USAID
FROM THE AMERICAN PEOPLE

PHOTO CREDIT: MAMY TIANA RAKOTOARIMANANA

EVALUATION REPORT

MADAGASCAR RURAL ACCESS TO NEW OPPORTUNITIES FOR HEALTH AND PROSPERITY (RANO-HP) EX-POST EVALUATION

WASH Ex-Post Evaluation Series – Water Communications and Knowledge Management (CKM) Project

June 2017

This document was produced for review by USAID. It was prepared by ECODIT LLC and Social Impact Inc. Under the Water CKM Project, IDIQ NO. AID-OAA-I-14-00069; TASK ORDER NO. AID-OAA-TO-15-00046.

AUTHORITY

Prepared for USAID under the Water and Development Indefinite Delivery Indefinite Quantity Contract No. AID-OAA-I-14-00069, Task Order No. AID-OAA-TO-15-00046, awarded September 17, 2015, entitled "Water Communications and Knowledge Management (CKM) Project."

This final report is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of ECODIT LLC and do not necessarily reflect the views of USAID or the United States Government.

This report was prepared by the Water CKM project team, comprised of ECODIT LLC and Social Impact Inc.

ACKNOWLEDGMENTS

We would like to thank the implementing partners Catholic Relief Services (CRS), CARE, Caritas, and Voahary Salama for their availability for questions throughout the planning and execution of this evaluation. We would also like to thank Jonathan Annis and Avo Ratoarijaona of CARE and Chris Seremet of CRS, in particular, for answering our countless requests for documentation and for their consistent high-quality feedback. We are grateful to Joshua Poole of CRS for keeping his door open to us throughout the evaluation process. We are appreciative of the Malagasy Raitra Consulting Company for providing us with the endline data set from the 2013 evaluation they conducted of RANO-HP. We are also grateful to Agence Capsule for conducting the 2016 household survey and open defecation free verification and to our qualitative research team for their high-quality work and for all their efforts in reaching remote locations to interview beneficiaries of RANO-HP. The local qualitative team included Jean Eugene Injerona, Mamy Tiana Rakotoarimanana, Jocelyn Rakotonirina, and Neila Andrianaina. We would also like to thank Amédé Abdérémane Rafidimanatsoa for teaching Capsule enumerators the RANO-HP open defecation free verification process. Finally, we would like to thank everyone who took the time to speak with us about RANO-HP.

TABLE OF CONTENTS

FIGURES

ACRONYMS

BCC	Behavior Change Communication
CHW	Community Health Worker
CKM	Communications and Knowledge Management
CLTS	Community-Led Total Sanitation
CRS	Catholic Relief Services
CWSBP	Commune Water and Sanitation Business Plan
E3	USAID Bureau for Economic Growth, Education and Environment
E3/W	USAID/E3 Water Office
FAA	Fonds d'Appui Pour l'Assainissement
GSF	Global Sanitation Fund
FGD	Focus Group Discussion
GOM	Government of Madagascar
HH	Household
IDIQ	Indefinite Delivery/Indefinite Quantity
KII	Key Informant Interview
MFI	Microfinance Institution
NGO	Nongovernmental Organization
ODF	Open Defecation Free
PPP	Public-Private Partnership
RANO-HP	Rural Access to New Opportunities for Health and Prosperity
SIT	Sustainability Index Tool
SO	Strategic Objective
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
VSLA	Village Savings and Loan Association
WADI	Water and Development Indefinite Delivery Indefinite Quantity Contract
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization
WSSCC	Water Supply and Sanitation Collaborative Council

EXECUTIVE SUMMARY

BACKGROUND AND METHODS

In the first of a series of independent ex-post evaluations of USAID–funded water, sanitation, and hygiene (WASH) activities, this ex-post performance evaluation explores the sustainability[1] of the sanitation and hygiene components of the Madagascar Rural Access to New Opportunities for Health and Prosperity (RANO-HP) activity. This activity, implemented in 26 communes from October 2009 to June 2013, aimed to increase sustainable access to an improved water supply, and improve sanitation coverage and hygiene practices. This evaluation addresses the sanitation and hygiene components of RANO-HP only, as a forthcoming study will address sustainability of the water supply intervention. Evaluated activity components include: community-led total sanitation (CLTS); behavior change promotion around hygiene practices such as handwashing, safe water storage, and water treatment; the introduction of village savings and loan associations (VSLA) and creation of a loan product available at microfinance institutions to increase investment in household (HH) WASH; training of local masons to support household latrine construction; the use of public-private partnerships to manage public "monoblock" sanitation and water access points; and the creation of stakeholder groups that developed Commune Water and Sanitation Business Plans (CWSBPs).

This evaluation explored the following broad questions:

1. To what extent are the levels of sanitation facility functionality and hygiene usage/behaviors that were measured at the close of the RANO-HP activity still observed three years later?

2. Which factors influenced the ability to sustain sanitation and hygiene facilities and behaviors? Why?

Data collection occurred in September and October 2016. The evaluation team addressed Question 1 through a replication of the RANO-HP endline quantitative household survey and sampling methodology in all 26 communes (n=1,194), and re-verification of 69 villages previously declared to be open defecation free (ODF) using endline methodology.[2] Using Stata 14 software, the team recalculated key indicators from the endline household survey dataset, and compared them to our follow-up survey data with 95% confidence intervals to determine whether changes were statistically significant between the two time points. Household survey data also supported Question 2. The team then analyzed 53 qualitative interviews with a variety of stakeholders in six communes to further explain quantitative results for Question 1, and to serve as the primary data source for addressing Question 2.

During data collection, the team discovered CLTS initiatives funded by UNICEF and the Global Sanitation Fund have taken place in some of RANO-HP's intervention areas within the past three years. The team did not receive lists of affected communes until after data collection had concluded. As a result, the team

[1] USAID defines sustainable WASH as being "achieved when country partners and communities take ownership of the service and there are local systems to deliver inputs needed to maintain results and deliver impacts beyond the life of USAID projects." (January 20, 2016. USAID Sustainable WASH Systems Broad Agency Announcement)

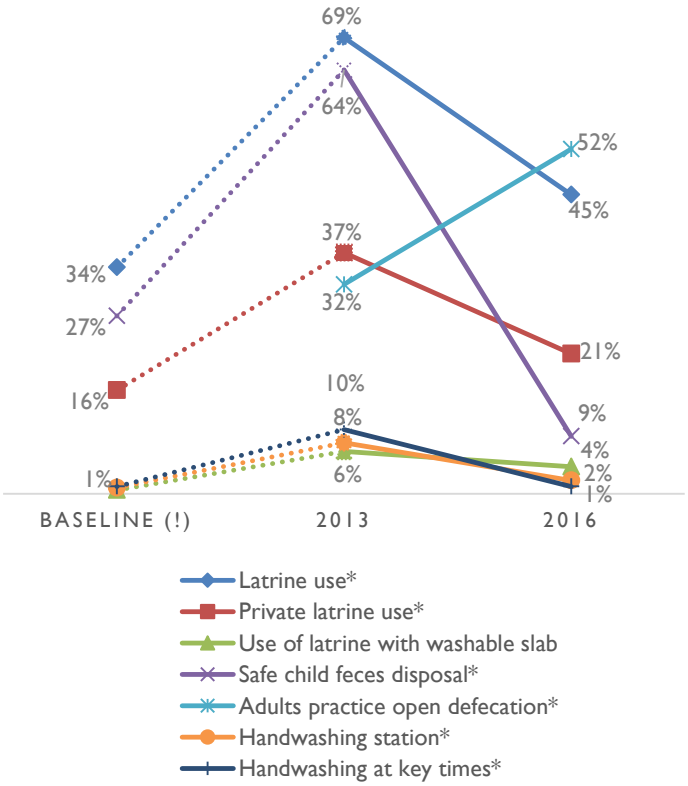
[2] The ODF verification process entails observation to confirm lack of visible open defecation zones, observation of at least 75 percent of households and all institutions having latrines, community member testimony about lack of open defecation, community bylaws regarding open defecation, and other conditions. We employed full verification process methodology in 10 villages and a partial process that did not entail house-by-house verification of latrine use in 59 villages.

eliminated from household survey and ODF verification analysis all four affected communes in Analanjirofo Region, as well as two in Anosy Region, two in Atsimo Atsinanana Region, and two in Vatovavy Fitovinany Region. Communes included and excluded due to this issue are shown in **Figure**. This unfortunately reduced the analytical sample size to 688 households in 16 of the 26 RANO HP intervention communes, including 15 partial ODF verification villages, and five ODF full verification villages. The team also removed the same communes from the endline household survey dataset to which results were compared. Results are therefore representative of only those 16 communes included in analysis, rather than the full set of communes RANO-HP targeted; this sample loss reduces the power to detect statistically significant differences from endline in cases where those differences exist.

FINDINGS

Key RANO-HP sanitation and hygiene outcomes are shown in Figure 1. The team found a significant decline in general household latrine use and use of a private latrine between 2013 and 2016, and nonsignificant slippage in use of latrines with washable slabs. Possession of a handwashing station, as well as reported handwashing at key times (e.g., before eating, after using the latrine, before preparing food), decreased to baseline levels, and these results were statistically significant. The team found a sharp, significant decline in proper disposal of child feces (e.g., in a latrine or buried). Though baseline values could not be fully replicated using the same methodology, a comparison to baseline report data suggests that no 2016 levels for key outcomes slipped below baseline levels, with the exception of safe disposal of child feces.

Figure 1. Three-year sustainability of key RANO-HP sanitation and hygiene outcomes (household survey)



**indicates significant difference at p<0.05*
(!) Baseline values, shown to illustrate prior trends, were derived from a report. Measurement or sampling methodology differed; therefore, results are not directly comparable to 2013 and 2016 results.

Slippage for both sanitation and hygiene indicators occurred in all regions, with the greatest slippage relative to endline values occurring in Atsimo Atsinanana Region, and the smallest decline in Atsinanana. Households with a non-literate respondent (a partial reflection of socio-economic status) were less able to sustain most WASH outcomes compared to those with literate respondents. Slightly more female-headed households used a latrine compared to male-headed households, representing a reverse of the trend observed in 2013. Female-headed households also maintained their use of higher quality latrines with superstructures or washable slabs over time, whereas this declined for male-headed households. Slippage in having a handwashing station was more modest among female-headed households compared

to those with an adult male present. Interviewed community health workers (CHWs) reported that without the consistent reminders of key behavior change messages, people stop practicing them.

At the community level, open defecation was still being practiced in most communities previously found to be open defecation free. Only one out of five villages was verified as maintaining ODF status in a complete review, and one out of 15 showed evidence of likely ODF status in a partial review that did not involve house-by-house verification of latrine usage.

According to the household survey, 65 percent of presently used private latrines were constructed after 2013, showing some continued motivation and ability to maintain or construct latrines after RANO-HP ended. Fifteen percent had made improvements to their latrine in the past two years. Forty-five percent of these households paid for skilled labor to assist. Qualitative findings also showed local masons continued to be sought after in the intervening years after activity close. Twenty-seven percent of households reported that a desire to construct or improve their sanitation in the past two years but were unable to, most often due to lack of money. The most common barriers to constructing a latrine were difficulty saving money and the notion that latrines are "not common." VSLAs were infrequently used to directly finance WASH improvements after activity close. One micro-finance loan product originally offered in coordination with RANO-HP by the institution OTIV was still being used in an urban area at the time of the follow-up evaluation. CWSBPs were reported only being used in one of six communes where stakeholders who developed these plans were interviewed.

CONCLUSIONS

QUESTION 1

Three years after the conclusion of RANO-HP, targeted communities in four of the activity's five targeted regions experienced significant slippage in latrine use compared to endline, though none fell below pre-activity levels. Nearly all villages previously declared to be ODF no longer met these criteria and were using old or new open defecation zones. This demonstrates a common experience in CLTS-triggered communities; while CLTS can achieve high initial latrine adoption and sustained behavior for some, many will fall back into prior open defecation habits over time. RANO-HP achieved only modest improvements in hand hygiene behavior indicators at its conclusion, and declines to baseline levels three years later suggest these hygiene promotion activities were not able to achieve sustained behavior change. These results emphasize the great challenges of effecting handwashing behavior change in general.

Sanitation and hygiene outcomes were worse for households with an illiterate respondent, perhaps due to difficulty in maintaining their facilities without additional income. However, female-headed households had lower rates of slippage in latrine use and handwashing stations over time compared to male-headed households, and also opted for higher quality latrines over time by a small margin. This might reflect differing priorities when women are the locus of household decision-making. It is possible women place greater value on the privacy, convenience, health benefits, or aesthetics of a latrine.

The three monoblocks in Ilaka Est Commune are providing customers with water, but the toilet, shower, and laundry facilities are barely functional due to a poor management relationship between the service provider and the commune. In contrast, all components of the two monoblocks in Anivorano Est Commune were functioning and well maintained at the time of the evaluation.

QUESTION 2

Several factors seem to have influenced sustainability. The simple technology of pit latrines and tippy taps made it relatively feasible for many community members to build and maintain them without continued intervention, depending on the financial situation of the household and availability of local materials. However, as many households did not move up the "sanitation ladder" to improve structural quality, these lower quality structures became vulnerable to decay and required more frequent replacement. Training local masons provided additional capacity for maintenance and reconstruction that was used beyond the life of the activity.

It is possible that slippage could, in part, relate to a lack of strong pre-existing (i.e., baseline) social norms around sanitation behavior, partially reflected in the seemingly prevailing opinion among non-latrine adopters that latrines are "not common." The highest level of slippage was in Atsimo Atsinanana Region, which had the lowest baseline latrine coverage. Conversely, the lowest level of slippage was found in Atsinanana Region, which had substantially higher baseline levels of latrine coverage, perhaps reflecting an acceptability and normalcy of latrine use that laid the groundwork for greater sustainability in the long term.

Repeated follow-up support facilitates sustainability. Overall, communes excluded from our primary analysis due to recent CLTS interventions by other donors had significant improvement over 2013 levels of latrine use and handwashing station adoption compared to communes with no additional intervention since RANO-HP ended in 2013. This success is not surprising, as, according to the experience of the Global Sanitation Fund–supported CLTS program in Madagascar, "a common trend seems to be that the more often interventions are repeated and follow-up support is provided, the less dramatic the slippage will be, until eventually the community reaches behavior change maturity".[3] Qualitative interviews also emphasized that regular behavior change reminders are necessary to provoke lasting hygiene and sanitation behavior change. The largely positive results in RANO-HP communes that received other donor support in the intervening years suggests incremental uptake of latrine use is possible with continual support over time, although levels of longer-term sustainability of these more recent activities are not yet known.

Barriers to sustainability included financial constraints to improving WASH facilities as the primary reported barrier, regional environmental factors such as space or natural material constraints, storms that damaged latrines, and water scarcity that inhibited handwashing. In the case of Ilaka Est Commune, poor management and insufficient participation by the service provider was a major barrier to functionality of public monoblocks. Support from the Ministry of Water, Sanitation and Hygiene[4], a key signatory of the public-private partnerships (PPPs), was also lacking. Continued usage of VSLAs by some to finance WASH improvements demonstrates the value of village savings groups in overcoming financial barriers. The continued viability of a micro-finance loan product for latrines also suggests a sustainable avenue for addressing financial barriers, though this option was only found to be viable in urban centers where purchasing power is stronger and transport challenges are diminished. Finally, CWSBPs introduced

[3] Water Supply and Sanitation Collaborative Council (WSSCC). 2016. *Sanitation and Hygiene Behaviour Change at Scale: Understanding Slippage*.

[4] The Ministry of Water, Sanitation and Hygiene has recently been reduced to the Ministry of Water and absorbed into the Ministry of Environment.

stakeholders at the commune level to water policy and helped the commune objectively identify priorities for WASH investment. The realization of these plans, however, was a challenge given the limited government funding available for WASH.

RECOMMENDATIONS

1. CLTS interventions in Madagascar might benefit from holding more follow-up visits from specialists or thought leaders over a longer duration of time to maintain motivation and troubleshoot barriers to sustainability specific to each intervention area. In other countries, this role has been filled by local government representatives or extension agents associated with ministries of water or health. The inexistence or weakness of similar public sector structures in Madagascar make monitoring and public sector support for sustained latrine use in the absence of donor programs particularly challenging. Communities with low baseline latrine coverage might require special attention over time to overcome greater normative barriers.

2. Future programs should evaluate with trained local masons how to offer washable slabs at prices that are affordable in each intervention area. Common barriers to address will include the cost of cement or iron and marketing of the slabs.

3. Given the large proportion of recent latrine constructors that engaged the help of skilled labor, future programs can improve the sustainability of latrine construction and maintenance by training a local skilled workforce to construct latrines beyond the life of the activity.

4. Future programs might achieve modest improvements in sustainability by promoting the use of VSLA or other local savings and loan groups to finance WASH improvements. Microfinance options can provide similar opportunities in urban areas. However, these mechanisms alone are not sufficient to overcome financial barriers to maintaining sanitation and hygiene facilities.

5. Future programs that use a PPP model of managing public sanitation infrastructure should consider building in at least one year of overlap between activity close and introduction of the PPP so that all parties are sufficiently informed of their rights and responsibilities. This may help to address the issue of poor performers. Commune leaders should present results from the PPP on a yearly basis to build trust with constituents and make sure they understand the commune's role.

6. Sustained hygiene behavior change requires long-term support and consistent messaging. CHWs or other local leaders may be a valuable resource in this effort, but future activities will need to work with these local community champions to identify and establish systematic methods and systems to sustain WASH behavior change promotion beyond the life of the activity.

7. Strategies to facilitate sustained WASH behavior might benefit from addressing gendered decision-making dynamics, as women able to make these decisions independently (i.e., female-headed households) appear to be slightly more inclined to adopt improved WASH practices, despite facing other socio-economic challenges.

8. Future programs may require special consideration for poorer or vulnerable population segments, such as illiterate households, that may find it more difficult to contribute labor or finances to maintaining WASH facilities.

INTRODUCTION

Water CKM is conducting a series of ex-post performance evaluations of USAID water programs for the USAID Bureau of Economic Growth, Education and Environment's Water Office (E3/W) through the Water and Development Indefinite Delivery Indefinite Quantity Contract (WADI IDIQ) to further USAID's understanding of why the outcomes of its completed water, sanitation, and hygiene (WASH) activities have or have not been sustained. The series of evaluations builds off lessons learned from the development of the Sustainability Index Tool (SIT)[5] and its application in nine countries. The first of these evaluations is an ex-post performance evaluation of the Madagascar Rural Access to New Opportunities for Health and Prosperity (RANO-HP) activity. The purpose of this evaluation is to examine the sustainability of the sanitation and hygiene components of this activity, implemented from 2009 to 2013. The sustainability of RANO-HP water systems is being evaluated separately by a group at Villanova University in partnership with Catholic Relief Services (CRS), and results will be available in early 2017. Key intended users of evaluation findings are E3/W, the extended USAID/Washington WASH team, the USAID Madagascar Mission, and implementing partners. Findings from this and future evaluations will assist USAID in determining areas for improvement in its current process for activity selection, design, and implementation, and in ensuring long-term sustainability and improved accountability to stakeholders.

BRIEF OVERVIEW OF ACTIVITY AND BUDGET

Diarrhea is the third leading cause of lost years of life in Madagascar (Institute for Health Metrics and Evaluation 2015), and is estimated to cause 15 percent of deaths of children under five years of age (WHO 2016). Poor WASH behaviors are a large contributor to this outcome. In rural areas nationwide, 65 percent drink from an unimproved source, and 52 percent practice open defecation – a behavior that has seen little improvement in the past 25 years, having declined by only eight percentage points since 1990 (WHO and UNICEF 2015). While national water law has existed in Madagascar since the early 1990s, a government ministry dedicated to WASH issues did not exist until the creation of the Ministry of Water in 2008. Public funding to address these issues was limited, and according to the Water Code, is the responsibility of commune-level government to secure investment in water and sanitation infrastructure, in addition to maintaining services (though in reality communes lack the capacity to fulfil this mandate). Madagascar is currently a member of the Sanitation and Water for All group of countries that make annual commitments on water and sanitation indicators. In May 2017, the GOM closed the Ministry of Water, Sanitation and Hygiene and absorbed the Ministry of Water under the Ministry of Environment and Mines. The status of the Ministry of Sanitation and Hygiene is unknown at the time of writing.

To address these challenges, the RANO-HP activity was implemented from October 2009 to June 2013 with a budget of $8,525,000,[6] and in 26 communes benefitting more than 70,000 households (HHs) along the eastern and southern coasts of Madagascar. Targeted communes had some of the lowest water and sanitation coverage in Madagascar (CRS RANO-HP Completion Report 2013). CRS served as the prime

[5] USAID and the IRC developed the SIT in 2012 to assess a WASH activities' likelihood to be sustainable according to five factors: institutional, management, financial, technical, and environmental.

[6] The budget from USAID was $7,125,000, and CRS and CARE contributed cost share equaling 20 percent of USAID funding. The final $8.5M budget was approximately 30 percent less than the original budget when the Cooperative Agreement was signed in October 2009 due to the withdrawal of U.S. Government Development Assistance funding for the country.

contractor and implemented through Caritas; CARE served as the main subcontractor and implemented through the local NGO Voahary Salama. See **Figure 2** for details. **Figure 3** presents a map of the RANO-HP activity intervention areas. According to RANO-HP's lessons learned report (CRS Building on RANO-HP's Achievements 2013), 62,235 people gained access to potable water, 18,212 people began using latrines, and 241 villages obtained open defecation free (ODF) status. According to the activity's endline report, 15 percent of households had adopted a handwashing station by the end of the activity, compared to one percent at baseline.

Figure 2. RANO-HP Implementers, Activity Locations, and Locations of Evaluation Data Collection

Implementer	**CRS**		**CARE (through Voahary Salama)**		
Local Implementer	Caritas		SAF Amboasary	SAF Moramanga	Mateza
Region	Atsimo Atsinanana	Vatovavy Fitovinany	Anosy	Atsinanana	Analanjirofo
Commune	Ivandrika Matanga Soamanova Vohimary* Vohimasy Vondrozo*	Andemaka† Anteza Fenomby Ikongo Ilakatra Maromiandra Tataho†	Behara Sampona* Tanandava Sud*	Ambohimanana Anivorano Est Ilaka Est Lohariandava Niarovana Caroline Tsarasambo	Ambodimangavalo* Antsiatsiaka* Miarinarivo* Saranambana*

** Commune excluded from household survey and ODF verification data analysis due to recent intervention by UNICEF*

† Commune excluded from household survey and ODF verification data analysis due to recent intervention by GSF (FAA activity)

RANO-HP took a multifaceted approach to achieving its objectives.[7] It was the first USAID-funded activity in Madagascar to introduce a public-private partnership (PPP) model[8] to manage piped water supply systems, some of which included public toilets, showers, and laundry facilities (called "monoblocks") at the commune level. In the PPPs, the role of the two private-sector companies/RANO-HP implementing partners, Sandandrano[9] and Bushproof Madagascar, was to design and build the water and sanitation infrastructure. RANO-HP then bid out the construction and worked with the commune to contract maintenance companies to oversee operations and maintenance. Contracts were entered into by a

[7] Strategic objective (SO) 1: The organization and governance of the water and sanitation sector and collaboration with the private sector are improved at the commune level; SO2: Sustainable access to an improved water supply is expanded; SO3: Access to hygiene and sanitation services is improved; and SO4: Strategies that improve the quality, impact, and fairness of water and sanitation operations in Madagascar are developed and implemented.

