, based on the data available at the Mayor’s Offices. This will make the enumerators’ deployment more effective.

* **For the water facilities survey: No sampling is required.**

All the water facilities already recorded on mWater for the target communes will be surveyed to update the data on their management, functionality, and potability.

Furthermore, potential new water facilities built in the target communes during the period post-Commune Action Plan, shall be recorded on mWater with their management, functionality and potability status.

* **For the mapping of the WASH actors at the level of the target communes: No sampling is required.**

A snowball method will be used to map the communal WASH actors. First, we will go the Mayor Offices to inquire about the list of all WASH actors implementing projects in each commune (Government agencies, NGOs, Private sector, Community based organizations, etc.). Secondly, from the list provided by the Mayor Offices, we will send enumerators to survey the WASH actors. During the survey, we will request referrals from the respondents to update the list of actors and expand the coverage of the mapping.

**Implementation plan**

We have classified the baseline study activities into three broad categories: **activities prior to data collection**, **activities during data collection** and **activities after data collection**.

**Activities prior to data collection**

Before data collection, we will be preparing to ensure the smooth running of the process in the field. Below are the activities we will be carrying out prior to the data collection phase:

* **Field visits are conducted (in Cavaillon, Leogane, Pignon, Ferrier, Terre-Neuve)**

The purpose of those field visits is to get to know and engage the stakeholders (local authorities, DINEPA representatives, Rotary Club volunteers, etc.), better understand the context in which the HANWASH initiative is being implemented and start the process of recruiting enumerators to perform the baseline data collection.

* **Review of the baseline research design by the HANWASH relevant stakeholders**

The research design is the document that gives answers to the following questions: “Why the baseline study will be conducted? How? Where? When? At which cost?

Prior to data collection, the baseline research design will be submitted to some HANWASH relevant stakeholders (HANWASH CEO, HANWASH Program Manager, M&E Subcommittee Leaders, Haiti Outreach M&E Lead) for review.

* **Creation/review of data collection tools**

This activity is about the creation or revision and validation of the data collection tools. One data collection tool will be created or reviewed (if already existing) for each data collection level we outlined previously:

Here are the list of the data collection tools we will create or review (if already exist): **a)** A data extraction form (in a spreadsheet format) for the desk review; **b)** A structured questionnaire for the household survey; **c)** An interview guide for the Key Informant Interviews (KII); **d)** A structured questionnaire for the school and healthcare facilities’ survey; **e)** The FRAPE survey for the community water points survey (revision); **f)** A custom structured questionnaire for the water system survey; **g)** A structured questionnaire for the mapping of the WASH actors.

After their creation, those data collection tools will be submitted to some HANWASH relevant stakeholders (HANWASH CEO, HANWASH Program Manager, M&E Subcommittee Leaders, Project Subcommittee Leaders, Haiti Outreach M&E Lead, DINEPA/OREPA representatives?) for review.

* **Recruitment of a contractor to conduct the data collection, analysis and reporting for the baseline study**

Due to the large extent of the work and our desire to be efficient and to use local organization with expertise in WASH data collection, we will recruit a contractor to conduct and coordinate the data collection, analysis and reporting for the baseline study at the level of the five intervention communes. The contractor’s scope of work will include: the household survey, the Key Informant Interviews (KIIs), the water facilities survey, the schools and healthcare facilities survey, and the mapping of the WASH actors.

All the necessary data collection tools will be provided by the HANWASH M&E team. However, the contractor will collaborate with the HANWASH M&E team to review them, add new inputs and perspectives to make sure those data collection tools are fit for purpose.

The HANWASH M&E Officer will oversee and monitor all the different steps in the baseline study process to ensure the accountability of the contractor, data quality and accuracy.

* **Planning and Coordination meetings with the local authorities and the DINEPA Representatives**

The purpose of this meeting is share with the local authorities and DINEPA representatives, the baseline study’s objectives, methodology and implementation plan so that we can get their buy-in and involvement. During this meeting, they will have the opportunity to discuss the baseline design, ask questions and make suggestions to improve the process. We will also review the timeline with them and invite them to participate in the field data collection alongside the enumerators. Furthermore, to facilitate the WASH actors mapping, we will make sure to collect from the mayors the list of actors implementing WASH interventions at the level of each target communes.

* **Recruitment and training of the enumerators and supervisors**

The recruitment and training of the enumerators and supervisors will be performed by the contractor, under the supervision of the HANWASH M&E Officer. Firstly, a term of reference shall be created and shared it with the mayors, CASEC, ASEC and DINEPA representative (TEPAC) of each commune. This way, we will involve them in the recruitment process and make sure they help us select the best candidates to work in the field as data collectors and supervisors. A quota of at least 50% of the enumerators and supervisors must be native to the target communes. The enumerators will be classified into groups and assigned to different survey or interview category.

After the recruitment process, the HANWASH M&E Officer in collaboration with the contractor will provide nine (9) hours of training (3 days/3 hours per day) to each enumerator and supervisor at the level of each commune. Those training sessions will be practical and interactive and will cover subjects such as: context and objectives of the baseline study, principles, and methodology for data collection, understanding of the baseline study’s data collection tools, ethical standards for data collection, deployment plan and task assignment to each group of enumerators and supervisors.