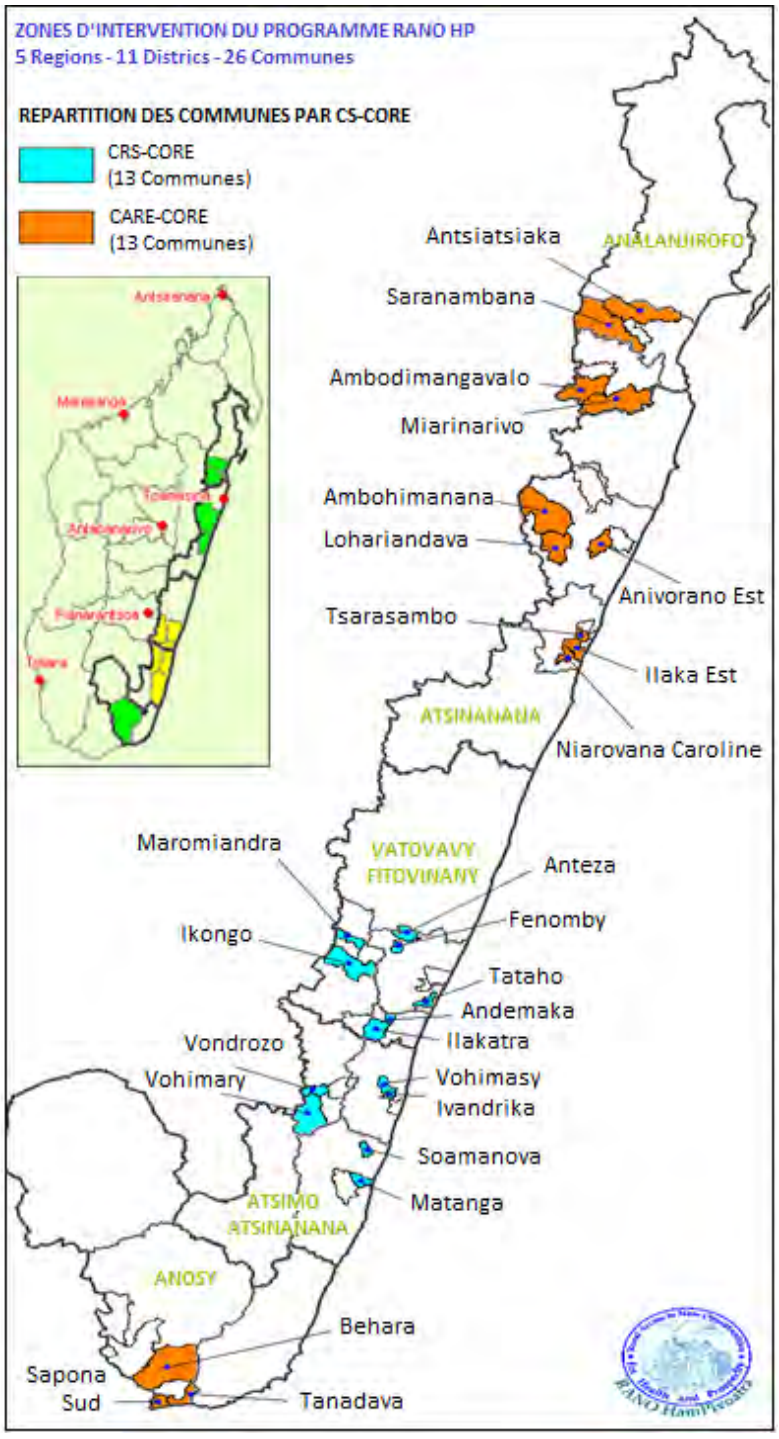
[8] An in-depth study of RANO-HP water system sustainability and the PPP model for management of water systems conducted by Villanova University will be available in early 2017.

[9] Sandandrano had experience with the PPP model prior to RANO-HP, elsewhere in Madagascar.

maintenance company or service provider, a commune, and the Ministry of Water. The PPPs in the two communes examined in this study were carried out with different service providers over different time periods. The PPP in commune Anivorano Est was established with the company VELO in 2011 and included a six-month trial contract, whereas the PPP in commune Ilaka Est was established in 2013 (the final year of RANO-HP) with the company SERT RANO[10] and had minimal time overlap with activity implementation. The contracts are also different; VELO has a lease contract of 10 years with the commune, while SERT RANO has a 20-year lease-franchising contract.[11]

RANO-HP also helped establish WASH stakeholder groups at the commune level that underwent a series of trainings and capacity-building exercises over the course of several years. Because development of water infrastructure is a responsibility of commune-level governments, the WASH stakeholder groups were trained on the national water law and were responsible for the development and execution of five-year Commune Water and Sanitation Business Plans (CWSBPs).[12] These CWSBPs were designed to set and achieve WASH priorities by identifying both the infrastructure and investment needed

Figure 3. Map of RANO-HP intervention areas



[10] SERT RANO also managed the monoblock at Ikongo, in the Vatovavy Fitovinany Region, where it invested $60,000 in the rehabilitation of infrastructure.
[11] The team was unable to obtain copies of these contracts to examine for this study.
[12] A literal translation of the French name for these plans would be Commune Water and Sanitation Investment and Business Plan

to systematically identify priority locations for each commune. CWSBPs were used to seek out investment from within the communes and from private investors, as the national government did not have the budget to support these activities.

Behavior change activities focused on adoption of the three key WASH behaviors (handwashing with soap latrine use, household water treatment and safe storage). These three key WASH behaviors were taught by RANO-HP-trained Community Health Workers (CHWs), who work under the Ministry of Health. Between 10 and 15 CHWs in each commune promoted the key WASH behaviors, and each CHW focused on 18 households for a period of six months, after which time they would repeat the cycle with another 18 households. This activity was not designed to reach full coverage of households in targeted communes or *fokontanies*[13].

CHWs worked with community members to identify which WASH behaviors they wanted to focus on learning. They taught beneficiaries how to create tippy tap[14] handwashing stations, and introduced the water treatment product marketed by Population Services International called Sur'Eau. CHWs regularly visited households to monitor adoption and challenges with the three key WASH behaviors; once a household had successfully adopted all three, it received a blue sticker to place on the dwelling as an indication of success. RANO-HP targeted women in its programming, as they bear the brunt of work related to water collection and hygiene decisions. Behavior change communication (BCC) components helped RANO-HP drive demand for water services and sanitation infrastructure. To increase use of latrines, RANO-HP used a community-led total sanitation (CLTS) approach (details on CLTS methodology are in Annex V)[15]. CLTS facilitators worked directly with communities through the triggering process, declaring ODF villages, and verifying ODF status.

A key aspect of RANO-HP's approach included engaging the NGO Saint-Gabriel to train three local masons per commune to build low-cost improved latrines and to make washable SanPlat slabs[16]. Masons were taught which locally sourced construction materials were common in the communities (e.g., cactus walls in Anosy, wood in Atsinanana, bamboo in Analanjirofo) so they could offer appropriate advice to households seeking to build their own latrines in the process of becoming ODF. These local masons were also trained to make washable SanPlat slabs, and the sale of these slabs was intended to create a business opportunity for them. The masons offered advice to community members, as did the RANO-HP CLTS field staff (*Techniciens Accompagnateurs*), who supported the CLTS process alongside CLTS facilitators. Another key component of RANO-HP's CLTS implementation was targeting and involving natural leaders, namely in the southern region Anosy, where storing fecal matter was taboo at the time the activity began.

[13] A *fokontany* is an administrative division in Madagascar below a commune and above a village. A *fokontany* may contain one to several villages.

14 A tippy tap is a simple handwashing device comprised of a plastic jug of water suspended by a rope, often with a foot-operated lever to dispense water.

[15] CLTS was introduced to Madagascar in 2008 in one of USAID's Hygiene Improvement Activity zones through a UNICEF/Regional Centre for Water Supply and Sanitation training.

[16] The SanPlat slabs introduced by RANO-HP required inputs of cement, sand, gravel, iron, string, olive oil, and water.

RANO-HP was the first WASH activity in Madagascar to include Village Savings and Loan Associations (VSLAs)[17] throughout intervention areas[18] as a way of assisting villagers (the majority of whom were women) to save capital, and as a venue for delivering WASH behavior change messages. RANO-HP participants were encouraged to share WASH learnings with other members of their VSLAs, and some members chose to invest their savings in household WASH improvements as a result. Finally, RANO-HP worked with two microfinance institutions (MFIs), OTIV and TIAVO, to introduce loan products to facilitate investment in improved latrines at the HH level in urban areas and small towns.

Though RANO-HP's intended approach included working closely with the Government of Madagascar at national and regional levels, this changed in March 2009, when a political coup threw Madagascar into turmoil. As a result, many international donors withdrew aid from the time of the coup until 2014, when the democratically elected Hery Rajaonarimampianina assumed power. USAID was one of the few actors that remained active during this volatile time, and, while RANO-HP was allowed to continue operations, it was unable to work directly with the national government, and the number of communes was cut from 42 to 26. In 2012, the activity budget was reduced by approximately $2,000,000 to the $8,525,000 budget mentioned above (a 23.5% percent reduction). Additionally, in 2013, the activity end date was moved up from September 2014 to June 2013 to ensure it would finish in advance of the 2013 election.

[17] VSLAs were called VOAMAMY by RANO-HP. The team will only use the term VSLA in this report.
[18] In the Anosy Region, the USAID-funded SALOHI activity (implemented by CARE) was responsible for RANO-HP VSLA activities.

EVALUATION QUESTIONS

This evaluation addresses the following evaluation questions. The evaluation design matrix, evaluation questions, and data collection methods are available in Annex II: Evaluation Evidence Matrix, and Annex III: Data Collection Protocols.

1. To what extent are the levels of sanitation facility functionality and hygiene usage/behaviors that were measured at the close of the RANO-HP activity still observed three years later?
    a. To what extent have villages triggered with CLTS attained or sustained high latrine coverage and ODF status?
    b. To what extent have public sanitation and hygiene facilities constructed through RANO-HP maintained functionality and use?
    c. To what extent are hygiene behaviors promoted by the activity (handwashing, use of improved latrines, and treatment and storage of water) still practiced?

2. Which factors influenced the ability to sustain sanitation and hygiene facilities and behaviors? Why?
    a. In what ways, and to what extent, have VSLAs and MFIs been leveraged to finance HH WASH improvements beyond the end of the activity?
    b. To what extent did efforts to build local capacity for latrine construction lead to sustained construction and maintenance of improved latrines?
    c. To what extent have efforts to improve governance in WASH activities through CWSBPs influenced the sustainability of commune sanitation and hygiene activities?
    d. To what extent have efforts to form PPPs to manage sanitation activities influenced their sustainability?
    e. What other factors improved or impaired sustainability?

METHODOLOGY

OVERVIEW

This ex-post performance evaluation employed a mixed-methods (qualitative and quantitative) design. Data collection was conducted over a four-week period in September and October 2016 across the intervention areas of RANO-HP in Madagascar. Prior to field work, the team conducted a desk review of RANO-HP activity documentation, activity monitoring and evaluation data, the endline survey data set, CLTS documentation, and documents related to sanitation policy in Madagascar. A more detailed methodological plan is available in Annexes I and II, along with a detailed data collection schedule, list of parties consulted, and evaluation team description.

QUANTITATIVE METHODS

To answer Question 1, we conducted the same household survey used during the 2013 endline (see Annex III), with additional questions to capture more detailed information about sanitation and hygiene attitudes and practices, barriers to change, VSLA activities, and latrine construction and usage changes over time, including finance and maintenance approaches. Questions about changes to sanitation or hygiene facilities addressed only the past two years, rather than three, to prevent respondents from mistakenly reporting activities that occurred at the time of the RANO-HP activity, as these would reflect endline conditions instead of sustained conditions and behaviors. Surveys were complemented by direct observation of HH sanitation facilities and handwashing station presence. Agence Capsule, a local data collection firm, completed surveys using electronic data collection following a three-day enumerator training, and one day in the field piloting both the survey and ODF verification techniques.

To verify whether CLTS–triggered communities previously declared to be ODF have retained this status, the team trained enumerators to apply the same ODF verification methodology used by RANO-HP implementers (see Annex IIId). The former RANO-HP CLTS expert trained Capsule enumerators to apply this methodology. This includes community transect walks to observe zones of open defecation, and questions to leaders and community members about achievement of open defecation goals, bylaws, and sanitation practices. Enumerators also visited every household in the village to observe latrine and hygiene facility presence and use. Each category is awarded points such that villages awarded over 80 percent of possible points are considered open defecation free. For a portion of villages, the team modified the methodology to eliminate the visitation of every household in light of limited time and resources. This "partial verification" process provides reasonable evidence of ODF status based on other observational data and personal reports, though it should be noted that it is prone to overestimate ODF status.

Sampling

Follow-up quantitative household data were collected from 1,194 households, located in all 26 intervention communes within 55 of the same 58 *fokontanies* targeted by the endline survey[19]. The team took a new systematic sample of 22 households at each cluster. This sample size was necessary to detect the same level of sanitation coverage observed at endline (72 percent) within a +/- 2.5% margin of error and 95% confidence level. At endline, 69 villages that had been included in the endline survey had also been certified as ODF. For the full re-verification process, the team randomly sampled 10 of these villages

[19] Ambilona, Beangaka, and Ambohimanana *fokontanies* were dropped due to inaccessibility.

proportionate to their regional distribution, ensuring at least one per region. The remaining 59 previously certified ODF villages were then targeted for a partial ODF verification process, with proportionate sampling by region.

During data collection, the team discovered that the national programs conducted by the Ministry of Water, Hygiene and Sanitation in partnership with UNICEF, and by the Global Sanitation Fund (GSF) (in French, *Fonds d'Appui pour l'Assainissement (FAA)*) have been implementing CLTS initiatives in some of RANO-HP's intervention areas within the past three years. The team did not receive lists of affected communes until after data collection had concluded. The lists revealed ten affected communes that the team consequently eliminated from analysis to avoid drawing conclusions based on effects of the work of other donors' activities. Of the 26 communes shown in **Figure**, all four communes in Analanjirofo Region were removed, as well as two in Anosy Region (Sampona Sud and Tanandava), two in Atsimo Atsinanana Region (Vohimary and Vondrozo), and two in Vatovavy Fitovinany (Andemaka and Tataho). This unfortunately reduced the analytical sample size to 688 households, 15 partial ODF verification villages, and five ODF full verification villages. The team also removed the same communes from the endline household survey dataset to which the evaluation results were compared, reducing this sample to 559 observations.

Analysis

The team analyzed quantitative data using Stata 14 software, and calculated means and 95% confidence intervals, adjusting standard errors for clustered sampling at the *fokontany* level, for key sanitation, hygiene, and water indicators of sustained behavior at both endline and follow-up. Indicators were largely calculated according to the endline report methodology, with some exceptions. To improve comparability between endline and follow-up data, the three inaccessible *fokontanies* were dropped from the endline data set, and all endline outcomes recalculated. For this reason, several values do not precisely match those shown in the endline report.

ODF re-verification data were analyzed using Stata 14 software according to the point-based calculation used during the RANO-HP activity. Villages receiving more than 80 percent of available points were considered to meet criteria for ODF status.

QUALITATIVE METHODS

Qualitative data collection consisted of 46 key informant interviews (KIIs) and seven focus group discussions (FGDs) in six communes: Anteza, Anivorano Est[20], Soamanova, Saranambana, Ilaka Est, and Sampona. Though Saranambana is among communes affected by other donors' CLTS activities in the past three years and was excluded from household survey and ODF analysis, the team retained this commune in qualitative analysis to ensure perspectives in this region were still captured in part. KIIs with a variety of stakeholders including community leaders, CWSBP stakeholders, trained local masons, implementers, monoblock service providers, CHWs, beneficiaries, VSLA agents, microfinance representatives, a CLTS facilitator, and USAID staff provided first-hand knowledge and perceptions of RANO-HP. Interview guides are available in Annex III. Factors contributing to and detracting from the activity's sustainability were discussed, in addition to specific questions related to each type of intervention. The team also used FGDs

[20] We will be using these French versions of the commune names throughout the report, which mean "East Anivorano" and "East Ilaka."

with community members, such as VSLA participants, to engage a broader audience and gather different community perspectives. The team leader trained the evaluation team to apply interview guides, and the first two formal interviews were conducted as a group to ensure consistency before the team split into two groups of two interviewers each. This approach was taken due to the distance between intervention sites and time constraints for fieldwork.

Sampling

Qualitative data collection was intended to be restricted to locations that received selected single or combined RANO-HP interventions of interest, with intervention-stratified random selection by village. The team first created a complete sampling frame of eligible villages across the six purposively selected communes. Purposive selection better allows deliberately varied settings in terms of geography, implementation approach, and other characteristics. These six communes were also selected with the goal of maintaining a balance of the different implementing partners in the consortium, proportionate to the number of communes targeted in each region. Communes and corresponding village lists had to meet the following key selection criteria:

1. No other WASH intervention is known to have occurred in the village since the time of RANO-HP (if possible; otherwise, no USAID WASH intervention)
2. At least one of the following must have been implemented in the village: CLTS triggering; training of local masons; construction of monoblocks or other community sanitation/hygiene facility; VSLA establishment; MFI presence (where applicable); and/or teaching of the three key WASH messages by CHWs
3. If possible, the village's *fokontany* must have been one of the 58 village clusters that were included in the endline study to enable more precise comparison to endline results to answer Question 1.

The team applied this strategy to selecting villages for KIIs with local leaders and FGDs with community members. Community health workers and local masons were identified either through end-of-activity monitoring and evaluation documentation, or through speaking to the regional implementer. CWSBP stakeholders, VSLA village agents, CLTS facilitators, and DIORANO[21] WASH committees were also identified through speaking to the regional implementer. Monoblock operators were identified on-site; the team included only the five monoblock sites in the Atsinanana Region due to time constraints for fieldwork. Therefore, the team did not include the monoblock in the Vatovavy Fitovinany Region (Ikongo commune) in the sample. Individuals selected for the implementer KIIs were directors of the relevant organizations. For the USAID key informant interview, the former Agreement Officer's Representative for RANO-HP was selected as the USAID employee with the most knowledge of the activity. A detailed list of interview locations is available in Annex IV: Sources of Information, List of Persons Interviewed.

Analysis

The local evaluation firm transcribed and translated all qualitative interviews. Data were thematically coded using a common codebook in Atlas.ti software and analyzed using a query function. The results of this analysis were triangulated with field observations and notes from the qualitative researchers. While

[21] DIORANO means "clean water" in Malagasy, and is the name of the national platform for water and sanitation stakeholders.

quantitative household survey and transect walk data demonstrate the current status of WASH practices, qualitative data from interviews with various stakeholders support an understanding of which factors might be most influential on sustainability and why.

LIMITATIONS

One chief limitation of this performance evaluation is the lack of a comparison group (a group that did not benefit from RANO-HP) to understand what three-year changes in WASH behaviors would have occurred in areas that had not received the intervention. Given the lack of 2013 data for any comparison areas, this was not feasible.

The team attempted to avoid sampling any areas that had benefitted from WASH interventions after 2013. Prior to finalizing the sample, the team thoroughly examined the current USAID-funded FARARANO Activity[22] being implemented by CRS in similar geographies to ensure their WASH activities did not overlap with those of RANO-HP. The team also reviewed the USAID-funded MAHEFA[23] Activity, which implemented CLTS in northern areas of Madagascar, and, therefore did not overlap with RANO-HP. The team learned of a recent USAID-funded project involving interpersonal WASH behavior promotion called MIKOLO[24] that has been active in Vatovavy Fitovinany and Atsimo Atsinana Regions; however, the team was unable to obtain a more specific list of targeted communes or *fokontanies* to determine whether the study areas were affected. It is possible some results in these regions have been influenced by recent MIKOLO activity, but the team estimates this influence to be minor, if present at all. While most USAID–funded WASH intervention areas[25] were avoided, the team could not account for all other donor or government activities in the years between the two studies. The discovery of more recent CLTS initiatives through the Ministry of Water, Hygiene and Sanitation/UNICEF, and through the GSF activity unfortunately impacted the sample size, as the affected communes were removed from analysis. This impaired the team's power to detect significant differences between endline and follow-up data. However, the magnitude of changes observed for some outcomes was such that the final sample size was sufficient to measure significant results. This change also means the evaluation does not reflect RANO-HP work conducted in the Analanjirofo Region, which reported the highest latrine use at endline out of the five intervention regions.

Three *fokontanies* were inaccessible due to travel conditions, and were therefore removed from the sample for both data points. The team determined that this exclusion did not significantly impact statistical power.

Use of the same core endline household survey content strengthens comparability of indicators from 2013 to 2016 to answer Question 1. Some indicators reported at endline could not be precisely replicated using the endline data set and documentation provided. In these cases, to ensure full comparability, the team

[22] This is a USAID-funded food security activity currently being implemented by CRS across Madagascar. The name means harvest season in Malagasy.
[23] MAHEFA is the name used in Madagascar for the Community-Based Integrated Health Program (CBIHP).
[24] This is a USAID-funded activity currently being implemented by Management Sciences for Health (MSH) that focuses on improving the use of community-based health care services for women and children.
[25] RANO-HP was implemented in regions that overlapped with the concurrent USAID-funded activities SantéNet and SALOHI. These were not WASH activities, and they were collaborators with RANO-HP: SantéNet with CHWs and SALOHI with VSLAs.

recalculated the outcome indicator as accurately as possible based on WASH standards, and ensured indicators from both data collection rounds were fully comparable.

Inclusion criteria for the 2013 and 2016 household survey differed and may affect comparability of the two data collection points. By design, 2016 data were only collected among HHs that had been present for the past four years to capture those that had been present at the time of the RANO-HP activity. Respondents of either gender were accepted, though enumerators expressed a preference for interviewing the person most responsible for WASH activities in the home, which often was a woman. Though not specified in activity documents, during data analysis the team discovered that the 2013 HH survey was only completed among female respondents with children under five. This methodological discrepancy does not appear to have had a large influence on results. The team re-analyzed 2016 key outcomes among female respondents with children under five and found similar results. The bias introduced by this difference in inclusion criteria appears to be minimal.

Finally, the time lag since RANO-HP ended made it very difficult to locate CHWs that were still working in the same communities as the time of their involvement in RANO-HP activities. Three out of seven interviewed CHWs were no longer working with the same households that they worked with during project implementation.[26] This limited their ability to comment on current-day practices in RANO-HP communities.

[26] The three CHWs no longer working with the households they worked with during project implementation were one from Saranambana in Analanjirofo Region, one from Anivorano Est in Atsinanana Region, and one from Soamanova in Atsimo Atsinanana Region.

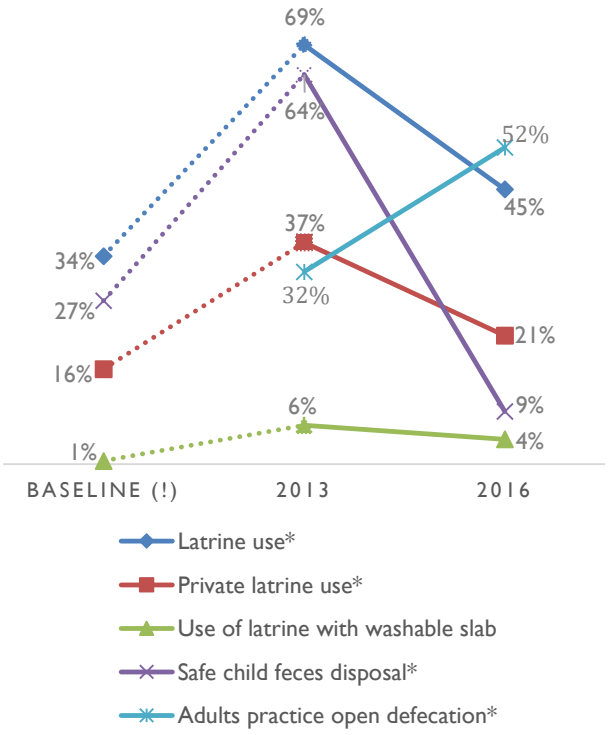
FINDINGS

EVALUATION QUESTION 1: TO WHAT EXTENT ARE THE LEVELS OF SANITATION FACILITY FUNCTIONALITY AND HYGIENE USAGE/BEHAVIORS THAT WERE MEASURED AT THE CLOSE OF THE RANO-HP ACTIVITY STILL OBSERVED THREE YEARS LATER?

Question 1 and its subcomponents were addressed through the quantitative HH survey, and complemented by qualitative findings. Complete survey results tables are presented in Annex IV: Sources of Information, Complete Data Tables. The majority of sampled 2016 respondents were women (79 percent), married (71 percent), thirty-nine years old on average, and living in households with an average of 5.7 members. Seventeen percent of sampled HHs were headed by a female, meaning no adult male was present. Sixty-three percent had children under five years of age, and 34 percent of respondents were not able to read. Females bore the greatest burden of water collection, as the household primary water collectors were women (58 percent of households) and girls (29 percent of households).

FINDINGS 1A. TO WHAT EXTENT HAVE VILLAGES TRIGGERED WITH CLTS ATTAINED OR SUSTAINED HIGH LATRINE COVERAGE AND ODF STATUS?

Figure 4. Three-year sustainability of latrine use outcomes (household survey)



**indicates significant difference at p<0.05*
(!) Baseline values, shown to illustrate prior trends, were derived from a report. Measurement or sampling methodology differed; therefore, results are not directly comparable to 2013 and 2016 results.

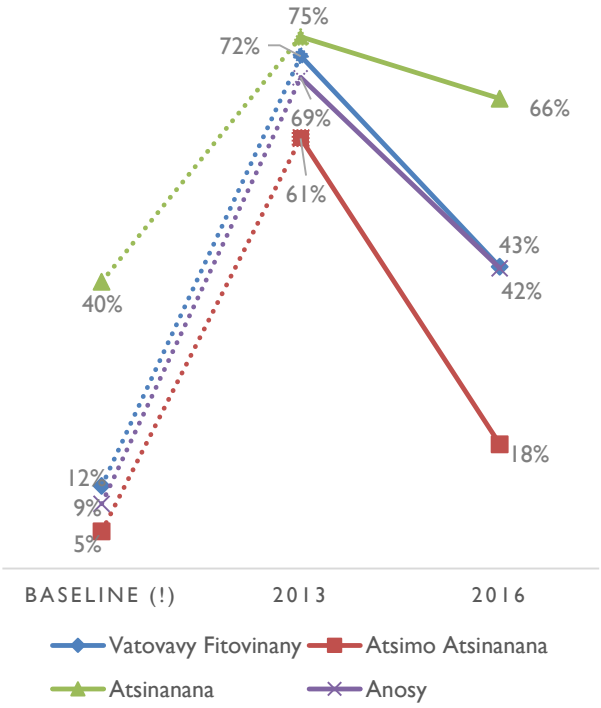
Figure 4 compares key RANO-HP sanitation outcome indicators between the 2013 endline and the team's 2016 follow-up survey. Statistically significant differences (i.e., lack of overlap between 95% confidence intervals) are indicated with an asterisk. The team found a significant decline in reported [27] latrine use (either private, shared, or public) and in usage of a private latrine. Slippage was noted in usage of a latrine with a washable slab, though this was not significant, possibly due to the low proportion with this type of latrine. The team observed a sharp decline in practicing safe disposal of child feces, to levels below baseline values. Respondents in 2016 reported that males and females practiced open defecation at similar rates, at fifty-one and fifty-five percent, respectively (combined average shown in figure). This was a significant increase from 32 percent for each gender at endline.

[27] Among those with a private or shared latrine, observations confirmed nearly all (96 percent) were being used.

Figure 4 also compares key results to original baseline values, as described in the RANO-HP baseline report (CRS 2010), to demonstrate levels of slippage in comparison to pre-intervention conditions. Unfortunately, baseline methodology and sampling differed in some ways from the unified approach the team took for endline and follow-up data, rendering baseline data not fully comparable to that of 2013 or 2016. Nonetheless, this provides evidence that only safe disposal of child feces fell below baseline levels; however, it is possible measurement differences account for some of this.

Sanitation outcomes differed by region (**Figure 5**). Latrine use slippage occurred in all regions, with Atsimo Atsinanana having the largest decline relative to endline levels and Atsinanana having the smallest decline. However, 2016 latrine use in all regions still exceeded pre-activity baseline levels, according to the baseline report, demonstrating enduring activity results, albeit with some slippage. Significance testing was not done for regional or any other disaggregation, as the study was not powered to detect significant differences in these smaller groupings. It should also be noted that regional results are not representative of the entire regions mentioned, but rather are meant to demonstrate general trends according to geography.

Figure 5. Three-year latrine use (private or shared) sustainability, by region (household survey)



(!) Baseline values, shown to illustrate prior trends, were derived from a report. Measurement or sampling methodology differed; therefore, results are not directly comparable to 2013 and 2016 results.

The ODF re-verification process provides additional evidence of sanitation habits among CLTS-triggered communities that had previously been certified as open defecation free. (ODF verification results are available in Annex IV: Sources of Information, Complete Data Tables -Table 5.) Only one of five villages that underwent analysis through the complete ODF verification process was found to have met criteria to retain open defecation free status. This village was in Ilakatra Commune, in Vatovavy Fitovinanany Region. The partial verification process in Tsarasambo Commune of Atsinanana Region demonstrated that only one out of 15 villages showed reasonable evidence of remaining ODF. Additionally, it is possible that the more complete house-by-house assessment might have identified some noncompliant community members that would reveal this community did not, in fact, meet ODF criteria. In 80 percent of the partial verification villages, former open defecation zones were still being used, and in 33 percent of these villages, new areas had been established. This trend was similar in the full verification villages.

The qualitative research echoes the regional findings of the household survey. According to qualitative interviews in Atsinanana Region, people visiting from other villages on market day practice open defecation in the community despite the presence of latrines. In this region, a majority of respondents reported that

latrines break down easily or collapse. It is difficult for people in these two communes to access wood to construct latrine superstructures, perhaps explaining some of the slippage observed in the household survey in both communes studied (Ilaka Est and Anivorano Est). In the communes Anteza (Vatovavy Fitovinany Region) and Soamanova (Atsimo Atsinanana Region), ODF status has slipped because, according to local leaders, villagers in these communes do not continue behavior change without someone reminding them to do so. Many people in these communes were said to have used their latrines until they broke or filled, but they did not repair or replace them. In one village in Saranambana commune in Analanjirofo Region, local leaders attributed their village's consistent ODF status (we measured that this village had maintained ODF status, though it was excluded from final analysis) to the involvement of local leaders in triggering and CLTS promotion. However, the influence of the more recent UNICEF CLTS activity in Saranambana may also be partly responsible for this success. Similarly, in another area currently receiving the UNICEF CLTS activity – Sampona commune in Anosy Region – local leaders reported that everyone uses a latrine. Per CLTS guidelines, they have introduced a fine for people who return to open defecation. Respondents reported that since learning about CLTS, everyone continues to replace their latrines.

FINDINGS 1B. TO WHAT EXTENT HAVE PUBLIC SANITATION AND HYGIENE FACILITIES CONSTRUCTED THROUGH RANO-HP MAINTAINED FUNCTIONALITY AND USE?

This question was addressed through qualitative interviews with monoblock operators and with local leaders at monoblock facilities at two communes in the Atsinanana Region.[28] The two monoblocks in Anivorano Est Commune are mostly functional, whereas the three monoblocks in Ilaka Est Commune have only maintained functionality of their water components. All components of the Anivorano Est monoblocks are being used, although leaks have been unrepaired in one of the monoblocks' showers since 2014 (which does not impact use of other aspects of the system). Monoblock attendants reported higher usage of the water system than of the toilets and laundry facilities. Fees are clearly advertised, collected and recorded at Anivorano Est. These monoblocks are being managed by the service provider VELO, and were constructed in 2011.

Figure 6. A monoblock with attendant in Ilaka Est, Atsinanana

Photo credit: Annette Fay

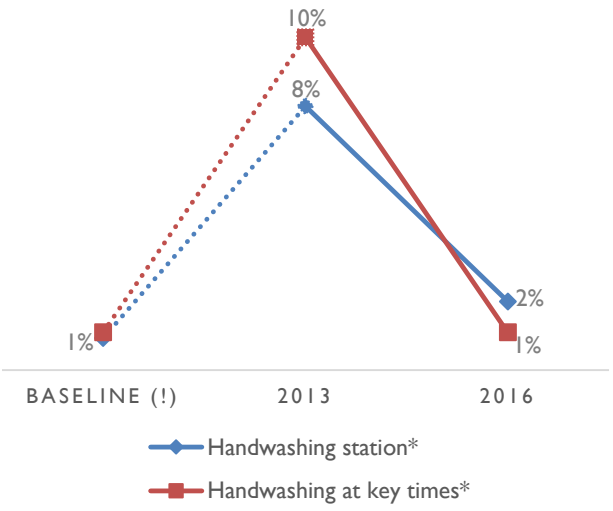
[28] Due to time and resource constraints, the team only studied the three monoblocks in Ilaka Est Commune, and the two in Anivorano Est Commune. There is one additional monoblock constructed by RANO-HP and financed by USAID in Ikongo Commune, Vatovavy Fitovinany Region.

In Ilaka Est, interviews revealed no maintenance of the monoblocks and no use of the latrines. Laundry facilities are occasionally used. Fees for drawing water are being collected in Ilaka Est at each monoblock, but the amount is so small that it does not cover the salary of the three attendants. Their supervisor is absent, and no one is available to conduct maintenance of the monoblocks. These three monoblocks are no longer being managed by the contracted service provider, SERT RANO, but, instead, by an absent plumber through local attendants, who collect fees at each monoblock. The three attendants split the monthly revenue (on average 20,000 Ariary, or USD $6.63). Local leaders expressed frustration with the status of the monoblocks and that their inability to fix them reflects poorly on them in the communities' eyes; as one CHW explained, "we were very anxious because…when it is damaged, even the money to repair it is already a problem, we could not even buy one tap….When it is out of order, the population begrudges: 'Why doesn't the water run? What about the advisors?…The population always begrudges." (CHW from Soamanova Commune in Atsimo Atsinanana Region). The three monoblocks in Ilaka Est were constructed in 2013. The PPPs are discussed further under Findings Section 2d below.

FINDINGS 1C. TO WHAT EXTENT ARE HYGIENE BEHAVIORS PROMOTED BY THE ACTIVITY (HANDWASHING, USE OF IMPROVED LATRINES, AND TREATMENT AND STORAGE OF WATER) STILL PRACTICED?

Two percent of households had a handwashing station (water and soap located next to a latrine) at follow-up, representing a significant decline from the eight percent observed at endline (**Figure 7**). Reported practice of handwashing with soap at key times (e.g., before eating, after defecation, after changing a baby's diaper) also significantly declined to the same level measured at baseline. In the drought-ridden Anosy Region where the UNICEF CLTS activity[29] is sensitizing households to build and use handwashing stations along with latrines, the former RANO-HP CHW in Sampona Sud commune relayed that at times people cannot wash their hands with soap or ash due to the lack of rainwater, although they have learned to "wash their hands with soap, clean the water to drink and make a toilet." None of the CHWs interviewed recalled water storage as one of the three key behaviors, but in Ilaka Est and Anteza, the CHWs reported that treatment of water using Sur'Eau has been successful.

Figure 7. Three-year sustainability of handwashing outcomes (household survey)

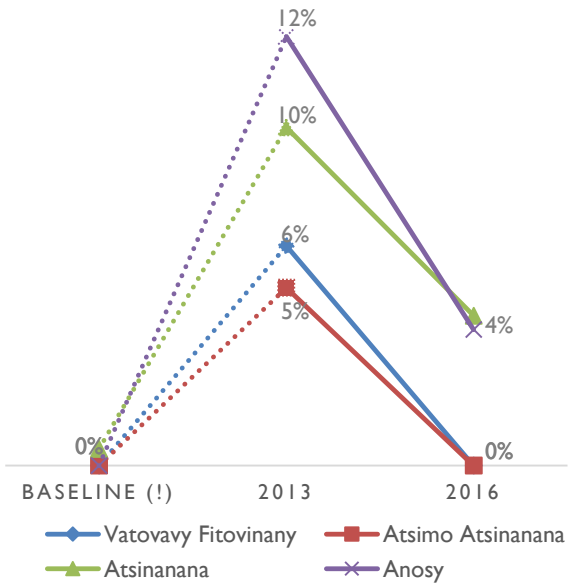


**indicates significant difference at p<0.05*
(!) Baseline values, shown to illustrate prior trends, were derived from the CRS baseline report. Measurement or sampling methodology differed; therefore, results are not directly comparable to 2013

Declines in possession of a handwashing station occurred in all regions, with the greatest slippage relative to endline values being in Atsimo Atsinanana Region and the smallest decline in Atsinanana (**Figure 8**). In Atsimo Atsinanana, the CHWs reported that

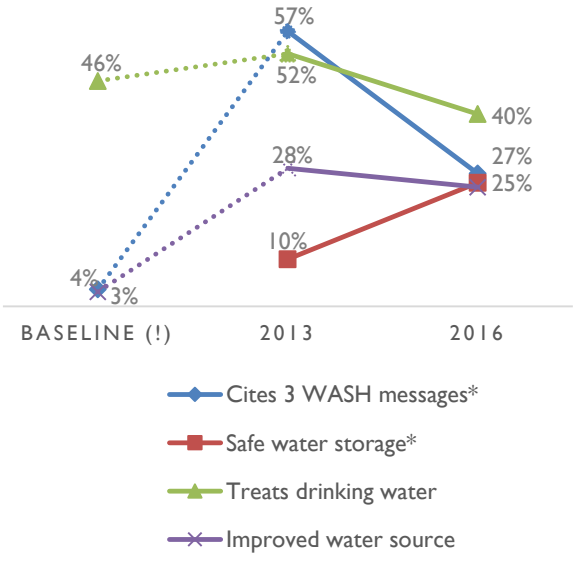
[29] The UNICEF CLTS activity is being implemented by the same local organization as RANO-HP, SAF FJKM

Figure 8. Three-year sustainability of handwashing station, by region (household survey)



(!) Baseline values, shown to illustrate prior trends, were derived from the CRS baseline report. Measurement or sampling methodology differed; therefore, results are not directly comparable to 2013 and 2016 results.

Figure 9. Three-year sustainability of additional hygiene and water outcomes (household survey)



(!) Baseline values, shown to illustrate prior trends, were derived from the CRS baseline report. Measurement or sampling methodology differed; therefore, results are not directly comparable to 2013 and 2016 results.

people stop practicing RANO-HP-promoted hygiene behaviors once the threat of visits from CHWs are reduced. As a CHW from Ilaka Est Commune noted, "They don't ask: is it for my benefit? They only fear the person that talks about it." The CHW in Ilaka Est Commune in Atsinanana Region believed people have learned about handwashing due to their teaching efforts in the area, whereas using a toilet remains a challenge. Anosy Region also maintained some behavior change above baseline levels.

Sustainability of Other RANO-HP Hygiene and Water Outcomes

Additional key hygiene and water-related outcomes are shown in **Figure 9**. Recall of the three WASH behavior change messages delivered by RANO-HP declined significantly. Fewer households reported treating their drinking water all the time for all household members, and this dropped below baseline levels, though the reduction from endline was not significant. The number of households that stored drinking water safely (i.e., narrow-mouthed container with lid into which respondent did not dip hand) more than doubled. Given the great difference in values between baseline and endline data for safe water storage, it appears that baseline data was gathered using a very different measurement method, though the exact calculation method could not be confirmed; therefore, this is not reported in Figure 9.

Sustainability of Key Sanitation and Hygiene Outcomes by Vulnerability Status

The team also examined results according to respondent literacy and gender of household head to determine whether the rate of sustainability differed for potentially vulnerable members of society. Full results are shown in Annex IV: Sources of Information, Complete Data Tables – Table 3 and 4. In 2016, slightly more female-headed households (those with no adult males) reported their household used a

latrine (51 percent) compared to male-headed households (44 percent), representing a reversal of the trend observed in 2013. Female-headed households maintained their use of higher quality latrines with washable slabs over time by a small margin (from six percent at endline to eight percent at follow-up) whereas this declined for male-headed households (from seven percent to three percent). Possession of a handwashing station also declined more sharply among male-headed households (an 81 percent reduction compared to endline) than among female-headed households (28 percent reduction).

Households with a non-literate respondent (a partial reflection of socio-economic status) were less able to sustain most WASH outcomes compared to those with literate respondents. These disadvantaged households had sharper declines in latrine use (69 percent decline from endline compared to a 23 percent decline in literate households) and having a handwashing station (100 percent slippage compared to 66 percent in literate households). Households with an illiterate respondent also experienced a decline in water quantity consumption and access to a safe drinking water source. Given that literacy and other poverty indicators differ by region, these observations may be a reflection of other regional trends.

Sanitation and hygiene outcomes in intervention areas of other donors

Though no longer a focus of the study, the team sought additional insight by performing sub-analysis on communes excluded from the main evaluation due to recent CLTS interventions by UNICEF or GSF activities (Annex IV, Tables 6-8 and Figures 1-3). Annex IV, Tables 7a-b compare three-year changes in communes having only benefitted from RANO-HP to three-year changes in communes that benefitted from RANO-HP, as well as subsequent UNICEF or GSF activities (although we do not know the nature or intensity of these activities). As expected, households with a more recent additional CLTS intervention had better sanitation and hygiene outcomes overall.

Whereas RANO-HP-only areas had a significant 34 percent decline in latrine use, UNICEF/GSF areas had a significant 20 percent improvement since 2013. In 2016, the team measured 99 percent reported latrine use in RANO-HP's Anosy and Analanjirofo Region communes recently targeted by UNICEF, up from 77 percent and 75 percent in 2013, respectively, and up from approximately nine percent and 93 percent at baseline. Comparing results by region, areas that received additional support from UNICEF in Anosy Region improved latrine usage by 29 percent compared to a 39 percent decline in RANO-HP-only areas of Anosy Region.

2016 latrine use was 61 percent in Atsimo Atsinanana, and 28 percent in Vatovavy Fitovinany. Atsimo Atsinanana Region had 17 percent slippage in UNICEF areas compared to 71 percent slippage in RANO-HP-only areas. Contrary to this trend, Vatovavy Fitovinany results show RANO-HP-only areas (41 percent slippage) were better than those of GSF areas, which had 67 percent slippage. Reasons for this lack of progress in GSF's Vatovavy Fitovinany sites are not clear, as the team was unable to obtain information from GSF about whether they employed different village targeting or CLTS methodology.

Because our ODF verification village sampling was proportionate to regional distribution of ODF villages in 2013, the majority of villages (42 of 69) selected for ODF verification were in Analanjirofo Region, which had achieved the most latrine coverage and ODF communities at the conclusion of RANO-HP. These, as well as seven from Vatovavy Fitovinany Region, were excluded from the main analysis due to subsequent UNICEF or GSF interventions, but their results are presented in Annex IV, Tables 8a-b. In this group, 32 out of 44 villages showed sufficient evidence of remaining ODF according to the partial verification process, and three out of five were ODF according to the full verification process. All those

that remained ODF were in Analanjirofo. These results show continued high motivation in this region, which already had 93 percent latrine coverage before RANO-HP began.

Others have suggested that repeated follow-up with CLTS-triggered communities is key to reducing slippage rates (WSSCC 2016). The largely positive results in RANO HP and UNICEF intervention areas can be viewed in this light, and provide evidence that incremental success is possible with additional CLTS support over time. It is unclear whether these areas will maintain improved sanitation behaviors over time due to the repeated messaging, or whether they will also experience similar levels of slippage observed in the RANO-HP-only areas if no other sanitation support occurs in the next few years.

Indicators of hand hygiene suggest UNICEF/GSF areas also struggled to achieve sustained handwashing behavior change. Overall, communes with more recent interventions from other donors had a non-significant 101 percent increase in the proportion of households with a handwashing station, whereas communes that only had the RANO-HP intervention had a significant 74 percent decline in this outcome. This was driven by strong improvements in UNICEF's communes in Anosy and Analanjirofo, but these regions still only reached 30 percent and 22 percent, respectively. Handwashing station slippage of 89 percent and 88 percent in UNICEF/GSF areas of Vatovavy Fitovinany and Atsimo Atsinanana approached the 100 percent slippage in RANO-HP-only areas of these regions.

Our second hygiene indicator, which captures key times when respondents report washing their hands with soap, gives a different picture. In UNICEF/GSF areas overall, there was a 68 percent decline in reported handwashing at key times to prevent diarrhea, and slippage occurred in all regions. This is compared to 89 percent slippage in RANO-HP-only areas. This may show that perhaps the social pressure to have a handwashing station following CLTS triggering drove some improvements in visible facilities, but motivation wasn't sufficient to change handwashing behavior, and they weren't used as recommended.

EVALUATION QUESTION 2: WHICH FACTORS INFLUENCED THE ABILITY TO SUSTAIN SANITATION AND HYGIENE FACILITIES AND BEHAVIORS? WHY?

The most commonly cited challenge, given by 45 percent of those not using a private or shared latrine, was that it was difficult to save money to build one. The next highest hindrance, reported by 28 percent, was that latrines were "not common." The next most common reason, reported by 19 percent, was lack of space to construct one. In Atsinanana and Anosy Regions, lack of space was more commonly reported than latrines not being commonplace. This finding is supported by the qualitative research, as villagers in the Atsinanana Region reported lack of space between dwellings to construct a latrine.

The team examined the extent to which people maintained their latrines according to the household survey. Fourteen percent of presently used latrines were constructed in 2013, suggesting long-term sustainability for a small portion of the original structures. It should be noted that given the simple pit designs promoted as the first stage after CLTS triggering, it was expected that most would need to reconstruct latrines within a three-year timeframe. Sixty-six percent of presently used latrines, representing 77 households, were constructed after 2013, suggesting several people were motivated and able to maintain old or construct new latrines after RANO-HP ended. Fifteen percent reported that they had made improvements to their latrine in the past two years (this included five percent who had improved their slab, and 12 percent who had improved the walls or roof). Among those with a latrine now, 25

percent had constructed a new latrine in response to the pit filling, while three percent were able to remove the waste.