* **The pilot phase of the study is conducted at Cavaillon**

Right after the enumerators’ training, we will send enumerators in a communal section of Cavaillon (TBD) for two days (16 hours) to test the data collection methodology and tools. This will allow us to adjust if necessary and improve the quality of the data. We chose to conduct the pilot in Cavaillon because that’s an efficient choice given that the M&E Officer works from Les Cayes (city located at 30 minutes from Cavaillon).

**Activities during data collection**

In addition to quantitative and qualitative data collection activities, we will carry out the following activities:

* **Ongoing communication and supervision**

We will create WhatsApp groups (1 WhatsApp group for each commune) to facilitate daily briefings, discuss the daily objectives, data collection plans, any challenges, and corrective measures to be taken. Furthermore, we will have a supervisor at the level of each target commune to oversee the work of the enumerators and make sure high-quality data are collected.

* **Data storage and validation**

All the quantitative data will be collected and stored using the mWater plateform. The qualitative data from the KIIs will be recorded during the interviews and the audio file will be named and stored in a dedicated folder created on Teams.

To ensure the quality of the quantitative data collected, two approval stages will be set on mWater during the deployment of the quantitative questionnaire. The first approval stage will allow the supervisors to daily review and approve/reject (suggest corrections) the forms submitted by the enumerators. The second approval stage will allow the M&E Officer to review a random sample of the forms submitted to ensure that high-quality data has been collected.

To ensure the quality of the qualitative data collected, we will first make sure that the KII facilitator received a thorough training on the objectives of the KII, interview techniques and ethical considerations. Secondly, a fit-for-purpose interview guide will be provided to the KII facilitator to allow the relevant topics to be covered while giving enough flexibility exploration of issues raised by the informant. Additionally, high-quality recording devices will be used to capture the conversations accurately, and notes will be taken during the KII to capture non-verbal cues and contextual information.

**Activities after data collection**

Following the data collection, the next steps will be:

* **Data cleaning and validation**

First, we will meet (virtually or on site) with the local authorities (Mayor, CASECs, DINEPA representatives, etc.) to present the data collected, and check if there are any errors, inconsistencies, or missing data.

After this meeting, further data cleaning will be performed by the M&E Officer to check particularly the format of the data, identify duplicates and outliers, and resolve any discrepancies in the datasets. At this stage, if necessary, some enumerators will go back in the field to rectify the inaccurate data.

* **Data analysis**

Given the objectives of this baseline study, the data analysis techniques we will use will be mostly descriptive and comparative. In particular, we'll be using inferential statistics to generalize sample results to the commune level. This will allow us to describe the current WASH situation in the HANWASH target communes and identify significant differences or patterns between the different communes and communities. The quantitative results will be displayed in the form of tables, graphs, and maps. The tools/software we intend to use for quantitative data analysis are Microsoft Excel, mWater and ARCGIS (for geospatial data analysis).

About qualitative data analysis, the Key Informant Interviews will be transcribed by professional transcribers and then imported into MAXQDA (Qualitative data analysis software) for coding. The thematic analysis will be used as a method to identify the key themes and insights from the transcriptions.

We will also use data triangulation to compare data from different sources (household surveys, KIIs, WASH facility surveys, desk reviews, etc.) to identify consistent trends and discrepancies.

* **Reporting**

Right after the data analysis, the report writing will start. A first draft of the baseline study report will be submitted to the HANWASH stakeholders for review and feedback. Those feedback will then be integrated into the report to generate a final version. This final version of the baseline report will be presented on PowerPoint to the key stakeholders so they can learn from the findings to guide their decision making.

* **Establish baseline value and performance targets for the program’s indicators**

Once the final version of the baseline study report is validated by the HANWASH stakeholders, we will organize workshops with the M&E Subcommittee leaders and the HANWASH CEO to set the baseline values and performance targets for the indicators outlined in the Mattson Program Performance Indicator Framework.

**RESOURCES NEEDED**

*See the budget.*

**TIMELINE AND BUDGET**

The baseline’s timeline and the estimated budget can be access through the following spreadsheet link:

[Timeline & Budget\_Mattson Program baseline\_2024.xlsx](https://hanwash.sharepoint.com/:x:/s/MattsonProposal/ETpzSThMsFRNtbYv9SVYuEEBh6hTuWOjCIjs4sRrscrswA?e=l7Ldw7)

1. To perform this WASH actors mapping, we intend to start from list of WASH actors potentially available from Mayor’s Offices, DINEPA/OREPAs, Ministère de la planification. [↑](#footnote-ref-2)
2. “Current” means the level of access to WASH services in year 2024. [↑](#footnote-ref-3)
3. Cross-sectional studies, also known as one-shot or status studies is a type of study which involves only one contact with the respondents, and which cannot be used to measure change. This type of study is best suited to research aimed at finding out the prevalence of a phenomenon, situation, problem, or attitude by taking a cross-section of the population at a specific point in time. [↑](#footnote-ref-4)
4. FRAPE is a framework created by HANWASH partner Haiti Outreach to monitor the community water points by assessing their Functionality (F), Responsible management (R), sanitation coverage (A), Potability (P) and Inspection (E). [↑](#footnote-ref-5)