Including those who did and did not use latrines, 28 percent said they wanted to construct or improve a latrine over the past two years, but were not able to. Among latrine owners, 42 percent were satisfied with their latrine, and 22 percent moderately satisfied.

FINDINGS 2A. IN WHAT WAYS, AND TO WHAT EXTENT, HAVE VSLAS AND MFIS BEEN LEVERAGED TO FINANCE HH WASH IMPROVEMENTS BEYOND THE END OF THE ACTIVITY?

Twenty-nine percent currently keep their savings in either a bank, MFI, or VSLA compared to 38 percent at endline. At follow-up, 19 percent of respondents had participated in a VSLA before. Women and men participated equally. According to the team's follow-up household survey, VSLA members continued to use this group as a source of funds for WASH. Among those in a VSLA, 18 percent reported that someone in their group had borrowed money for WASH-related activities in the past two years. Qualitative analysis suggests that VSLA funds were used more often for agriculture or for costs associated with children's schooling than for direct WASH investment. It is possible that financial gains from other activities were later fed into WASH improvements; however, this indirect relationship was not measured through this evaluation.

During qualitative research, the team learned that one of the two companies offering a sanitation-focused loan, TIAVO, had gone bankrupt since RANO-HP's close. The MFI loan product developed through the activity still exists with OTIV; however, qualitative research revealed they are not popular in rural RANO-HP intervention zones. In Ilaka Est Commune, the OTIV representatives explained that the loan is more popular in the regional urban center of Vatomandry because that is where the latrines are built, and borrowers based there do not have to risk the transport of the latrine slab back to Ilaka Est.

Figure 10. A latrine with a washable slab and tippy tap in Anosy

Photo credit: Annette Fay

FINDINGS 2B. TO WHAT EXTENT DID EFFORTS TO BUILD LOCAL CAPACITY FOR LATRINE CONSTRUCTION LEAD TO SUSTAINED CONSTRUCTION AND MAINTENANCE OF LATRINES?

Among those who constructed their latrine in the past two years, 45 percent paid for skilled labor to assist, and 35 percent used skilled labor for latrine improvements. It is not certain to what extent this includes masons trained by RANO-HP; however, this suggests a substantial proportion of people were able to access needed assistance. Likewise, few reported lack of knowledge or help as barriers to enacting desired WASH improvements (four and 10 percent, respectively). Qualitative analysis confirms that local masons trained by RANO-HP continued to be sought out by intervention communities for advice on how

to either maintain or construct latrines. As described in the Brief Overview of Activity and Budget section of this report, masons were trained by RANO-HP to support beneficiaries in construction and maintenance of latrines made of locally available materials, but also in fabrication of SanPlat slabs that they could sell. In addition to the abandonment of latrines mentioned in some areas, masons also related challenges in selling SanPlat slabs due to the cost of cement and iron. Customers must typically buy a large bag of cement, even though only a portion is used for the slab. In the commune of Saranambana, the mason interviewed explained that he addressed part of this concern by purchasing the cement bags and only charging customers for the portion of cement used in the slab.

FINDINGS 2C. TO WHAT EXTENT HAVE EFFORTS TO IMPROVE GOVERNANCE IN WASH ACTIVITIES THROUGH CWSBPS INFLUENCED THE SUSTAINABILITY OF COMMUNE SANITATION AND HYGIENE ACTIVITIES?

This sub-question was answered through KIIs with members of CWSBP stakeholder groups, RANO-HP implementers, and local leaders. CWSBPs were designed to be documents that elected officials could use to advocate on behalf of their commune to solicit funding or other support for WASH activities from regional government officials or other donors. The implementer Caritas referred to them as WASH road maps. While in some regions respondents reported the CWSBPs are no longer being used by the stakeholder groups assembled by RANO-HP, local stakeholders in the commune Saranambana in the Analanjirofo Region still refer to theirs. In the commune Soamanova in the Atsimo Atsinanana Region, an interviewed stakeholder reported that the CWSBP is "a lobbying/advocacy document," but on the commune level, the CWSBP stakeholder group is struggling to use it for lobbying and advocacy. The major complaint is the CWSBP is not funded by the national government (which was not the intent of RANO-HP), and it was a reported challenge for the communes to secure the funding necessary to achieve their WASH infrastructure goals. Given the starting point of commune-level funding for WASH, in no cases have the CWSBPs achieved all their objectives for WASH infrastructure or investment; however, they are lauded by stakeholders for teaching stakeholder group members about WASH.

FINDINGS 2D. TO WHAT EXTENT HAVE EFFORTS TO FORM PPPS TO MANAGE SANITATION SERVICES INFLUENCED THEIR SUSTAINABILITY?

As mentioned above under Findings 1B, the two monoblocks in the commune Anivorano Est are still fully functional, while those in Ilaka Est are only providing water. According to KIIs with monoblock operators and local leaders, the PPP in Ilaka Est experienced challenges in collecting revenue and establishing a maintenance schedule because the service provider, SERT RANO, left a year after the contract began and delegated management to their local plumber, who has since moved to another location. The local leaders did not understand what happened to the absent service provider, nor did they understand how the plumber got away with never paying the commune the taxes paid through the use of the monoblocks (the cost of services includes a tax to the commune). These leaders did not believe the PPP model works, because their efforts to contact the service provider bore no fruit. The current mayor explained that it was difficult because there had been no handover from the previous mayor. SERT RANO, the absent service provider, reported the monoblocks were constructed using a faulty design, and this impacted its ability to collect user fees. The company believes the amount the monoblocks receive in revenue is too low to cover costs, and that the cost of the services offered to sufficiently maintain a monoblock is beyond the means of local residents. Additionally, SERT RANO had invested $50,000 in the monoblock and water infrastructure it was managing in the commune of Ikongo in the Vatovavy Fitovinany Region, and felt it

was taking a loss on that investment because people refused to pay for water in parts of that area. In discussing the case of Ilaka Est, SERT RANO management expressed much more concern in seeing out their investment in Ikongo. Furthermore, the monoblocks in Ilaka Est were constructed in 2013, the year when RANO-HP ended, which did not give SERT RANO, the municipality, or local users much time during activity implementation to benefit from the support and guidance of RANO-HP in navigating a new management model.

In the commune Anivorano Est in the Atsinanana Region, the monoblocks are functional and collect regular user fees; the service provider VELO is present in the commune, and local authorities know who to contact with major issues. During implementation of RANO-HP, the mayor of Anivorano Est was enthusiastic for the activity. This success may relate to VELO's much longer relationship with RANO-HP, having constructed monoblocks in 2011.[30]

FINDINGS 2E. WHAT OTHER FACTORS IMPROVED OR IMPAIRED SUSTAINABILITY?

According to interviews with implementers, two governance-related factors in Madagascar likely impaired the sustainability of RANO-HP: the status of the Ministry of Water, Sanitation and Hygiene and the protracted political crisis. The Ministry of Water was created in 2008 and was a new entity when RANO-HP began implementation. The ministry established itself through the course of RANO-HP, but due to the unstable political climate and USG sanctions (see below) RANO-HP was never able to effectively engage with the ministry, and as a result received no national-level support or recognition. It went through several iterations: from Ministry of Water in 2008 to Ministry of Water and Sanitation to Ministry of Water, Sanitation and Hygiene in 2011, yet political prioritization remains low, as reflected by generally declining annual budget allocations. Communes made the development of water infrastructure a responsibility of the communes, without any budget coming from the national government. Communes were encouraged to charge for water, and to cover the cost of supply and maintenance. These types of changes were being introduced in places where people were not only unaccustomed to paying for water, but often still had alternative sources of water available to them. To convince citizens to adopt these changes would require clear and consistent communication on their rights to a functioning water system, and on their duty to pay for the service. Furthermore, the Ministry of Water, which is a co-signatory on the PPP contracts and is meant to play an active role as an arbitrator and quasi-regulator (the Madagascar water sector has no regulatory body), had limited funding to carry out the monitoring necessary to be effective in this role.

As mentioned earlier in this report, Madagascar experienced a coup d'état in 2009. Ensuing USG sanctions included removing Development Assistance funding from the RANO-HP Cooperative Agreement and restricting all remaining USG assistance to local-level community and civil society actors. Direct support of (and in some instances communication with) central government, including the Ministry of Water, was prohibited. As a result, RANO-HP's technical approach, which had included direct technical assistance to the Ministry of Water, was redesigned to include limited support only to regional and commune-level government. Following the coup d'état, the political climate was volatile, and this uncertainty was predominant throughout the life of RANO-HP. While RANO-HP was able to introduce new approaches like PPPs and the CWSBPs on local and regional levels, advocating for the long-term support of these

[30] Villanova University's Study of Water Infrastructure goes into much more detail on the PPPs and differences in contracts than was included in this follow-up study.

innovations was limited by disengagement at the national level and multiple changes in ministerial leadership that occurred during this time. The PPP contracts require a continuity of local government support for periods that are longer than one election cycle. Interviewees shared concerns that if a mayor that had been supportive of RANO-HP were replaced, as during the elections of 2014, little continuity would be in place to facilitate work with the service providers. With the coup and resulting international sanctions as a backdrop, the activity's ability to attract non-USAID investment to the CWSBPs was severely limited.

CONCLUSIONS

EVALUATION QUESTION 1: TO WHAT EXTENT ARE THE LEVELS OF SANITATION FACILITY FUNCTIONALITY AND HYGIENE USAGE/BEHAVIORS THAT WERE MEASURED AT THE CLOSE OF THE RANO-HP ACTIVITY STILL OBSERVED THREE YEARS LATER?

Three years after the conclusion of RANO-HP, communities in four of the activity's targeted regions have experienced significant slippage in their level of latrine usage, though none fell below pre-activity levels. Nearly all villages that had previously been declared ODF had not maintained this status, as they were using old or new open defecation zones. This aligns with a common experience of some amount of slippage in CLTS-triggered communities over time.[31]

A small proportion of latrines constructed in 2013 were still functional, and the majority of other current latrine users reconstructed or made improvements to their latrines since 2013, showing that some continued to place value on this amenity, and showed an ability to maintain it beyond the life of the activity. CLTS methodology encourages communities to start with simple latrines and move up the "sanitation ladder" to adopt higher quality features, but the decline in those with washable slabs shows a lack of willingness or ability to do this. Lack of funds was the primary reason people did not make desired improvements to their latrines. As noted in a 2012 study of USAID-funded WASH programming in Madagascar, "SanPlats are too costly for rural households, as inputs such as cement and steel cable are expensive.[32]" The data suggest pre-existing community sanitation norms may play a role in facilitating sustainability. Atsimo Atsinanana, which had the greatest decline in sustainability, also had two of the lowest rates of usage at baseline (CRS 2010). Conversely, Atsinanana Region had the highest levels of latrine coverage at baseline, suggesting sanitation behaviors were more normative in these areas before the activity began. Reported lack of normative latrine use (i.e., reports that latrines were "not common") as a barrier to constructing a latrine offers further support for this hypothesis. It may be that dramatic behavior change improvements observed immediately after CLTS are difficult to sustain apart from a widespread or long-standing sanitation practice.

The significant declines in presence of a handwashing station as well as knowledge and practice of handwashing at key times suggest hygiene promotion activities were not sufficient to achieve sustained hand hygiene.[33] The marked decline in safe disposal of child feces suggests messaging about this practice was not clearly or adequately addressed, or barriers to this could be further explored.

Sanitation and hygiene outcomes were worse for households with an illiterate respondent. As a proxy for socio-economic status, this may reflect additional resource constraints, making repeated construction and maintenance of WASH facilities difficult. Female-headed households had lower rates of slippage in latrine use and handwashing station ownership since 2013 compared to households with an adult male present, and, to a small degree, they also opted for higher quality latrines over time. This might demonstrate that

---

[31] Water Supply and Sanitation Collaborative Council (WSSCC). 2016. *Sanitation and Hygiene Behaviour Change at Scale: Understanding Slippage*.

[32] USAID. 2012, August. *Field Review of USAID's Approaches to WASH in Madagascar: Success Factors and Lessons Learned.*

[33] Similar low rates of sustained hygiene improvement were observed in a study completed by Plan International in Ethiopia, Kenya, Uganda and Sierra Leone (Tyndale-Biscoe, Bond, and Kidd 2013)

women act on different priorities when they are the primary locus of household decision-making. It is possible women place greater value on the privacy, convenience, health benefits, or aesthetics of a latrine or handwashing station. This trend of female-headed households showing greater adoption of latrines was also seen in another CLTS sustainability study in Bangladesh (Hanchett et al 2011).

The sanitation components (toilet, shower, laundry station) of the three monoblocks in Ilaka Est Commune were not adequately functional due to a poor management relationship between the service provider and the commune. In contrast, the two monoblocks assessed in Anivorano Est Commune were functioning. A 2012 study of USAID-funded WASH interventions in Madagascar highlighted that regarding monoblock management, "Regular supervision and coaching of managers to ensure proper financial management tools are applied is an ongoing need."[34] The team's follow-up study confirms the need for strong managers in the PPP model, as well as the importance of all stakeholders having an adequate understanding of this new model in order to more quickly react and remedy problems when management goes off course. The team also observed a difference in level of institutional support in these two examples, which may have contributed to the success of each PPP. In Ilaka Est Commune, the local government was powerless in its interaction with the service provider, and efforts to call upon the Ministry of Water, Sanitation, and Hygiene (an intended key signatory to the PPPs) bore no fruit. However, in Anivorano Est Commune, the local government is very strong and had time to become familiar with the PPP because it was created earlier in the project. The last potential factor is due to national governmental issues that required RANO-HP to close early. Therefore, the PPP in Ilaka Est was not allowed the period of support originally intended by the project.

EVALUATION QUESTION 2: WHICH FACTORS INFLUENCED THE ABILITY TO SUSTAIN SANITATION AND HYGIENE FACILITIES AND BEHAVIORS? WHY?

The SIT methodology, which has been applied to evaluate the sustainability of some USAID-funded activities, addresses institutional, management, financial, technical, and environmental factors as potential barriers to sustainability. The team adapted and expanded on these factors to categorize conclusions to evaluation Question 2 below:

Knowledge and capacity: For latrine use, knowledge and capacity were not reported as a major hindrance to maintaining or constructing latrines. RANO-HP's training of local masons appeared to have provided a sustained supply of skilled workers that community members continued to call upon after activity close, thereby relieving capacity constraints for some. Knowledge of hand hygiene practices and other key WASH messages was lacking at follow-up, suggesting recall of best practices is challenging without consistent follow-up in messaging or other cues to behavior change.

Environmental: Environmental barriers were present in some cases. Respondents in some areas described space constraints to private latrine construction such that shared latrines might be more practical. In other areas, wood was not widely available to build latrine superstructures. The Anosy Region often experiences storms that destroy latrines, and this contributed to fatigue among residents faced with rebuilding. In addition, some in water scarce areas attributed their lack of regular handwashing to drought.

Financial: Lack of money was the primary barrier reported by those who had not constructed or improved latrines in the past three years. Given that CLTS by design promotes latrine construction with

[34] Ibid.

everyday materials and without a subsidy, this finding may reflect a lower prioritization of modest sanitation costs such as wood or slab materials compared to other household needs, or an inability to build more sophisticated designs including a washable slab that are further along the sanitation ladder. Local masons confirmed financial barriers to securing materials for slab construction. Financial constraints did not appear to impede hygiene behavior, except in the drought-stricken Anosy Region, where the prohibitive price of water prevented people from purchasing it for anything other than cooking and drinking. RANO-HP's work through VSLAs did, in part, facilitate removal of this barrier by providing an enduring financial option that some used to finance WASH improvements such as SanPlat slabs, though this was not a prominent use of VSLA funds. The team was not able to measure whether VSLA loans for other purposes provided income that indirectly led to WASH improvements. Another CLTS sustainability study in four African countries similarly noted durability challenges for simple pit latrines and found almost no evidence of movement up the sanitation ladder over time. This study suggested complementary sanitation marketing might improve adoption of higher quality latrines over time (Tyndale-Biscoe, Bond, and Kidd 2013).

Technical: The simple pit latrine design appears to have been acceptable and suitable for maintenance and reconstruction without continued RANO-HP support, given the large number of households that reconstructed or maintained a household latrine in the three years since project close. However, lack of adoption of higher quality latrines over time, as is promoted through the CLTS sanitation ladder, meant simple structures deteriorated more quickly. This issue, compounded with financial or material constraints to reconstruction, appears to be a barrier to sustainability. The durability of handwashing stations at households indicates no major design impediment.

Supply chain: RANO-HP did not focus on supply chain issues given the CLTS approach to using local materials. This did not appear to be a barrier, as only 10 percent cited lack of materials as a barrier to making improvements to WASH facilities. Soap was also widely available. Local masons claimed the need for customers to purchase entire (30kg) bags of cement has been a barrier to adoption of a washable slab for some customers. One mason was willing and able to take on the full cost of the bag and charge customers only for the portion used.

Social norms: Social norms for sanitation and hygiene appear to be a strong factor in sustained behavior change. CLTS is known to prompt rapid 100 percent latrine adoption in communities after triggering, as there is substantial social pressure at the time. However, it appears that in many communities without strong pre-existing sanitation practices, this motivation fades and slippage occurs. Sanitation sustainability was stronger in communities with higher latrine coverage before CLTS triggering. These communities likely already have strong social norms around sanitation such that getting past the "last mile" challenge of sanitation adoption was easier.

In addition, more frequent follow-up by implementers over time in triggered communities, as well as strong local leadership, appear to be helpful means to reinforce sanitation norms. Most communes excluded from primary analysis due to recent CLTS interventions by other donors had significant improvement over 2013 levels of latrine use and handwashing station adoption compared to communes with no additional intervention since RANO-HP ended in 2013. This aligns with experiences of the Global Sanitation Fund-supported CLTS program in Madagascar, for which a report exploring causes of slippage noted that "a common trend seems to be that the more often interventions are repeated and follow-up support is provided, the less dramatic the slippage will be, until eventually the community reaches behavior

change maturity (WSSCC 2016)." Likewise, other studies have found continued external support to contribute to better sustainability (Tyndale-Biscoe, Bond, and Kidd 2013; Hatchett et al 2011).

Management and service delivery: This factor was most relevant to monoblock management, for which the team only had the opportunity to evaluate five of six USAID-funded examples. In the case of some public monoblocks, management and service delivery factors were a contributor to sustainability of functionality. Lack of leadership or participation by key partners, including the former Ministry of Water, Sanitation, and Hygiene, crippled functionality over time. In addition, insufficient fee structures were an underlying cause of services not being sustained.

RECOMMENDATIONS

1. CLTS interventions in Madagascar might benefit from holding more follow-up visits from specialists or thought leaders over a longer duration of time to keep up motivation and troubleshoot barriers to sustainability specific to each intervention area. Communities with low baseline latrine coverage might require special attention over time to overcome greater normative barriers.

2. Future programs that work in multiple geographies should evaluate with trained local masons how to offer and appropriately market washable slabs at prices that are affordable in each intervention area.

3. Given the large proportion of people who recently constructed latrines with the help of skilled labor, future programs can improve the sustainability of latrine construction and maintenance by training a local skilled workforce to construct latrines beyond the life of the activity.

4. Future programs might achieve very modest improvements in sustainability by promoting the use of VSLA or other local savings and loan groups to finance WASH improvements; however, these mechanisms are not sufficient to overcome financial barriers to maintaining sanitation and hygiene facilities.

5. Future programs that use a PPP model of managing public sanitation infrastructure should consider implementing at least one year of overlap between activity close and introduction of the PPP so that all parties are sufficiently informed of their rights and responsibilities. This may help to address the issue of poor performers. Commune leaders should present results from the PPP on a yearly basis to build trust with constituents, and to make sure they understand the commune's role.

6. Sustained hygiene behavior change requires long-term support and consistent messaging. CHWs or other local leaders may be a valuable resource in this effort, but future activities will need to work with these local community champions to identify and establish systematic methods and systems to sustain WASH behavior change promotion beyond the life of the activity.

7. Strategies to facilitate sustained WASH behavior might benefit from addressing gendered decision-making dynamics, as women able to make these decisions independently (i.e., female-headed households) appear to be slightly more inclined to adopt improved WASH practices, despite facing other socio-economic challenges.

8. Future programs may require special consideration for poorer or vulnerable population segments, such as illiterate households, that may find it more difficult to contribute labor or finances to maintaining WASH facilities.

USAID
FROM THE AMERICAN PEOPLE

PHOTO CREDIT; ANNETTE FAY

EVALUATION REPORT ANNEXES

MADAGASCAR RURAL ACCESS TO NEW OPPORTUNITIES FOR HEALTH AND PROSPERITY (RANO-HP) EX-POST EVALUATION

WASH Ex-Post Evaluation Series – Water Communications and Knowledge Management (CKM) Project

June, 2017

This document was produced for review by USAID. It was prepared by ECODIT LLC and Social Impact Inc. Under the Water CKM Project, IDIQ NO. AID-OAA-I-14-00069; TASK ORDER NO. AID-OAA-TO-15-00046.

TABLE OF CONTENTS

ANNEX I: EVALUATION STATEMENT OF WORK

On September 17, 2015, USAID signed a contract with ECODIT for the Bureau for Economic Growth, Education and Environment (E3) Water Communications and Knowledge Management (CKM) Project (AID-OAA-TO-15-00046), a five-year, $15M task order (TO) under the Water and Development IDIQ (WADI). For the project, ECODIT is providing knowledge management and communication services in support of the Water and Development Strategy, and any follow on water strategy. The project supports USAID's E3/W and its partners to increase water program knowledge and data capture; support knowledge creation and knowledge sharing internally and among a wide range of external stakeholders working in the water sector; and enhance communication and outreach by engaging a wide range of audiences and stakeholders using multiple channels and approaches.

As part of *Task 1.1*, Knowledge and Data Capture, ECODIT and its subcontractor Social Impact (SI) will conduct a number of post-project evaluations of USAID water programs (*Task 1.1.1*) to further USAID's understanding of why its completed water, sanitation and hygiene (WASH) projects have or have not been sustained. The series of evaluations builds off lessons learned from the development of the Sustainability Index Tool (SIT) and its application in nine countries.

The first of these evaluations will be an ex-post performance evaluation of the Madagascar Rural Access to New Opportunities for Health and Prosperity (RANO-HP) project. The purpose of this evaluation is to examine the sustainability of the sanitation and hygiene components of the RANO-HP project, implemented from 2009 to 2013. Key intended users of evaluation findings are USAID missions, USAID's E3 Water Office (E3/W), the extended USAID/Washington WASH team, and implementing partners. Findings from this and future evaluations will assist USAID in determining areas for improvement in its current process for project selection, design and implementation to ensure long-term sustainability and enable improved accountability to stakeholders.

BACKGROUND

The RANO-HP project was implemented from 2009 to 2013 with a budget of $8,525,000[1] in 26 communes and more than 70,000 households (HHs) along the east coast of, and in, southern Madagascar. It was implemented by a consortium led by Catholic Relief Services (CRS) that included CARE Madagascar, Caritas Nationale Madagascar (Caritas), Voahary Salama (VS, a platform of 12 Malagasy NGOs), and two local private sector companies specializing in rural water supply, BushProof and Sandandrano. The University of South Florida also participated in the project through operational research conducted by PhD candidates and graduate students enrolled in the Peace Corps Masters International Program in Environmental Engineering. Through RANO-HP, 62,235 people gained access to potable water, 18,212 began using latrines and 241 villages obtained Open Defecation Free (ODF) status.

The project had the following four strategic objectives (SOs):

- SO1: The organization and governance of the water and sanitation sector and collaboration with the private sector are improved at the commune level;

[1] The federal budget from USAID was $7,125,000, plus CRS and CARE contributed cost share equaling 20% of federal funding. The final $8.5M budget was approximately 30% less than the original budget when the Cooperative Agreement was signed in October 2009 due to the withdrawal of USG Development Assistance (DA) funding for the country.

- SO2: Sustainable access to an improved water supply is expanded;
- SO3: Access to hygiene and sanitation services is improved; and
- SO4: Strategies that improve the quality, impact and fairness of water and sanitation operations in Madagascar are developed and implemented.

RANO-HP took a multi-faceted approach to achieve its objectives. It introduced a unique public-private partnership (PPP) model to manage piped water supply systems, some that included public toilets and laundry facilities, at the commune level. This model consisted of the aforementioned private sector companies, Bushproof and Sandandrano, designing and constructing water and sanitation infrastructure that the commune then bidd out to maintenance companies. RANO-HP also helped establish WASH stakeholder groups at the commune level that underwent a series of trainings and capacity building exercises over the course of several years and were responsible for the development and execution of a five-year Commune Water and Sanitation Business Plan (CWSBP). Behavior change activities focused on three key WASH behaviors (handwashing, latrine use, water treatment and storage) and used a Community-Led Total Sanitation (CLTS) approach. Behavior change communication (BCC) components of RANO-HP helped drive demand for water services and sanitation infrastructure, and included a deliberate emphasis on regular payment for professional water services. To compliment CLTS and household-level BCC activities, RANO-HP trained local masons to assist households in building low cost latrines primarily using locally sourced construction materials common in the communities. The Project supported Village Savings and Loan Associations (VSLAs) throughout intervention areas as a way of assisting villagers to save capital. VSLAs were a vector for the three key WASH behaviors. Finally, RANO-HP worked with two microfinance institutions (MFIs) to introduce a loan product to facilitate investment in sanitation at the HH level. *Exhibit 1* presents a map of the RANO-HP project intervention areas.

EVALUATION DESIGN METHODOLOGY

PURPOSE

The ex-post performance evaluation of the RANO-HP project is the first in a series of planned evaluations of closed USAID-funded water and sanitation projects. Evaluations seek to further USAID's understanding of why the services established or supported during its completed WASH projects have or have not been sustained. The series builds off of learnings garnered through development of the Sustainability Index Tool (SIT). With the five factors of sustainability (institutional, management, financial, technical, and environmental) in mind, this evaluation will examine RANO-HP sanitation and hygiene components to further USAID's understanding of why these components have or have not been sustained.

This particular evaluation focuses strictly on RANO-HP sanitation and hygiene components to avoid duplication of a concurrent sustainability evaluation of RANO-HP and RANON'ala water system functionality being conducted by Villanova University (VU) in partnership with Catholic Relief Services (CRS), the project's implementer. This concurrent study builds on previous research conducted by Ermilio et al[2] that investigated relationships between system functionality and sustainability, and currently focuses on sustainability of water systems in 13 project CRS and CARE intervention sites using a hybrid of the SIT

[2] ERMILIO, J., CAIN, D., PATTISON, I. and SOHAIL, M. 2014. Performance evaluation of community managed water supply infrastructure. 37th International WEDC Conference.

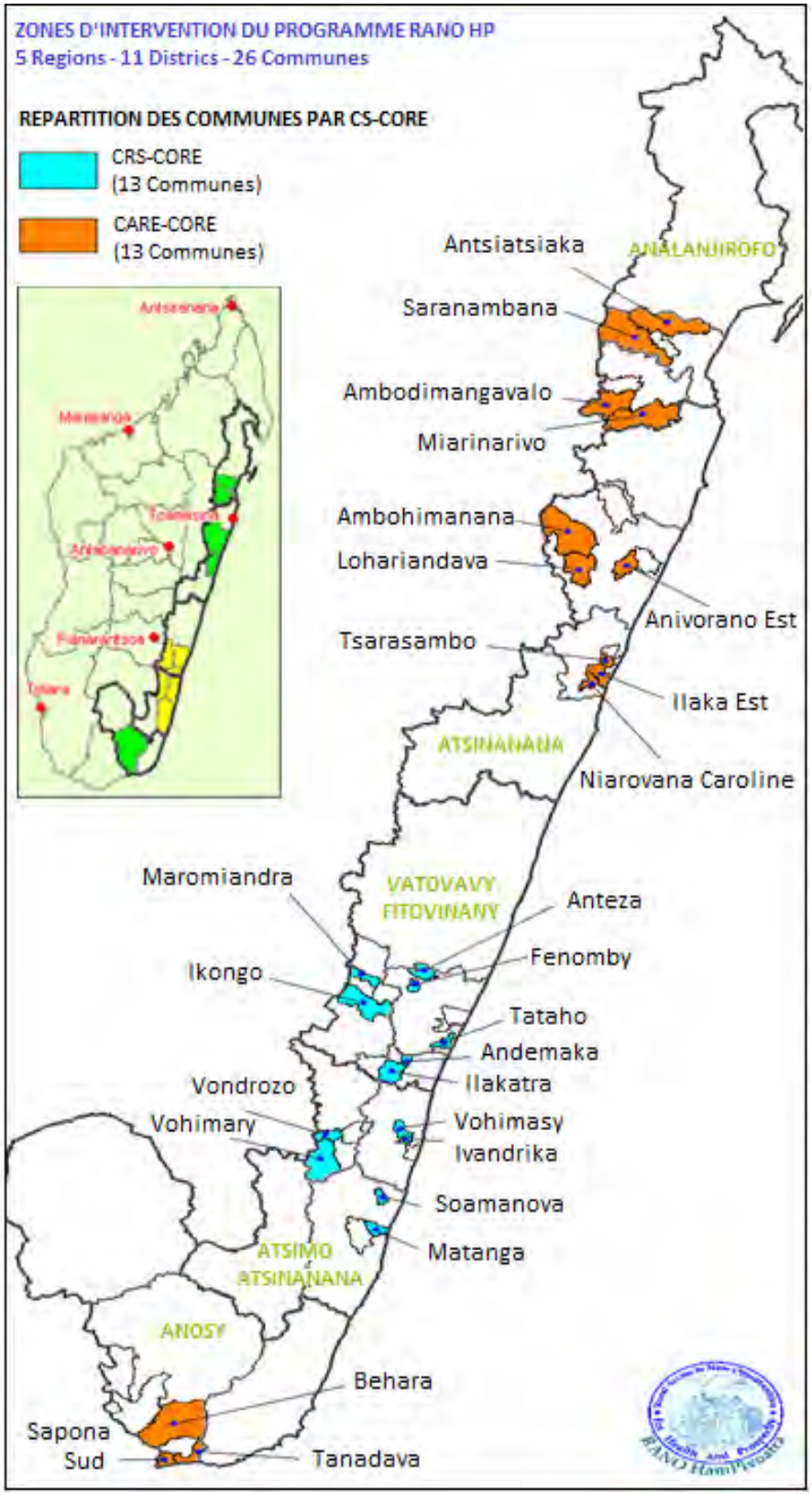
and Villanova's STEEP tool. CRS Madagascar and VU plan to use the results of the study to improve water supply project planning and implementation in the ongoing USAID FARARANO project and in future projects. The water component of these projects include setting up public-private partnerships (PPPs) in small towns where CRS constructs or rehabilitates piped water systems. Data collection for the study will end in July 2016. Results from the data analysis are expected to be shared with USAID by the end of 2016.

EVALUATION QUESTIONS

In consultation with USAID, the evaluation questions were identified as follows:

1. To what extent are the levels of sanitation facility functionality and hygiene usage/behaviors that were measured at the close of the RANO-HP project still observed three years later?
    a. To what extent have villages triggered with CLTS attained or sustained high latrine coverage and ODF status?
    b. To what extent have public sanitation and hygiene facilities constructed through RANO-HP maintained functionality and use?
    c. To what extent are hygiene behaviors promoted by the project (handwashing, use of improved latrines and treatment and storage of water) still practiced?
2. Which factors influenced the ability to sustain sanitation and hygiene facilities and behaviors? Why?
    a. In what ways, and to what extent, have VSLAs and MFIs been leveraged to finance HH WASH improvements beyond the end of the project?
    b. To what extent did efforts to build local capacity latrine construction lead to sustained construction and maintenance of improved latrines?
    c. To what extent have efforts to improve governance in WASH activities through CWSBPs influenced the sustainability of commune sanitation and hygiene activities?
    d. To what extent have efforts to form PPPs to manage sanitation activities influenced their sustainability?
    e. What other factors improved or impaired sustainability?
3. To what extent are successful approaches (if any) to ensuring sustainability suitable for scaled use by USAID and its implementing partners?

Exhibit 1. Map of RANO-HP Project Intervention Areas



EVALUATION METHODS

The evaluation team will employ a mixed methods approach to data collection with triangulation of multiple perspectives. Details on each method are provided in the Sampling Strategy under *Section 2.5*. *Exhibit 2* outlines methods that the team will apply to answer each evaluation question.

The team will begin with a desk review of RANO-HP project documentation and documents related to sanitation policy in Madagascar prior to field work, and conduct further review upon receipt of any outstanding project documentation once in Madagascar. Desk review of CWSBPs combined with key informant interviews (KIIs) with stakeholders will facilitate understanding of the degree to which these documents supported sustainability. KIIs with a variety of stakeholders including community leaders, trained local masons, implementers, private operators, and USAID staff will provide first-hand knowledge and perceptions of interventions and factors related to sustainability. KIIs allow interviewees privacy to give honest and critical answers. The team also will use Focus Group Discussions (FGDs) to engage community members such as VSLA participants in order to engage a broader audience and gather different community perspectives.

Given the objectives of Evaluation Question 1 and the private nature of sanitation and hygiene behaviors, HH-level data collection would be the most appropriate approach to examining the sustainability of project achievements since the project closed. We will train a local data collection firm to complete HH surveys for this purpose. We will develop a brief quantitative survey that will replicate key questions from the endline survey to capture key sanitation and hygiene project indicators. We will add questions to capture more detailed information about sanitation and hygiene attitudes and practices, barriers to change, VSLA activities, and latrine construction and usage changes over time including finance and maintenance approaches selected. HH surveys will be complemented by direct observation of HH sanitation facilities and handwashing station presence. In order to verify whether communities previously declared to be ODF appear to have retained this status, we will train enumerators to apply ODF verification methodology (e.g., community transect walks).

Across all data collection instruments, we will capture relevant sustainability indicators across the five factors to the extent possible so as to learn whether those factors appear to be accurate indicators of actual measured level of sustained outcomes.

DATA ANALYSIS

The evaluation team will analyze quantitative data using Stata software. We will calculate sanitation and hygiene indicators of sustained behavior using the household survey (e.g., percentage of HHs with a latrine/improved latrine in use; percentage of HHs with a handwashing station) according to endline report methodology and present it in comparison to endline. Though the endline report does not display standard deviation of means, the team will attempt to obtain the endline dataset to reproduce these results in order to better compare present and endline results in light of random sampling error. We will report and describe additional quantitative indicators. We also will transcribe and translate qualitative interviews before analyzing them using Atlas.ti through a common codebook to coordinate identification of themes. While quantitative household survey and transect walk data will be used to demonstrate the current status of WASH practices, qualitative data from interviews with various stakeholders will support an understanding of which factors might be most influential on sustainability and why. Findings will cite multiple perspectives.

SAMPLING STRATEGY

Data collection will be restricted to locations that received selected single or combined RANO-HP interventions of interest, with intervention-stratified random selection by village. To select locations for data collection, we will first create a complete sampling frame of eligible villages across six purposively selected communes. Purposive selection will better allow deliberately varied settings in terms of geography, implementation approach, and other characteristics. These six communes that are selected can be garnered from a variety of CWSBPs. Communes and corresponding village lists must meet the following three key selection criteria:

1. No other WASH intervention is known to have occurred in the village since the time of RANO-HP (if possible, otherwise no USAID WASH intervention);
2. At least one of the following must have been implemented in the village: CLTS triggering; local masons trained; monoblocks or other community sanitation/hygiene facility construction; VSLA establishment (hygiene promotion activities, such as training of Community Health Workers (CHWs), were conducted in villages that received sanitation interventions and will therefore be captured); and
3. If possible, village's *Fokontany* must have been one of the 58 village clusters that were included in the endline study, in order to enable more precise comparison to endline results to answer Evaluation Question 1.

Exhibit 3 highlights key RANO-HP project components of interest to the evaluation that will be targeted during sampling. The team has not yet obtained lists that specify each intervention delivered by village. Following receipt of this village-specific intervention listing, we will better be able to assign sampling strata and select an appropriate total village sample size. The general village selection approach will seek to sample eligible villages that received sanitation interventions with and without project components intended to improve sustainability. For example, among villages triggered for CLTS, a proportion will also have had training for local masons and/or VSLAs while others will not have had this component. This will provide a pseudo-counterfactual to enable a better assessment of the added value of these additional program components.

Intensive qualitative data collection with key stakeholders will occur in approximately 12 villages. This number is feasible within the timeline and budget constraints and will allow for considerable data from which conclusions can be drawn. Selection of individuals to participate in KIIs will be purposive, based on expected level of knowledge and experience with the subject matter. In some cases, we will rely on trainee lists from implementing partners. FGD participants will be average community members that are familiar with the interview subject matter, recruited randomly from available HH listings (e.g., CHWs) based on pre-set demographic categories to the extent possible.

Exhibit 3. Intervention Component Sample Targets

Intervention Component	Total Number Achieved by Project	Approximate # of Villages/Units to be Represented in Evaluation [3]
CWSBP developed	26	6 communes

[3] To be finalized following receipt of village-level intervention data.

CLTS triggering (non-ODF)	326	4 villages
CLTS triggering (ODF declared)	418	8 villages
Local masons trained	78	6 communes
VSLA established	254	6 villages
Monoblocks constructed	6	3 communes
CHWs trained	405	6 villages

More rigorous sample size standards are necessary to answer Evaluation Question 1 regarding levels of sanitation and hygiene behavior achieved. The RANO-HP endline survey found that 72% of HHs had a latrine at project close. In order to measure the same level of latrine coverage with a +/- 2.5% margin of error, 95% confidence interval, and assuming a maximum of 58 village clusters that were surveyed at endline, a total of 1,276 HHs will need to be surveyed to re-measure key sanitation and hygiene indicators. *Exhibit 4* illustrates estimated sample sizes for each data collection activity.

Exhibit 4. Data Collection Activity

Data Collection Activity	Sample size
Qualitative Data Collection Activities	
USAID KII	1
Implementer KIIs	3
CWSBP commune-level stakeholder interviews	6
Local leader KIIs	12
Local mason KIIs	6
Community health worker KIIs	6
Community member (including VSLA member) FGDs	6
KII with village agent responsible for VSLA	3

MFI KIIs	2
Monoblock service operator KIIs	3
	Total: 48 interviews
Quantitative Data Collection Activities	
HH survey	58 villages, 1,276 HHs
ODF verification	10 villages

DETAILED PLAN FOR GENDER AND SOCIAL ANALYSIS

In order to understand the degree to which project outcomes have been sustained for both men and women, and boys and girls, we will seek gender balance in KII and FGD targets to the extent possible. Some FGDs will be separated by gender to encourage freedom of response. HH surveys will target the person most knowledgeable about HH hygiene and sanitation practices, which typically is the female head of the HH; however, key variables such as persons in the HH practicing sanitation and hygiene behaviors will be gender-disaggregated in the report. The HH questionnaire and qualitative interview guides will inquire about gender roles in decision-making, financing, and maintenance of sanitation and hygiene practices both at the HH and community level in order to identify whether gender plays a role that should be addressed in order to improve sustainability of WASH results in the future.

EVALUATION DESIGN LIMITATIONS

Successful execution of this evaluation design depends upon receipt of necessary information from the implementers regarding how the interventions were carried out, and it will be aided by receipt of data precision estimates (standard deviations) from the endline dataset. We do not anticipate any challenges with obtaining this information, as all implementers have been highly cooperative and helpful in sharing documents thus far.

We will design the questionnaires to mitigate internal threats to validity; however, there may be limitations with regard to external validity of our findings. Though this evaluation will serve to inform future sanitation and hygiene promotion activities funded by USAID and other groups globally, Madagascar presents a unique climatic, cultural, and political context such that findings may not be applicable in all other contexts. In the report, we will address the degree to which findings and recommendations are likely to be generalized for application to other contexts.

EVALUATION TIMELINE AND LOGISTICS

Exhibit 5 provides a full timeline for conducting the evaluation. Specifically, we will likely undertake the evaluation per the following in-country schedule:

- Day 1: In-briefing with USAID Mission; KIIs with staff involved with RANO-HP; internal evaluation team planning

- Day 2-5: Evaluation team planning; KIIs with implementers; Translator training for KII/FGDs; Enumerator training and field pilot of HH survey and ODF verification process
- Days 6-7: Full team qualitative and HH data collection at first village. Instrument/protocol refinement.
- Days 8-17: Data collection at commune and village level, as follows:
    - **Qualitative Team 1:** SI Senior Technical Advisor (departs Madagascar at end of week 2) + 2 local WASH M&E experts (3-4 interviews/day/person)
    - **Qualitative Team 2:** Water CKM Project M&E Specialist + local WASH M&E expert (3-4 interviews/day/person)
    - **Quantitative Team:** HH survey/ODF verification by 30 enumerators + 10 supervisors (three interviews/day/enumerator)
- Days 18-21: Data collection at commune and village level, as follows:
    - **Quantitative Team:** HH survey/ODF verification by 30 enumerators + 10 supervisors (three interviews/day/enumerator)
- Days 22-23: Evaluation team data debriefing and preliminary analysis
- Day 24: Mission out-briefing and preliminary results presentation

UTILIZATION PLAN

The evaluation team will present a draft evaluation report to E3/W and RANO-HP implementing partners for comments prior to finalization to ensure it accurately portrays project activities and clearly and effectively presents findings and recommendations. In order to encourage wider utilization and ultimate compilation with other ex-post evaluation "chapters" to come, the report will be succinct and will highlight actionable recommendations for the intended users of the evaluation. We will post the final report to USAID's Development Experience Clearinghouse (DEC), and collaborate with E3/W to facilitate dissemination to key stakeholders, including USAID Missions, USAID/Washington staff and implementing partners. Findings from this evaluation will be of interest to the broader WASH community and will be distributed broadly to inform sectoral discussion on sustainability. The team will work with E3/W to identify best channels and timing for dissemination of findings.

EVALUATION TEAM

The evaluation team will consist of the following individuals and firms:

- Annette Fay, Water CKM Project M&E Specialist (SI), will lead background research, coordinate and conduct field visits and data collection, analyze data and author the evaluation report;
- Leslie Hodel, Senior Technical Advisor (SI), will provide assistance with evaluation design, data analysis and report editing from SI's home office;
- Three local M&E experts with WASH experience will provide feedback on evaluation tools, assist the M&E Specialist in conducting KIIs and FGDs, assist with data analysis, report writing and logistics;
- A survey firm will conduct the HH survey; and
- Translators will support the evaluation and team, as necessary.

ANNEX II: EVALUATION EVIDENCE MATRIX

	Evaluation Question	Factors to Be Examined	Data Collection Methods
1	**To what extent are the levels of sanitation and hygiene facility functionality and usage/behaviors that were measured at the close of the RANO-HP project still observed three years later?**	Replication of endline HH survey hardware and behavior measures; observation of public facilities	HH survey; transect walk; structured observations
a	To what extent have villages triggered with CLTS attained or sustained high latrine coverage and ODF status?	Observed presence, functionality, acceptability, and use of HH and community latrines; verification of lack of open defecation (OD) in community; Qualitative perspective on level of change perceived	Transect walk to observe OD; HH survey (including latrine observations and assessment of latrine type); KIIs with community leaders; KIIs with CLTS facilitators
b	To what extent have public sanitation and hygiene facilities constructed through RANO-HP maintained functionality and use?	Observed presence, functionality, acceptability, and use of community facilities	Observation of monoblocks and other facilities; KIIs with facility operators; financial and maintenance documentation at facilities; FGDs with community members
c	To what extent are household hygiene behaviors (handwashing, use of improved latrines, treatment and storage of water) still practiced?	Reported and observed HH WASH practices; present CHW BCC activities assessment; sale of Sur'Eau; mention of boiling water; Presence handwashing station (tippy taps)	HH survey (with observations of latrine conditions, water storage containers, handwashing station with apparent recent usage); KII with community health agents
2	**Which factors influenced the ability to sustain sanitation and hygiene facilities and behaviors? Why?**	Contextual understanding of factors at play; opinions of stakeholders; HH survey result disaggregation by intervention and HH characteristics	KIIs with CWSBP Stakeholders, Diorano WASH Commune Representatives, village leaders, implementers, USAID; FGDs with community members; HH survey

	Evaluation Question	Factors to Be Examined	Data Collection Methods
a	In what ways have VSLAs and MFIs been leveraged to finance household WASH improvements beyond the end of the project?	Usage of VLSA and MFIs for san/hygiene in past three years; perceptions of value and challenges/success in using these mechanisms	HH survey; VSLA member FGD; KII with MFI representatives; KII with village agent responsible for VSLA
b	To what extent did efforts to facilitate local capacity and supply chains for latrine construction lead to sustained construction and maintenance of improved latrines?	Perceived capacity of local masons; availability and affordability of local materials; local knowledge and usage of these services	KIIs with trained local masons; KIIs w/implementers; FGDs with community members; HH survey
c	To what extent have efforts to improve governance in WASH activities through CWSBPs influenced the sustainability of commune sanitation and hygiene activities?	Role of CWSBPs in ensuring appropriate prioritization, fund allocation and collection, maintenance planning, assignment of roles and responsibilities; ability of commune to enact plan	Desk review of CWSBP; KIIs with parties to CWSBP including community leaders; KIIs w/service providers/maintainers; FGD with local DIORANO group
d	To what extent have efforts to form PPPs to manage sanitation services influenced their sustainability?	Number of efforts to form those partnerships, what worked, what didn't work and why	KIIs with PPP stakeholders; KIIs w/service providers/maintainers, users?
e	Which other factors improved or impaired sustainability?	Stakeholder perceptions; gender; social characteristics; geographical challenges; analysis of sustainability success/failure according to approach; innovative examples from local communities	KIIs with implementing partners, USAID Mission, local DIORANO rep, community leaders, other PPP stakeholders that are parties to PDIA; HH survey disaggregated analysis according to various characteristics; FGDs with community members
3	**To what extent are successful approaches (if any) to ensuring sustainability suitable for scaled use by USAID and its implementers?**	Synthesis of lessons learned in context of similar interventions in other contexts	All as described, including literature review of similar interventions.

ANNEX III: DATA COLLECTION PROTOCOLS

A. QUALITATIVE INTERVIEW GUIDES

Key Informant Interview – CHW

Identification Section

District: _____
Fokontany: _____
Village: _____
Topic/Component: _____

Name: _____ **Position(s)**: _____ M/F
Telephone number: _____

Date of Interview:_____**Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

ASK: Do you have any questions?

ASK: Do you want to participate?

Informed consent discussion completed? Yes_____ (interviewer initials)

Do you agree to participate? Yes_____ No _____ (if no, end interview)

CHW Q1c

1. Which villages do you serve as a health worker? What are your typical activities?
2. What activities did you do with the RANO-HP project?
    a. PROBE: What were your objectives?

3. Did you notice any changes in household hygiene or sanitation behaviors or attitudes after you did these promotion activities? Describe
    a. PROBE: Differences by gender, age, poverty
4. Are you still working in the same villages as then?
5. In this community, how common is it now for people to wash their hands with soap?
    a. FOLLOW-UP: How have handwashing and other hygiene behaviors changed since the time RANO-HP ended?
    b. PROBE: handwashing with soap, water storage, times for handwashing
    c. FOLLOW-UP: Why do/don't people do this?
6. In this community, how common is it now for people to use latrines?
    a. FOLLOW-UP: Which types of people use latrines? PROBE on elderly, children, male, female, poor, rich
    b. FOLLOW-UP: Which types of people do NOT use latrines?
    c. FOLLOW-UP: Why do/don't people do this?
    d. FOLLOW-UP: How has latrine use changed since the time RANO-HP ended?
    e. PROBE: How has latrine ownership changed?
7. Are the household hygiene behaviors you introduced/practiced in villages at the time of RANO-HP still being practiced in the community?
    a. PROBE handwashing; use of improved latrines; treatment and storage of water; same throughout the year?
    b. PROBE: Can you give examples of any evidence that the same messages are remembered? Practiced?
    c. FOLLOW-UP: Do people still use the posters to motivate them through steps of behavior change?
8. Have you continued to give any of the same hygiene and sanitation promotion messages or activities since the RANO-HP project ended?
    a. Please describe what have you done and how. PROBE: how often
    b. What made you continue?
9. Have any other outside groups provided support for sanitation and hygiene improvements in this community since RANO-HP? Describe.
10. In your opinion, once a person adopts a good hygiene or sanitation practice, what are the factors that can prevent them from continuing those practices in the long term?
    a. FOLLOW-UP: What are things that can help them continue?

Key Informant Interview – CWSBP Stakeholder

Identification Section

District: _____
Fokontany: _____
Village: _____
Topic/Component: _____

Name: _____ **Position(s)**: _____ M/F
Telephone number: _____

Date of Interview:_____**Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

ASK: Do you have any questions?

ASK: Do you want to participate?

Informed consent discussion completed? Yes_____ (interviewer initials)

Do you agree to participate? Yes_____ No _____ (if no, end interview)

Context of the Evaluation

- Brief introduction to interviewers
- Purpose of evaluation and the interview

CWSBP Stakeholder Q2, Q2c

1. Tell us about the process of creating the CWSBP in your commune.
    a. PROBE: Who was involved? What was your role?

    b. PROBE: Were there any challenges in developing it?
2. What is the lifespan of your CWSBP?
3. What are the roles of each stakeholder in carrying out the plan?
    a. FOLLOW-UP: Have there been any challenges?
4. In what ways has this plan influenced WASH activities that have happened in this commune since it was created?
    a. PROBE: What projects have taken place?
    b. FOLLOW-UP: How has the plan influenced how things are funded?
    c. FOLLOW-UP: How has the plan influenced sanitation and hygiene in particular?
5. Is the CWSBP for this commune still being followed? Why/why not?
    a. What are the strong and weak points?
        i. Probe fund allocation and collection
        ii. Probe maintenance planning
        iii. Probe assignment of roles and responsibilities
    b. Is the implementation of the CWSBP similar in all of the commune? Where is it different and why?
6. In your view, has the CWSBP led to more sustainable sanitation and hygiene infrastructure improvement in your commune? In what way?
    a. FOLLOW-UP: What has prevented it from doing so?
7. Is there anything else you'd like to tell me about this plan or your views on WASH development in general?

Thank you very much for your time!

Key Informant Interview – Local leader

Identification Section

District: _____
Fokontany: _____
Village: _____
Topic/Component: _____

Name: _____ **Position(s)**: _____ M/F
Telephone number: _____

Date of Interview:_____**Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

ASK: Do you have any questions?

ASK: Do you want to participate?

Informed consent discussion completed? Yes_____ (interviewer initials)

Do you agree to participate? Yes_____ No _____ (if no, end interview)

Local Leader Q1a, Q2, Q2c

I want to talk about the project called RANO-HP, which happened about three years ago and was implemented by [*name of local implementer].* Do you remember it?

1. What can you tell me about the activities of this project?
    a. PROBE: What types of activities do you remember taking place through this project?
2. What do you think the project achieved?

3. Thinking of what the project achieved and what is happening now, can you tell me if anything is different?
    a. FOLLOW-UP: Why do you think it is/is not different?
    b. PROBE on latrines and sanitation use
    c. PROBE on handwashing
4. During the RANO-HP project, how did people in this community participate in [*fill in activities they'll remember]*?
    a. PROBE: What was your role? Was anyone involved in giving permission? Planning? Implementing? Monitoring results? Describe
5. What role did the Commune Water and Sanitation Business Plan had in the activities of RANO-HP in your community?
    a. PROBE: How did this process work?
    b. FOLLOW-UP: Is this plan still used today? Explain.
6. What has been the role of government in providing support to the water, sanitation, and hygiene practices in this community?
    a. PROBE: monitoring? Continued investment?

CLTS-triggered community:

7. To what extent did villages triggered with CLTS in your area attain latrine coverage and ODF status after the RANO-HP CLTS triggering?
8. How has that changed between the close of RANO-HP and now?
    a. What has contributed to sustained change (learned through RANO-HP)?
    b. What has prevented it?
9. What is the general attitude of people in this community about using latrines?
    a. PROBE for differences for male, female, age, poverty
    b. FOLLOW-UP: How has that attitude changed, if at all, since the time the RANO-HP ended?
10. Have people in this community been able to maintain their latrines since RANO ended?
    a. PROBE: How many have done this?
    b. FOLLOW-UP: Why/why not?
11. Have people made improvements to the structure of their latrines since that time?
    a. PROBE: How many have done this?
    b. FOLLOW-UP: Why/why not?
12. What types of resources are available to people in this community if they wanted to repair or improve their latrine?
    a. FOLLOW-UP: Tell me about the degree to which someone could go to a trained local masons for help. Do people do this?
    b. FOLLOW-UP: Tell me about the options to borrow money from a VSLA, MFI, or other source. Do people do this?
13. Can you tell me about any challenges to maintaining or improving household latrines? What makes it difficult?
    a. PROBE: Is it especially challenging for any type of person? PROBE on age, gender, poverty
    b. FOLLOW-UP: What would it take to overcome those challenges? What ideas do you have?

Other assistance

14. Since the time RANO-HP ended, has anyone within the community taken initiative to improve their sanitation? Please explain
    a. PROBE: constructing latrines? Improving existing latrines?
    b. FOLLOW-UP: What led to this?
15. Since the time RANO-HP ended, has anyone within the community taken initiative to improve their hygiene? Please explain
    a. FOLLOW-UP: What led to this?
16. Since the time RANO-HP ended, have any other outside groups provided support to this community related to water, sanitation, or hygiene?
    a. FOLLOW-UP: Which group, what, when

17. Is there anything about the way the RANO-HP project was implemented that you think was helpful to sustain results?
18. Is there anything that could have been done to improve sustainability?

Thank you very much for your time!

Observations of the interview context:

Key Informant Interview – Local Mason

Identification Section

District: _____
Fokontany: _____
Village: _____
Topic/Component: _____

Name: _____ **Position(s)**: _____ M/F
Telephone number: _____

Date of Interview:_____**Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

ASK: Do you have any questions?

ASK: Do you want to participate?

Informed consent discussion completed? Yes_____ (interviewer initials)

Do you agree to participate? Yes_____ No _____ (if no, end interview)

Questions

1. How did you learn of RANO-HP?
    a. PROBE: How were you selected to be involved?
2. Did you participate in a RANO-HP sponsored training?
    a. What did you gain from that training? PROBE: Did you gain new skills in latrine construction?
    b. Did you make new connections to markets in that training? Explain.

3. Are you still working as a mason in the same village/geographical location?
    a. Follow-up if no: Are you still working as a mason?
    b. Follow-up if yes: Who are your clients typically?
4. Since the time of RANO-HP about three years ago, how frequently have people called on you to support new latrine construction?
    a. FOLLOW-UP: To what extent have you been able to meet demand?
    b. FOLLOW-UP: Are you able to access needed supplies to build latrines according to what you learned through RANO-HP?
    c. FOLLOW-UP: What are the ways you apply the training you received from RANO-HP?
    d. FOLLOW-UP: Any challenges to applying what you learned through RANO-HP?
5. Are you still purchasing products from the same vendors you used during RANO-HP?
    a. Have the products themselves changed? (Observation.)
    b. Have the prices changed over the past few years?
    c. PROBE: Any other indication that RANO-HP had a longer-term impact on latrine construction material supply chains?
6. Are you familiar with CLTS?
    a. How is your work related to CLTS?
7. Are all of the latrines you built still functional?
    a. Why do you think some aren't still functional?
    b. Are you proud of any latrine in particular?
    c. PROBE if interviewee had answer: what are the features of this latrine?
8. Since the time of RANO-HP about three years ago, how frequently have people called on you to provide improvements or maintenance to existing latrines?
    a. FOLLOW-UP: What have they asked you to do?
    b. Do owners of the latrines you built still ask you for advice related to their latrines?

Thank you very much for your time!

Observations of the interview context:

Key Informant Interview – Microfinance Institution Representative

Identification Section

Location of Interview:

Name(s): _____ **Position(s)**:_____ M/F
Name(s): _____ **Position(s)**:_____ M/F
Name(s): _____ **Position(s)**:_____ M/F

Date of Interview:_____ **Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____
Informed consent completed: Yes_____
Respondent(s) agreed to be interviewed: Yes_____ or No_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

Context of the Evaluation

- Brief introduction to interviewers
- Purpose of evaluation and the interview

MFI Representative from TIAVO or OTIV ZL

1. Do you remember a project called RANO HP?
    a. (Explain project if they don't remember)
2. Are you familiar with the loan product developed between your organization and RANO HP?
    a. Can you describe that loan product?
    b. PROBE: Confirm loan product mostly used for household sanitation investment.
3. How has usage of this loan product been since the close of RANO HP in June 2013?
    a. Is that more or less than in 2013?
    b. FOLLOW-UP if more, what do you think is contributing to the popularity of this loan?

    c. Is this the same in rural andd urban areas? PROBE: Why?
    d. FOLLOW-UP if no, why do you think this isn't the case?
4. How have people learned about this loan product since 2013?
5. Would you change anything about this loan product if you could? Why?
    a. PROBE: Would they change anything related to making families more willing to use this loan product to invest in household WASH improvements?

Thank you very much for your time!

Observations of the interview context:

Key Informant Interview – Monoblock Service Provider

Identification Section

Monoblock name: _____
District: _____
Fokontany: _____
Village: _____

Name(s): _____ **Position(s)**: _____ M/F
Name(s): _____ **Position(s)**: _____ M/F
Name(s): _____ **Position(s)**: _____ M/F

Date of Interview:_____**Time of Interview:**_____
Name of Interviewer:_____ ____ **Name of Note-taker**:_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

Context of the Evaluation

- Brief introduction to interviewers
- Purpose of evaluation and the interview

1. Tell us about your company's relationship to this monoblock
    a. PROBE: Management? Finance? (Make sure to understand the relationship SP, community)
    b. FOLLOW-UP: What other groups are involved in managing this monoblock?
2. Were you working with (company name) during RANO-HP implementation?
3. Please explain how this monoblock came to be.
    a. PROBE: Who was involved in deciding to put it here? Why did your group get involved?
4. What is the fee structure for services here?
    a. FOLLOW-UP: How were the fees determined?
    b. FOLLOW-UP: Have there been any changes to the fees since it was constructed? Explain why.

    c. FOLLOW-UP: Do all people pay the fees? Why/why not?
5. What are your responsibilities for managing this Monoblock?
    a. FOLLOW-UP: How often do you visit this Monoblock?
6. How well used is it by the community? (Q1b)
    a. PROBE: Are all of the sanitation and hygiene components being used?
    b. PROBE: Are there any people who do not use it? Why? PROBE on male/female, age, poverty
    c. FOLLOW-UP: How has usage changed since it was constructed three years ago? Why?
7. If there is a problem, does the community call you? How are you informed? Example.
8. Please tell me about times that repairs have been needed since this was constructed.
    a. FOLLOW-UP:
        i. What was needed? When?
        ii. Who was responsible for doing the repair?
        iii. Who paid? What was the cost?
        iv. How long did it take to do the repair?
        v. Did this affect long-term usage?
    b. FOLLOW-UP: Were there any challenges to completing repairs? What could have been done differently?

9. Are you familiar with this Commune's Water and Sanitation Business Plan?
    a. Has this played a role in enabling monoblock maintenance?
10. In your view, has the public private partnership contributed to sustainability of this monoblock?
    a. If so, how?
    b. If not, what are the factors?

Observations

11. Can I please look at records of users or fees?
    a. *Spend time understanding it, look for gaps in record-keeping or fee collection, take photos if possible.*

12. OBSERVE functionality of each monoblock component (Q1b):

For each monoblock component (e.g. male latrines, female latrines, showers, laundry, water pump), please describe the conditions.

Component:					
	Very unacceptable	**Unacceptable**	**Acceptable**	**Very good**	**Notes**
Structural integrity					
Cleanliness					
Privacy					
Water flow					

Other: _____					
Number of users present or waiting for this component					

Key Informant Interview – RANO HP Implementer

Identification Section

Location of interview:

Topic/Component:

Name(s): _____ **Position(s)**: _____ M/F
Name(s): _____ **Position(s)**: _____ M/F
Name(s): _____ **Position(s)**: _____ M/F

Date of Interview:_____ **Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____
Informed consent completed: Yes_____
Respondents all agreed to be interviewed: Yes_____ No_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

Context of the Evaluation

- Brief introduction to interviewers
- Purpose of evaluation and the interview

Questions

1. What was the nature of your involvement with RANO-HP?
    a. PROBE: Confirm your understanding of how RANO-HP functioned related to your own role
2. Can you please describe the types of sanitation and hygiene activities your organization completed for RANO-HP?
    a. PROBE *if activities below not specifically mentioned:* Did you work through any of the following approaches? If so, please describe how this component worked and your

opinions on the successes and challenges of it (remember, this is only in relation to sanitation and hygiene activities):
    i. VSLAs
    ii. MFIs
    iii. Public-private partnerships
    iv. Local supply chains
    v. Local skills training (e.g. for latrine construction)
    vi. CLTS
3. What was your organization's approach to the following during RANO-HP (PROBE on how they decided on each, who was involved, whether it's their typical approach):
    a. Selecting communities to target (how)
    b. Initial outreach to or consultation with targeted communities (who and how)
    c. Involvement of persons in local communities (who and how and in which activities)
    d. Involvement of government (who and how)
    e. Selecting the implementation approach
    f. Monitoring and evaluation and remediation of problems (how and when and who's involved)
4. In what ways, if at all, was a Commune Water and Sanitation Business Plan used in the communes you worked in at the time of the RANO-HP project?
    a. FOLLOW-UP: Can you describe what the plans did in communities you worked in? How did your organization work with or around those plans?
    b. FOLLOW-UP: What is your opinion on the degree to which those plans influence the sustainability of sanitation or hygiene activities in those communes? Why?
5. Are there any particular RANO-HP activities that stick out to you as especially successful in terms of achieving sanitation and hygiene adoption outcomes at the time of project completion? Please describe.
    a. FOLLOW-UP: What do you think made those activities successful?
    b. FOLLOW-UP: Are there any examples of very successful communities you can highlight? Please describe.
    c. PROBE:
        i. Was it something very unique to that community? To the way it was implemented?
        ii. Do you think that's something that can be replicated widely? Why/why not.
6. In your experience in Madagascar, what are some of the challenges to achieving long-term sustained sanitation hardware and behavior?
    a. PROBE: How do things typically change from the time you implement a sanitation project activity through one, two, or three years later?
    b. PROBE: *Ensure they address both latrine structure sustainability and behavior change sustainability.*
    c. FOLLOW-UP: Why do you think that's the case?
7. What about hygiene behavior? What are the challenges to achieving targeted behaviors for the long term?
    a. PROBE: How do things typically change from the time you implement a sanitation project activity through one, two, or three years later?
    b. PROBE: *Ensure they address both hygiene structure (e.g. handwashing station) sustainability and behavior change sustainability.*
    c. FOLLOW-UP: Why do you think that's the case?
8. Was there any aspect of your program that was designed specifically to improve the long-term sustainability of the sanitation and hygiene activities or benefits? Please describe.

    a. PROBE: Anything related to the approach to latrine or handwashing station construction? Anything related to how the community was engaged or who was involved?
9. Do you or your organization still have any contact with the villages your organization targeted for RANO-HP, either formal or informal?
    a. FOLLOW-UP if yes: Please explain any continued involvement or contact.
    b. FOLLOW-UP: Does your organization continue to monitor outcomes after the project is over?
    c. FOLLOW-UP: Please explain what you know of what happened in those villages since the project ended three years ago, related to sanitation and hygiene and any other changes.
10. What do you expect to be sustained from your organization's work on RANO-HP, in terms of sanitation and hygiene outcomes? (Q1)
    a. FOLLOW-UP: Why do you think that?
    b. PROBE: To what degree do you think latrines will still be there? To what degree do you think people use them?
    c. PROBE: What about hygiene facilities (presence and use)?
11. Which factors do you think will have had the greatest influence on the ability to sustain sanitation and hygiene facilities and behaviors introduced by RANO-HP? (Q2)
    a. FOLLOW-UP: Why do you think that?
12. Which other factors do you think will have improved or impaired sustainability? (Q2e)
    a. FOLLOW-UP: Why?
13. Are you aware of any new programs from other donors that occurred in the same fokontanies within the past three years?
14. Do you have any other thoughts to share about RANO-HP or these general issues?

Key Informant Interview – USAID

Identification Section

Location of interview:
Topic/Component:

Name(s): _____ **Position(s)**: _____ M/F
Name(s): _____ **Position(s)**: _____ M/F
Name(s): _____ **Position(s)**: _____ M/F

Date of Interview:_____**Time of Interview:**_____
Name of Interviewer:_____ **Name of Note-taker**:_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

Context of the Evaluation

- Brief introduction to interviewers
- Purpose of evaluation and the interview

USAID Employee

1. What was the nature of your involvement with RANO-HP?
2. What can you tell me about the activities and achievements of RANO-HP?
3. In what ways, if any, did the RANO-HP approach differ from other WASH projects before it?
    a. PROBE: What do you think of that approach?
4. Based on your experience with WASH in Madagascar, what are the biggest threats to sustainability for sanitation and hygiene hardware and behaviors?
    a. FOLLOW-UP: Where have you seen evidence of that? Anything in the context of RANO-HP?
5. Are you aware of the degree to which RANO-HP sanitation and hygiene outcomes in particular were sustained since it closed three years ago?

    a. PROBE: Any guesses? Why?
6. What factors influenced the ability of RANO-HP project interventions to sustain sanitation and hygiene facilities and behaviors? Why?
    a. PROBE: What does it take to reach sustained use of latrines, handwashing with soap?
7. Have you seen any promising programmatic strategies to improving sustainability of CLTS outcomes in Madagascar? Describe.
8. How about strategies to improve hygiene promotion?
9. Are there any particular aspects of RANO-HP that you think we should look at closely in our study?

Key Informant Interview – Village Agent VSLA

Identification Section

Location of Interview:

Name(s):_____ **Position(s)**:_____ **M/F**
Name(s):_____ **Position(s)**:_____ **M/F**
Name(s):_____ **Position(s)**:_____ **M/F**

Date of Interview:_____ **Time of Interview**:_____
Name of Interviewer:_____ **Name of Note-taker**:_____
Informed consent completed: Yes_____
Respondent agrees to be interviewed: Yes_____ or No_____

Hello! We are here on behalf of a group in the United States called Social Impact, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [*name of local implementer*]. Now that some time has passed, we would like to learn more about the long-term sustainability of the outcomes of that project, and factors that may have affected the ability to sustain results. This information can help USAID improve its activities in the future throughout Madagascar. Because you participated in this project, we are inviting you to help us understand these things by participating in this interview and sharing your opinions.

This discussion will take about one hour of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in Madagascar in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identity confidential. When we make a report on our findings, we will not include your name alongside something you said. We want you to feel free to express your opinions. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

Context of the Evaluation

- Brief introduction to interviewers
- Purpose of evaluation and the interview

Village Agent Responsible for Village Savings and Loan Association Q2a

1. How did you become involved in the VSLA (VOAMAMI)?
    a. Follow-up: How long has it existed?
2. What is your role?
    a. Since when?
3. Were you trained by RANO-HP?
    a. PROBE: What is the connection to RANO-HP?
    b. Were any of your friends/colleagues trained by RANO-HP on VSLAs?
4. How does the VSLA work?
    a. PROBE: Do they mention anything related to sanitation or hygiene investment?
5. What do members use the loans for?
    a. PROBE: Don't prompt, see what they say.

    b. FOLLOW-UP:
        i. What kinds of WASH investment?
        ii. On a household or community level?
6. Do you think the VSLA helps the community to finance household WASH improvements? In what ways?
    a. PROBE: Does it do so more/less now? Did it ever?
    b. FOLLOW-UP if yes to helping, are there any other factors/players who are also helping the VSLA finance sanitation and hygiene improvements in your community?
7. Did you ever discuss sanitation and hygiene issues during your VSLA meetings?
8. Is there anything else you'd like to tell me?

Focus Group Discussion – Community Members

Identification Section

District:
Fokontany:
Village:

Topic/Component:

Date of FGD:_____ **Time of FGD:** _____
Name of Moderator:_____ **Name of Note-taker**:_____

Thank you for coming here today. We are here on behalf of a group in the United States called ECODIT, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [name of local implementer]. Now that some time has passed, we would like to learn more about opinions and common practices related to things like using toilets or washing your hands and other aspects of family life in this community. This information can help USAID improve its activities in the future throughout Madagascar.

We are inviting you to help us understand these things by participating in this group discussion. We don't need experts, but instead, what is most valuable is the opinions and experiences of regular people like yourself in this community.

This discussion will take about 1 ½ hours of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identities confidential. We will not write down your names, and when we make a report on our findings, we will not include your names or say who said what. We want you to feel free to express your opinions. We encourage everyone participating to keep this discussion confidential out of respect for your neighbors. But keep in mind we cannot guarantee confidentiality among people in this room. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

ASK: Do you have any questions?
ASK: Do you want to participate?

Informed consent discussion completed?:Yes_____
Do all respondents agreed to participate: Yes_____ (if any do not, politely dismiss them)

Respondent demographic **table**(do not write names!)

Respondent ID	Gender	Age
1.		
2.		

3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

I'd like to ask you some questions about common practices in this community.

Addressing Q1b, Q2, Q2b

1. Is anyone here familiar with a project called RANO-HP, which happened about three years ago?
    a. PROBE *with implementers' names, other project names they may remember*
    b. FOLLOW-UP if yes: What do you know about this project?
        i. PROBE for more details. What types of activities did this project do?
    c. FOLLOW-UP if no: Is there any project you remember about three years ago where [*describe activities done through RANO-HP in this community]?*
        i. *If still no idea, describe activities to them*
2. How did people in this community participate in [*fill in activities they'll remember]*?
    a. PROBE: Was anyone involved in giving permission? Planning? Implementing? Monitoring results? Describe
3. In this community, where do people defecate?
    a. In this community, how common is it now for people to use latrines?
    b. FOLLOW-UP: Which types of people use latrines?
        i. PROBE on elderly, children, male, female, poor, rich
    c. FOLLOW-UP: Which types of people do NOT use latrines?
    d. PROBE on elderly, children, male, female, poor, rich
    e. FOLLOW-UP: What are the reasons a person would use a latrine?
        i. PROBE: How important do YOU think it is to use a latrine all the time?
4. Thinking about how it was three to four years ago, what did people usually do when they needed to urinate or defecate?
    a. PROBE: Were things different then? Describe.
    b. PROBE on elderly, children, male, female, poor, rich
    c. FOLLOW-UP: Why do you think this changed/did not change over the past three-four years?
        i. PROBE: Did anything happen to change these practices?

For CLTS-triggered communities:

5. Can you tell me about that time someone came to this community to talk about the importance of using latrines? Please tell me what happened.

    a. PROBE for memory of RANO-HP CLTS triggering
    b. FOLLOW-UP: What was the result of that event? Did it change the way people do things?
6. Did every person here construct a latrine at that time?
    a. PROBE: Why or why not?
7. How did people construct their latrines at that time?
    a. FOLLOW-UP: What materials did they use?
    b. FOLLOW-UP: Did anyone help to construct them? Describe
    c. FOLLOW-UP: How did people pay for these latrines? PROBE on VSLA or MFI
    d. PROBE: Can someone here tell me about your full experience if you built a latrine at that time? What steps did you take?
8. What do you like or not like about your household latrines?
9. Have any of you had to repair or add improvements to your latrines since that time?
    a. FOLLOW-UP:
        i. Please describe what you've done.
        ii. Why did you do this?
        iii. How did you do this?
        iv. How did you know what to do?
        v. Did anyone help you? Describe.
        vi. Were you able to find the parts you needed? Describe.
        vii. How did you pay? PROBE on whether they borrowed from VSLA
    b. PROBE: What about your neighbors? Are you aware of anyone who has had to repair?
10. What types of latrines do people want? Describe what they look like.
11. If someone wants to put in a slab or walls to improve their latrine, describe for me how they would go about it.
    a. PROBE on where to get supplies, source of skilled labor, how to pay
12. Can you tell me about any challenges to maintaining your household latrines? What makes it difficult?
    a. PROBE: Is it especially challenging for any type of person? PROBE on age, gender, poverty
    b. FOLLOW-UP: What would it take to overcome those challenges? What ideas do you have?
13. For the latrines that were built at that time, are there any in this community that are not being used anymore? Why?
    a. PROBE: What are the reasons that led to latrines not being used? Structure problems? Don't want to use?
14. Can you tell me about any challenges to **using** latrines all the time in this community?
    a. PROBE on urination versus defecation
    b. PROBE: on elderly, children, male, female, poor, rich

VSLA

1. Who started the VSLA in this community, and when?
    a. PROBE: Created through RANO-HP?
    b. PROBE: How is local government involved?
    c. FOLLOW-UP: Is anyone here a member of a VSLA?
2. What are the most common reasons people borrow from the VSLA?
3. Are there ever times that people borrow money from a VSLA for sanitation, water, or hygiene related things?
    a. PROBE: Such as constructing or improving a latrine, getting a water connection, having handwashing facilities.
    b. FOLLOW-UP: What types of things do they borrow money for? PROBE for all.

c. FOLLOW-UP: How common is it to borrow money for these things? In the past year, how often would you say people borrow for these types of things? What about three years ago, around the time of RANO-HP?
d. FOLLOW-UP: **Why** is it common/not common for people to borrow for these types of things?

4. What do members appreciate about the VSLA?
    a. Did you learn anything through your VSLA during RANO-HP about hygiene and sanitation? What did you learn?

Hygiene promotion-targeted communities:

1. In this community, how common is it now for people to wash their hands with soap?
    a. FOLLOW-UP: When should people wash with soap?

2. Thinking about how it was three to four years ago, how common was it for people to wash their hands with soap after defecating? Before eating?
    a. PROBE: Were things different then? Describe.
    b. FOLLOW-UP: Why do you think this changed/did not change over the past three-four years? What are all the reasons?
        i. PROBE: Did anything happen to change these practices?
3. Are there times that your community health worker has told people in this community about hand washing? What did she say?
    a. FOLLOW-UP: When was the last time your CHW talked to you about this topic?
    b. FOLLOW-UP: Do you think these messages are effective to change how people do things? Explain.
4. Where else have you heard about hygiene practices?

PROBE: radio, billboards, other projects, community leaders, etc.

a. Is there anything else anyone would like to say about these topics?

Thank you for your time!

Focus Group Discussion – DIORANO Local Group

Identification Section

District:
Fokontany:
Village:
Topic/Component:
Date of FGD:_____ **Time of FGD:** _____
Name of Moderator:_____ **Name of Note-taker**:_____

Thank you for coming here today. We are here on behalf of a group in the United States called ECODIT, which is doing a study to help USAID better understand a project that it supported a few years ago in this community called RANO-HP, which was done by [name of local implementer]. Now that some time has passed, we would like to learn more about opinions and common practices related to things like using toilets or washing your hands and other aspects of family life in this community. This information can help USAID improve its activities in the future throughout Madagascar.

We are inviting you to help us understand these things by participating in this group discussion. We don't need experts, but instead, what is most valuable is the opinions and experiences of regular people like yourself in this community.

This discussion will take about 1 ½ hours of your time. There is no penalty or problem at all if you prefer not to participate. There is also no direct benefit to you if you do choose to participate, other than knowing you may be helping to improve activities for other communities in the future.

We do not expect to discuss sensitive topics, but regardless of that, we still plan to keep your identities confidential. We will not write down your names, and when we make a report on our findings, we will not include your names or say who said what. We want you to feel free to express your opinions. We encourage everyone participating to keep this discussion confidential out of respect for your neighbors. But keep in mind we cannot guarantee confidentiality among people in this room. If you don't feel comfortable answering a question, you can simply refuse to answer without problem.

ASK: Do you have any questions?
ASK: Do you want to participate?
Informed consent discussion completed? Yes_____
Do all respondents agreed to participate? Yes_____ (if any do not, politely dismiss them)
Respondent demographic **table** (do not write names!)

Respondent ID	Gender	Age
1.		
2.		

3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

I'd like to ask you some questions about your DIORANO group.

Addressing Q2c

1. What does your group do?
    a. PROBE: How are they involved in local governance of the WASH sector?
    b. FOLLOW-UP: How long has your group existed? Has the membership changed in the past four years?
2. Are you familiar with a former project called RANO-HP (or whatever local name)?
    a. FOLLOW-UP if yes: What do you know about this project?
        i. PROBE for more details. What types of activities did this project do?
    b. FOLLOW-UP if no: Is there any project you remember about four years ago where [*describe activities done through RANO-HP or names of people involved in RANO HP in the area that they may know]?*
        i. *If still no idea, describe activities to them*
3. Are you familiar with the local Commune Water and Sanitation Business Plan (CWSBP)?
    a. FOLLOW-UP if yes: Who is executing that? What is it?
        i. PROBE: Are they (participants) involved in it?
        ii. PROBE: Is it still being followed?
            1. In terms of:
                a. Prioritizing needed sanitation and hygiene infrastructure
                b. Fund allocation and collection
                c. Maintenance planning
                d. Roles & responsibilities
        iii. FOLLOW-UP if yes (being followed): Does it clearly impact commune sanitation and hygiene activities?
        iv. PROBE: How and is that due to the CWSBP as introduced by RANO-HP, or some kind of change introduced after the close of the project?
    b. FOLLOW-UP if no: Is there another existing framework that has improved WASH governance in your area? (something about sustainability of commune sanitation and hygiene activities).

B. HOUSEHOLD SURVEY (ENGLISH VERSION)

1.A. HOUSEHOLD SURVEY, ENGLISH

A. PLACE INVESTIGATION

- Faritra ..... |____|
- Distrika ..... |____|____|
- Kaominina ..... |____|____|
- Fokontany ..... |____|____|____|
- Village .....

B. CODE

- Equipe N° ..... |____|
- Superviseur ..... |____|
- Enquêteur ..... |____|____|

- Do you agree to participate in this survey?
  0. No ➔ ASK QUESTIONS A1 TO A6 AND THEN FINISH
  1. Yes ➔ CONTINUE

- Since when do you live in this village?

|___|___| MONTHS

|___|___| YEARS

IF LESS THAN 4 YEARS ➔ ASK QUESTIONS A1 TO A6 AND THEN FINISH

IF MORE THAN 4 YEARS ➔ CONTINUE

N° HH ..... |____|_____|

0. Substitution HH |____|

1. Initial HH

A. DEMOGRAPHIC INFORMATION

N°	QUESTIONS	ANSWERS	CODE	GO TO
A1	How old are you ?		|__|__|	
A2	Look	1. Woman 2. Man	|__|	
A3	What is your relationship to the home leader?	1. Spouse 2. Aunt 3. Sister/brother 4. Child 5. No relationship 6. Head of HH 7. Parents	|__|	
A4	What is the marital status of the respondent Read the options	1. Married 2. Single 3. Widowed 4. Divorced	|__|	
A5	PLEASE, FILL THE TABLE IN THE RIGHT, DETAILING ABOUT THE FAMILY MEMBERS ACCORDING TO THEIR AGE AND THEIR SEX Can you tell us please how many male and female are there in your family according to their age?	1. Less than 6 months 2. 7 months - 23 months 3. 24 months - 5 years old 4. 5 years old -18 years old 5. 18 years old - 60 years old 6. Above 60	Male Female |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
A6	How many people live here (including the smallest child)		|__|__|	
A7	Can you read? SHOW SOMETHING TO READ A part of newspaper	1. No I don't 2. Yes I do	|__|	

A8	In which grade did you stop school? (it means the highest grade finished)	1- Did not attend school 2- Primary 3- Secondary : CEG 4- Secondary : Lycée 5- High school or above	|__|	
A9	What is your religion?	1- Christian 2- Arab 3- Traditional religion 4- Atheist 5- other (please detail) _____	|__|	

A10	What is the main source of activity that brings money to the family? CLASSIFY ACCORDING TO THE AMOUNT OF MONEY RAISED/ NO DETAILS	1- Farming 2- Breeding 3- Fishing 4- Mining 5- Hand crafting 6- Charcoal producing 7- Shopping or commerce 8- Daily worker 9- Occasional salaried worker 10- Permanent worker 98- Other, please detail _____	|__|	

B.SAVINGS

N°	QUESTIONS	ANSWERS	CODE	GO TO
B1	Do you do savings for hard days?	0. No 1. Yes	|__|	If 0 ➔ B4
B2	Can you tell us the details about how do you do the savings?	1. Money 2. Things (Example : Cows, products, land …) 3. Money and things 98. Other (specify) _____	|__|	
B3	Where do you keep this money?	1. In the house 2. Bank ou MFI or VSLA 98. Other (clarify)	|__|	
B4	Have you ever been a member in a loan and credit association in your neighborhood?	0. No 1. Yes	|__|	If 0 ➔ C
B5	(If your neighborhood has enrolled in a loan association: For the last two years, any member has already rent money from the association for any of the following reasons:			
B5a	Latrine Construction	0. No 1. Yes 99. Do not know	|__|__|	
B5b	Latrine improvement	0. No 1. Yes 99. Do not know	|__|__|	
B5c	Hand washing place	0. No 1. Yes 99. Do not know	|__|__|	

B5d	Water storage	0. No 1. Yes 99. Do not know	|__|__|	
B5e	Water connection from many sources	0. No 1. Yes 99. Do not know	|__|__|	
B5f	Other things related to water	0. No 1. Yes 99. Do not know	|__|__|	
B5g	Other things related to hand washing	0. No 1. Yes 99. Do not know	|__|__|	
B5h	Other things related to latrine	0. No 1. Yes 99. Do not know	|__|__|	

C.INVESTMENT IN NEW/IMPROVED WASH

N°	QUESTIONS	ANSWERS	CODE	GO TO
C1	During the last 2 years, did the family spend money or time on the following matters:			
C1a	Latrine construction	0. No 1. Yes	|__|__|	If C1a to C1h = 0 ➔C6
C1b	Latrine improvement	0. No 1. Yes (Specify) ☐ Slab ☐ Wall ☐ Roof ☐ Door ☐ Aeration ☐ Other (specify) _____	|__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
C1c	Hand washing place	0. No 1. Yes	|__|__|	
C1d	Water storage	0. No 1. Yes	|__|__|	
C1e	Water connection from many sources	0. No 1. Yes	|__|__|	
C1f	Other things related to water	0. No 1. Yes (Specify)	|__|__|	

		_____		
C1g	Other things related to hand washing	0. No 1. Yes (Specify) _____	|__|__|	
C1h	Other things related to sanitation	0. No 1. Yes (Specify) _____	|__|__|	
	For any improvement, ask :			
C2	When approximately have you started doing so?	1. For 1 year 2. >1 year but <2 years 3. >2 years but <3 years 4. More than 3 years	|__|	
C3	How did you pay for this?	1. Personal savings 2.Local loan association 3. Microcredit shop 97. Not applicable (no cost) 98. Other (specify)	|__|	
C4	Did you pay someone skilled to help you with that?	0. No 1. Yes	|__|	
C5	Have you ever faced a lot of difficulties to find materials for the work?	1. Not at all 2. A bit 3. Yes, I have	|__|	
C6	For the last 2 years, has your household wanted to improve the hygiene, sanitation and water at home but could not do so because of various reasons?	0. No 1. Yes	|__|	If C6=0 ➔D
C7	What do you want to do (Specify anything you want to apply)	SANITATION: 1.New latrine	|__| |__|	

		2. Improvement of existing latrine (specify) 3. Renewal of existing latrine (specify) HYGIENE: 4. Construction of hand washing place 5. Improvement of existing hand washing place 6. Renewal of existing hand washing 7. Construction/ Improvement water storage WATER: 8. Potable water supply 9. Construction of public system" 10. Improvement of household water 11. Improvement of public water system 12. Construction of new infrastructures for rain collection 98. Other (specify) _____	|__| |__| |__| |__| |__| |__| |__| |__| |__|	

C8	What were the reasons you were not able to do the improvement? (mark all that apply)	1. Lack of money 2. I don't know how 3. Lack of materials 4. Spouse/ others disagree 5. No help 98. Other (specify) _____	|__| |__| |__| |__| |__| |__|	
C9	For you, what is the main reason why you did not do any improvement?	1. Lack of money 2. I don't know how 3. Lack of materials 4. Spouse/ others disagree 5. No help 98. Other (specify) _____	|__|__|	

D.WATER ACCESS

N°	QUESTIONS	ANSWERS	CODE	GO TO
D1	Who is the MAIN person responsible for fetching water in your family?	1- Mother / Women 2- Father/Man 3- Girls 4- Boys 98- Other, specify _____	|__|	
D2	These following questions will be about your Household What is the main source of drinking water and cooking water?	1.Water point at home(pump, dig) 2. Water point in the course 3. Water point in the neighbor 4. Public water point (pump, dig) 5. Private well uncovered well 6. Private well covered with tap 7. Common well covered with tap 8. Common uncovered well 9. Uncovered water source 10. Covered water source 11. River or stream	|__|__|	

		12. Pond, lake, dam, rice field 13. Tanker 14. Rain drops 15. Bottled water 98. Other, specify _____		
D3	How many households share this connection?	HOUSEHOLD 99.Do not know	|__|__|	
D4	What is identification number of the connection? (for Private and public water point : 1 or 2 or 3 or 4 on D2)	NUMBER 99.Do not know	|__|__|	

D5	If public or private connection : How many liter were the last spending ? Double check with the invoice (for Private and public water point : 1 or 2 or 3 or 4 on D2)	LITER 99.Do not know	|__|__|__|__|__| Per time frame : 1. Day 2. Week 3. Month 4. Year 5. Other (specify)_____	
D6		MINUTE	|__|__|__|	

	How much time walking does it take to reach the source, take water and return? WRITE THE MINUTE (0 =if the water point is at home)	99.Do not know		
D7	Can you tell us how far is the water collection place from your house? CONFIRM DURING OBSERVATION OF THE SOURCE	0- At home 1- < 200 m 2- 200m – 500m 3- > 500m	|__|__|	
D8	How many times a day do you go and fetch water?	1. Once 2. Twice 3. 3 times 4. 4 times 5. More than 4 98. Other, specify 97. Non applicable	|__|__|	
D9	Each time you fetch water, how many bucket do you bring with you?	1. 1 bucket 2. 2 buckets 3. 3 buckets 4. 4 buckets 5. More than 4 buckets	|__|__|	

		6. Other, specify 97. Non applicable		
D10	Can you show us the buckets you have? WRITE THE BUCKET NUMBER	1. Bucket (5 l) 2. Bucket (10l) 3. Bucket (15 l) 4. Bucket 20 l) 5. Bucket (> 20 l) 97. Non applicable	|__| |__| |__| |__| |__| |__|	
D11	Do you have any problem in using the water point ?	0. No 1. Yes	|__|	0 ➔ D13
D12	What types of problems do you face? Detail what is happening?	1.The road is bad 2. Harmful human beings or animals on the road 3. Not enough strength 4. People objection 5. Money problem top ay the fee 6. Related to my widowed status 98 Other (Specify) _____	|__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
D13	How is your satisfaction in the QUALITY of wáter in this water point ?	1.Not satisfied at all 2. Not satisfied 3. Satisfied 4. Really satisfied 99.Do not know	|__|__|	
D14	How is your satisfaction in the QUANTITY of water this water point?	1.Not satisfied at all 2. Not satisfied 3. Satisfied 4. Really satisfied 99.Do not know	|__|__|	
D15a	How is your satisfaction in the	1.Not satisfied at all 2. Not satisfied		

	services going along with this water point	3. Satisfied 4. Really satisfied 97. Non apllicable 99.Do not know	|__|__|	
D15b	Do you participate in decision-making about usage and control of this source?	0. No 1.Yes	|__|__|	
D16	Do you use the same water point for your daily activities (farming, water for animals,…)	0. No 1.Yes	|__|	
D17	Do you use this water point thoughout the year?	0. No 1. Yes 99. Do not know	|__|__|	

D18	Where do you collect water if this water source is dry or doesn't have enough water? (seasonnal or occasionnal)	1.Water point at home(pump, dig) 2. Water point in the course 3. Water point in the neighbor 4. Public water point (pump, dig) 5. Private well uncovered well 6. Private well covered with tap 7. Common well covered with tap 8. Common uncovered well 9. Uncovered water source 10. Covered water source 11. Pond, lake, dam, rice field 12. Tanker 13. Rain drops 14. Bottled water 98. Other, specify _____	|__|__|	
D19	How do you use this water that you collect from the water source? (explain the answers, maybe a lot of answers)	1. To drink 2. To cook 3. To wash hands 4. To shower 5. To do Household chores (washing,…) 6. For farming 98. Other, specify _____	|__| |__| |__| |__| |__| |__| |__|	

E.WATER STORAGE, TREATMENT

N°	QUESTIONS	ANSWERS	CODE	GO TO
E1	How do you store drinking wáter? DO NOT DETAIL	1. In the bucket itself 2. In a special container 3. In the bucket and in another storage place 4. Container in the roof, or tank 5. NA (Do not store drinking water) 98. Other, specify : _____	|__| |__| |__| |__| |__| |__|	97➔E9
E2	IF THEY USE STORAGE PLACE, ASK : Can I see the equipment?	0. No 1. Yes	|__|	0 ➔ E7
E3	COUNT THE NUMBER OF STORAGE EQUIPMENTS USED AND WRITE THE NUMBER .	NUMBER OF STORAGE EQUIPMENTS 99.Do not know	|__|__|	
E4	How is the opening type of the equipment used to store the water? Observe and describe the answer, The opening is small less than 3 Cm.	1. Small opening 2. Big opening 3. Two kinds, small and big	|__|	
E5	OBSERVE : Are the equipments covered?	0. No 1. Yes	|__|	

		2. Some are covered, some are not		
E6	How do you take water from this storage equipment? IF MENTIONED « 1 », IF NOT MENTIONED« 0 »	1. Glass/Cup/Mug 2. Ladle 3. Poured in the glass/ cup/ mug 4. With tap 98. other (specify) : _____	|__| |__| |__| |__| |__|	
E7	How often do you wash this storage equipment?	1. Everyday 2. Everyweek 3. Everymonth 4. Less than 1 per month 5. Never 98. Other, specify _____	|__|__|	
E8	How often do you wash this storage equipment with soap?	1. Everyday 2. Everyweek 3. Everymonth 4. Less than 1 per month 5. Never 98. Other, specify _____	|__|__|	

E9	Do you treat your drinking water?	0. No 1. Yes	 |__|	0 ➔ E15
E10	What types of treatment do you use for drinking water? DO NOT READ THE CHOICE IF MENTIONED « 1 », IF NOT MENTIONED « 0 »	1. Sur'eau or same product 2. Boil 3. Filter (SPECIAL EQUIPMENT) 4. Conserve (Leave it) 5. Use fabric to filter 6. SODIS 98. Other, specify _____	|__| |__| |__| |__| |__| |__| |__|	2, 3, 4, 5, 6, 98➔E13
E11	IF SUR'EAU OR WATER CLEARANCE WITH CHLORINE : Can you showthe bottle or the cover please ?	SIGN :Bottle or cover seen with the reste inside ? 0. No 1. Yes 99. Can't check	 |__|	
E12	How far do you have to go to see this product? (SUR'EAU)?	1. Less than 1km 2. 2 – 5 km 3. More than 5 km	 |__|	
E13	How often do you use special treatment for the water you drink?	1. Everyday 2. Often but not everyday 3. When someone is ill at home 4. During rainfall	 |__|	

		5. Special time		
E14	Who drinks the treated water at home?	1. Everyone 2. The children only 3.The sick person only 4.The old people only 98. Othder, specify _____	|__|__|	
E15	During last month, did you receive any sensibization about techniques to treat water	0. No 1. Yes	|__|	0 ➔ F
E16	Where did you get the information? Where else? WRITE THE INFORMATION CHANNELS MENTIONED IF MENTIONED « 1 », IF NOT MENTIONED « 0 »	1. From health center 2. From the health volunteers 3. From the kids at school 4. Radio 5. Poster 98.other (specify) _____	|__| |__| |__| |__| |__| |__|	

F.HYGIENE

N°	QUESTIONS	ANSWERS	CODE	GO TO
F1	Since yesterday morning, have you washed any of your child after the latrine?	0. No 1. Yes 97. Non applicable / No child	|__|__|	
F2	Do you have soap in your house?	0. No 1. Yes	|__|	1 ➔ F4
F3	Can you tell us why you do not have soap?	1. No money 2. The price is expensive 3. Don't know the usefulness 98. other, specify	|__|__|	
F4	And do you and your family use soap or ashes for washing hands all the time?	0. No 1. Yes	|__|	
F5	In general, what time of the day do you wash hands with soap? WRITE ALL THE ANSWERS GIVEN IF MENTIONED « 1 », IF NOT MENTIONED « 0 » DO NOT DETAIL	1. After defecation 2. After changing baby's diaper or washing its buttock 3. before preparing food 4. before meal 5. Before serving food or feeding a baby 97. Never wash hands with soap 98. other, specify_____ 99. Do not know	|__| |__| |__| |__| |__| |__| |__| |__|	
F6	According to you, what is the reason why it is important to wash hands with soap? WRITE ALL THE ANSWERS GIVEN	1. To prevent diarrhea 2. To prevent other disease	|__| |__| |__| |__| |__|	

	IF MENTIONED « 1 », IF NOT MENTIONED « 0 » DO NOT DETAIL	3. To eliminate microbes 4. To prevent dirt in the mouth 5. To prevent dirt into the food 6. To smell good 7. Pride 99. Don't know 98. Other, specify _____	|__| |__| |__| |__|	

F7	According to you, what is the best time to wash hands ? WRITE ALL THE ANSWERS GIVEN IF MENTIONED « 1 », IF NOT MENTIONED « 0 » DO NOT DETAIL	1. After defecation 2. Before meal 3. After washing or changing a child 4. After washing toilet 5. After cleaning pot 6. Before preparing food 7. Before feeding the baby 8. After meal 98. other specify : _____	|__| |__| |__| |__| |__| |__| |__| |__|	

F8	Can you show us where is the place that you use to wash hands ? ASK AND OBSERVE	1. At home/ near the bathroom, latrine 2. At home near the kitchen or place to prepare food 3. In the garden 4. Outside the playground 5. No special place 6. Can't see	|__|	If 6 (not allowed), →F12
F9	CHECK : what is the product they use for hand washing?	1.Tap 2. Tippy taps 3. Basin/Bucket 98. Other, specify _____	|__|__|	
F10	CHECK: was water available during the survey?	0. No 1. yes	|__|	
F11	CHECK : is there soap or detergent or other « local products » inside ? These products should be placed in this particular place or at least have been moved If not, Choose NO IF MENTIONED "1" IF NOT MENTIONED « 0 »	1.Nothing 2. Soap 3. Detergent 4. Ash 5. Mud 6. Sand 98. Other, specify_____	|__| |__| |__| |__| |__| |__| |__|	
F12	Can you tell us the 3 key WASH messages? IF MENTIONED « 1 »,	1. Wash hands with water and soap	|__| |__| |__|	

	IF NOT MENTIONED « 0 »	2. Use washable latrine 3. Take care of water potability from the water source to the moment of drinking 4. None of these ones	 |__|	

F13	Mention 3 things to prevent diarrhea?	1. Wash hands 2. Use washable latrine 3. Take care of water potability from the water source to the moment of drinking 4. None of these ones	|__| |__| |__| |__|	
F14	Last month, is there a time when you benefit mobilization or information about hygiene and hand washing	0. No 1. Yes	 |__|	0 ➔ G
F15	Where did you get this information? Where else? WRITE ALL THE INFORMATION CHANNELS MENTIONED IF MENTIONED « 1 », IF NOT MENTIONED « 0 » DO NOT DETAIL	1. From the health center 2. From the health worker 3. From the kids at school 4. Radio 5. Poster 98. Other channels, specify	|__| |__| |__| |__| |__| |__|	

G.SANITATION

N°	QUESTIONS	ANSWERS	CODE	GO TO
G1	Are there children under 5 years old in your family?	0. No 1. Yes	|__|	0. → G4
G2	Where did your smallest child go to defecate NOT DETAILED	1. Use latrine 2. Use of pot (POT) 3. use of baby diaper 4. In the house 5. Go outside the residential area 6. Inside clothes 7. other, specify_____ 99.Do not know	|__|__|	
G3	When your smallest child defecated, where did you throw the excrement? Do NOT DETAIL	1. In the latrine 2. Buried 3. Hole or inside the carbage 4. Outside in the course 5. Outside the residential area 6. In the water outlet channel 7. Other, specify _____	|__|__|	
G4	Where did the adults go when they want to pooh ? DO NOT DETAIL	1. Outside in the air (forest/garden,	MALE FEMALE |__|__| |__|__| |__|__| |__|__|	

		beach) 2. latrine 3. Public latrine 4. School latrine/ health center 5. Monoblock 98. other, specify _____	|__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
G5	Can you tell me the distance from here ?	METER 9999 if don't know the distance	|__|__|__|__|	
G6	Where you pooh, we want to know how you see it? For yourself, what happens when you go there ? READ THE OPTIONS	1. Dirty « 1 », Clean « 2 » 2. Frightening « 1 », Not frightening «2» 3. Small «1», Big «2» 4. Smell «1», Not smell «2» 5. Far «1», Near «2» 6. Open space«1», in the shadow «2»	|__| |__| |__| |__| |__| |__|	

G7	What do you most when you wipe yourlsef (MAINLY)?	1. Toilet paper 2. Leaves 3. Piece of wood 4. Water 5. Simple paper	MALE FEMALE |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	

		98. Other, specify_____		
G7 a	Did you have private latrine previously?	0. No 1. Yes 3. Do not know	|__|__|	If 0➔G9
G7b	When did you build your latrine for the first time?	YEAR 1. There is already a latrine built on our arrival 2. Do not know	|__|__|__|__|	
G7c	How many times did you build a new latrine to replace the one first?	NUMBER OF NEW CONSTRUCTIONS 1. Do not built a new latrine to replace the first one 2. Do not know	|__|__|	
G8	And now do you or your family use latrine?	0. No 1. Yes	|__|	0. →I 1.
G9	Do you use your own latrine or you share it or public?	1. SHARED 2. PRIVATE 3. PUBLIC	|__|	not private →G16
G10	When did you build your latrine	YEARS 1. Do not know	|__|__|__|__|	
G11	Who did take the responsability to build the latrine?	1. Home leader 2. Family 98. Other, specify_____	|__|__|	
G12	What motivates you to build latrine for your family?	1. New house	|__| |__|	

	WRITE THE ANSWERS	2. There is an old people or sick people 3. We lend the house 4. Pride and society value 5. Because our neighbors have 6. For visitors 7. Prevent from diarrhea 8. People came to our village and encouraged us to build one 98. other (specify)_____ 99. do not know	|__| |__| |__| |__| |__| |__| |__|	
G13	Who built your latrine?	1. People inside the house 2. Lose family 3. workers 98. Other	|__| |__| |__| |__|	
G15	How much did you spend for building that latrine? (TOTALE AMMOUNT – MATERIALS AND SALARIES)	1. < 10 000 ar 2. < 20 000 ar 3. 20 000 – 50 000 ar 4. > 50 000 ar 99. Do not know	|__|__|	
G16	Are you satisfied with this latrine?	0.NO 1. YES 2. AVERAGE	|__|	

G17	What don't you like with this latrine ? DO NOT DETAIL	1. bad smell 2. Dirty 3. The payment after use 4. The distance (too far) 5. Not comfortable 6. difficult to clean 7. Easily filled 8. The queue 9. Sharing 10. Structure not safe 97. Not applicable (like everything) 98. Other Specify _____	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__|	
G18	What do you like most from this latrine? DO NOT DETAIL	1. Healthy 2.apart and quiet 3.Cleanliness 4. Comfort 5. Reliable 6. Top 7. Proximity 8. Modern 97. Not applicable (do not like anything)	|__| |__| |__| |__| |__| |__| |__| |__| |__|	

		98. Other (specify) _____		
G19	if G9= shared or public How many households usually use this latrine?	HOUSEHOLD	|__|__|	

G20	Who are all those people?	1. Members of my nuclear family 2. In law's 3. workers 4. Renters 5. Neighbors 6. Full community (latrine is public/ monoblock) 98. Other, specify _____	|__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
G21	Within 2 years, have you improved your latrine yet?	0. No 1. Yes 99. do not know	|__|__|	1 ➔ G22 0,2 ➔ G23
G22	What did you do?	1. Repairing what exists 2. Improvement of the hole slab 3. Improvement of the wall 4. Improvement of the roof 5. Taking off the feces 6. Building another latrine 98. Other	|__| |__| |__| |__| |__| |__|	
G23	Within 3 years, have you experencied that your latrine is filled ?	0. No 1. Yes 99. Do not know	|__|__|	1 ➔ G24 0,2 ➔ H
G24	What did you do when that happened ?	1. Build a new latrine 2. Take all the feces out of the hole 3. Use "digesto" to bury the feces 4. Stop to use the latrine	|__|	
G25	If G9 shared or public Can we see the latrine?	0. No 1. Yes	|__|	IF 0➔11

H.LATRINE OBSERVATIONS

N°	QUESTIONS	ANSWERS	CODE	GO TO
H1	Does the latrine have wall?	0. No 1. yes	|__|	0 ➔ H3
H2	With what raw material is wall made of?	1. Mud 2. Wood 3. Box 4. Leaves 5. Brick/Ciment 6. metal 98. Other_____ 99. Do not know	|__|__|	
H3	Does the latrine have roof?	0. No 1. Yes	|__|	0 ➔ H5
H4	With what raw material is made the roof with?	1. Mud 2. Wood 3. Brick/Ciment 4. Leaves 5.metal 98. other_____	|__|__|	
H5	Does the latrine window have curtain or separate	0. No 1. Yes	|__|	

H6	Is it locked with the keys	0. No 1. Yes	|__|	
H7	As you see it, has the latrine been used? CHECK if there is in the hole, are there human feces inside, throw a stone to check, is there any used latrine paper, check also the road to see if it is used.	0. No 1. Yes	|__|	
H8	What kind of flooring is it	1. Porcelain / Plastic 2. Wood 3. round wood / 4. Soil 5. Ciment / paving 98. other (Specify) _____	|__|__|	
H9	Is the pit covered now?	0. No 1. Yes	|__|	
H10	How is the latrine filled?	1. The latrine is filled 2. It is almost filled 3. There is space still 4. There is big space	|__|	
H11	How is the cleanliness of the latrine?	1.Clean 2. A bit dirty (pee in the slab with unused toilet paper) 3. Very dirty (feces somewhere, used paper in the stab)	|__|	
H12	Is a broom around the latrine	0. No 1. Yes	|__|	

H13	Is there a place for handwashing disposal near the latrine?	0. No 1. Yes	|__|	
H14	Is there water in this place?	0. No 1. Yes	|__|	0 ➔ H16
H15	What equipment is used for water storage?	1.Tap 2. Tippy taps 3. Bucket 98. Other (specify) _____	|__|__|	
H16	Is there something else for hand cleaning near the latrine? WRITE WHAT IS AVAILABLE	1. Nothing 2. Soap 3. Detergent (liquid soap) 4. Ash 98. Other (specify)_____	|__|__|	

I.SANITATION CONTINUED

(FOR THOSE WHO DON'T USE LATRINE : G8=0 AND FOR THOSE WHO DO NOT HAVE PRIVATE LATRINE G9 = 0 OR 2)

N°	QUESTIONS	ANSWERS	CODE	ALLER À
I1	Have you already seen a latrine? ONLY FOR THOSE WHO DO NOT USED LATRINE	0. No 1. Yes	|__|	
I2	What is the biggest challenge that prevents you from building a latrine here? IF MENTIONED « 1 », IF NOT MENTIONED « 0 » DO NOT DETAIL	1. Not aware of techniques to build latrine. 2. No space to build. 3. Kind of land impossible to dig a hole 4. Shallow water table. 5. No skilled technicians available (mason, hole digging) 6. Difficult to find the materials for digging. 7. Difficult to save money for latrine building. 8. Satisfied with public latrines 9. Problems related to authorization permit 10. Taboo 11. Not common 98. Other	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__|	

13	According to you, what is a good latrine? IF MENTIONED « 1 », IF NOT MENTIONED « 0 »	1. Not smelling 2. Airy / good ventilation 3. Easy to empty the excrement 4. Can be used by children 5. With chairs 6. Easy to take care 98. Other _____	|__| |__| |__| |__| |__| |__| |__|	
14	According to you, what are the conditions for latrine accessible to children? IF MENTIONED « 1 », IF NOT MENTIONED « 0 »	1. Latrine with a small hole for children 2. The chair is easier to seat 99. Do not know 98. Other_____	|__| |__| |__| |__|	
15	Within a year, what are the chances for you to have a latrine ? DO NOT DETAIL	1. A lot 2.Average 3. Small 4. Nothing	|__|	
16	During last month, did you receive mobilization or information about latrine use ?	0. No 1. Yes	|__|	0 → J
17	Where did you receive such information? Where else? WRITE ALL THE CHANNELS SAID IF MENTIONED « 1 », IF NOT MENTIONED « 0 »	1. Health center 2. Mobilizers 3. Kids from school 4. Radio 5. Poster 98Other, specify _____	|__| |__| |__| |__| |__| |__|	

J.DIARRHEA

N°	QUESTIONS	ANSWERS	CODE	GO TO
J1	How many children under 5 years old are in your house Write the number mentioned	CHILD LESS THAN 5	|__|	0 →END
J2	Has any of them have diarrhea during two weeks preceding today	0. No 1. yes 99. Do not know	|__|__|	0➔ END
J3	How old is (NAME) ? _____ Take the youngest if there's several children	MONTH	|__|__|	

C. HOUSEHOLD SURVEY (MALAGASY VERSION)

1.b. Household Survey, Malagasy

ANDIAM-PANONTANIANA MIKASIKA

NY RANO, FANADIOVANA ARY FIDIOVANA

A. FAMPAHAFANTARANA NY TOERANA ANAOVANA NY FANADIHADIANA

- **Faritra** ..... |____|
- **Distrika** ..... |____|____|
- **Kaominina** ..... |____|____|
- **Fokontany** ..... |____|____|____|
- **Village** .....

B. KAODY

- **Equipe N°** ..... |____|
  - **Superviseur** ..... |____|
  - **Enquêteur** ..... |____|____|

FANEKENA AN-TSITRAPO SY FANONTANIANA SIVANA

- **Salama, tompoko. Izaho dia miasa ao amin'ny Agence Capsule. Ankehitriny izahay dia miara-miasa amin'ny orinasa amerikana iray, antsoina hoe ECODIT. Ny fikarohana izay ataonay ankehitriny dia mba hanampy ny USAID ahafantatra ny zava-misy marina mikasika an'ilay tetik'asa RANO_HP natao tety aminareo. Telo taona lasa izay, dia nisy andian'olona nanatanteraka fanadihadiana tety aminareo mikasika ny fiainampiainan'ny mponina. Te ahalala ny fivoaran'izany fiaimpiainanareo izany izahay ankehitriny.**
- **Ity tokantranonareo ity dia tafiditra ao anatin'ireo tokantrano 22 voasafidy hanatanterahana ny fanadihadiana, hisolo tena an'ity tanàna ity. Manasa anao izahay mba handray anjara amin'ny fikarohana, raha sitrakao. Eo ho eo amin'ny 45 minitra eo no faharetan'izany. Hanontany anareo aho mikasika ny fiaimpiainanareo amin'ny andavanandro, toy ny momba ny rano ampiasainareo, sy ny fanaonareo ato an-tokantrano. Ny fandraisanao anjara amin'ny fanadihadiana dia tsy ahazoanao tombon-tsoa mivantana, nefa hanampy ny USAID amin'ny fanampiana ny fiaraha-monina ety amintsika izany. Tsy misy ihany koa ny arakaraka raha misafidy ny tsy handray anjara ianao.**
- **Manaja tanteraka ny safidinao handray anjara, na tsia aho, ary manome toky anao fa**

hijanona ho tsiambaratelo tanteraka ny valin-teny rehetra omenao. Raha misy fanontaniana tsy mety aminao, dia afaka tsy mamaly ianao, fa tsy maninona.

- Manana fanontaniana ve ianao mikasika an'izay?

- Handray anjara ve ianao?

0.Tsia ➔ ANONTANIO A1 HATRAMIN'NY A6 DIA FARANO

1.Eny ➔ TOHIZO

- Nanomboka oviana ianao no nipetraka teto amin'ity tanàna ity?

|____|____| VOLANA

|____|____| TAONA

RAHA LATSAKY NY 4 TAONA ➔ ANONTANIO A1 HATRAMIN'NY A6 DIA FARANO

RAHA MIHOATRA NY 4 TAONA ➔ TOHIZO

- N° ménage ..... |____|_____|

0. Ménage de substitution |____|

1. Ménage initial

B. MOMBAMOMBA NY TOKANTRANO

N°	FANONTANIANA	VALINY	CODE	ALLER A
A1	Firy taona ianao ?		|__|__|	
A2	Jereo	1. Vehivavy 2. Lehilahy	|__|	
A3	Inona no fihavananao amin'ny loham-pianakaviana?	1. Vady 2. Nenitoa 3. Anabavy/Anadahy/Rahalahy/Rahavavy 4. Zanaka 5. Tsisy ifandraisany 6. Loham-pianakaviana 7. Ray aman-dreny	|__|	
A4	Lazao ny fiankohonan'ny tompon'andraikitra voalohany amin'ny fanadiovana sy ny fidiovana ao an-tokantrano VAKIO NY SAFIDY	1. Manambady 2. Mpitovo 3. Mananon-tena 4. Nisara-bady	|__|	
A5	AZAFADY, MBA FENOY NY TABILAO EO AMIN'NY ANKAVANANA, IZAY MITSINJARA IREO OLONA AO AMIN'NY FIANAKAVIANA ARAKA NY TAONA SY NY MAHA LAHY SY MAHA VAVY Azonao lazaina ve azafady, ny isan'ny lahy sy vavy araka ny taonany avy ao amin'ny fianakaviana ?	1. Latsaky ny 6 volana 2. 7 volana - 23 volana 3. 24 volana - 5 taona 4. 5 taona -18 taona 5. 18 taona – 60 taona 6. 60 taona mahery	LAHY VAVY |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
A6	Olona firy ianareo no mipetraka ato (Hatramin'ny zaza kely indrindra)?		|__|__|	
A7	Mahay mamaky teny ve ianao ? MAMPISEHOA ZAVATRA HO VAKIANY	1. Tsy mahay 2. Mahay	|__|	
A8	Kilasy faha-firy ianao no nijanona nianatra farany? (Izany dia midika hoe ny dingana avo indrindra vita)	1- Tsy nianatra 2- Primaire / EPP 3- CEG 4- Lycée 5- Supérieur	|__|	
A9	Mety afaka fantarina ve ny finoanao ?	1- Kristiana 2- Silamo 3- Finoana nentim-paharazana	|__|__|	

		4- Athée 98- Hafa (tanisao)_____		
A10	Inona no karazana asa fivelomana tena mampidi-bola indrindra ho an'ny fianakaviana? ALAHARO ARAKA NY HABETSAHAN' NY VOLA AZONY AMIN' IZANY / TSY TANISAINA VALINY TOKANA	1- Fambolena 2- Fiompiana 3- Jono 4- Fitrandrahana harena ankibon'ny tany 5- Asa-tanana 6- Manao saribao 7- Varotra 8- Mpiasa isan'andro 9- Mpikarama an-tselika 10- Mpikarama raikitra 98- Hafa, tanisao_____	|__|__|	

C. TAHIRY – OMBON-TAHIRY

N°	FANONTANIANA	VALINY	CODE	ALLER A
B1	Ary ianareo ve mba manao tahiry itsinjovana ny vodiandro merika ?	0. Tsia 1. Eny	|__|	Si 0 ➔ B4
B2	Afaka lazainao anay ve hoe ohatran'ny ahoana ny endrika fanaovanareo izany tahiry izany ?	1. Vola 2. Zavatra (Ohatra : Omby, vokatra, tany …) 3. Vola sy zavatra 98. Hafa (lazao) _____	|__|__|	
B3	Aiza ianareo no manao izany tahiry izany?	1. Ato an-trano ihany 2. Any amin'ny Banky na IMF na VSLA 98. Hafa (Lazao) _____	|__|__|	
B4	Efa nandray anjara tamin'ny fikambanan'ny tahiry sy findramam-bola ao an-tanàna misy anao ve ianao?	0. Tsia 1. Eny	|__|	Si 0 ➔ C
B5	(Raha toa ka mpikambana ao anatin'ny fikambanan'ny tahiry sy ny findramam-bola ny tanàna): Tao anatin'ny 2 taona farany, nisy olona ao amin'ny fikambanan'ny tahiry sy fidramambolan'ny tanàna dia efa nisambo-bola noha ireto antony manaraka ireto :			
B5a	Fanamboarana lava-piringa	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	
B5b	Fanarenana/fanatsarana ny lava-piringa	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	
B5c	Toerana fanasana tànana	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	

B5d	Fanangonana rano	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	
B5e	Fitarihana rano avy amina fantsakana	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	
B5f	Zavatra hafa, mifandraika amin'ny rano	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	
B5g	Zavatra hafa, mifandraika amin'ny fanasana tànana	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	
B5h	Zavatra hafa, mifandraika ami'ny kabone	0. Tsia 1. Eny 99. Tsy mahafantatra	|__|__|	

D. FANDANIANA AMIN'NY FITARIHANA RANO /FANATSARA FITARIHANA RANO/FIDIOVANA

N°	FANONTANIANA	VALINY	CODE	ALLER A
C1	Tao anatin'ny 2 taona farany, ilay ankohonana ve nandany fotoana na vola noho ireto antony anaraka ireo?			
C1a	Fanamboarana lava-piringa	0. Tsia 1. Eny	|__|__|	RAHA C1a HATRAMIN'NY C1 h = 0 ➔C6
C1b	Fanarenana/fanatsarana ny lava-piringa	0. Tsia 1. Eny (Farito)(METY HO VALINY MARO) ☐ Dalle ☐ Tafo ☐ Rindrina ☐ Varavarana ☐ Famoahan-drivotra ☐ Hafa(farito)_____	 |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
C1c	Toerana fanasana tànana	0. Tsia 1. Eny	|__|__|	
C1d	Fanangonana rano	0. Tsia 1. Eny	|__|__|	
C1e	Fitarihana rano avy amina fantsakana	0. Tsia 1. Eny	|__|__|	
C1f	Zavatra hafa, mifandraika amin'ny rano	0. Tsia 1. Eny (Farito) _____	|__|__|	

C1g	Zavatra hafa, mifandraika amin'ny fanasana tànana	0. Tsia 1. Eny (Farito) _____	|__|__|	
C1h	Zavatra hafa, mifandraika ami'ny kabone	0. Tsia 1. Eny (Farito) _____	|__|__|	
	Hoan'ny fanatsarana voatonona, anontanio:			
C2	Teo ho eo amin'ny oviana teo ianao no nanomboka nanao izany?	1. Nanomboka 1 taona 2. >1 taona fa <2 taona 3. >2 taona fa <3 taona 4. Mihoatra ny 3 taona	|__|	
C3	Ahoana no nandoavanao izany?	1. Tahiry manokana 2. Fikambanan'ny tahiry sy findramam-bola ny tanàna 3. Toerana fampindramam-bola 97. Tsy mihatra (NA) (Tsy nisy vola naloa) 98. Hafa (tanisao)_____	|__|	

C4	Ianao ve nanakarama olona mahay mba hanampy anao?	0. Tsia 1. Eny	|__|	
C5	Nahita fahasahiranana ve ianao tamin'ny fikarohana fitaovana hanatontosana azy?	1. Tsy sahirana 2. Sahirana kely 3. Tena sahirana	|__|	
C6	Tao anatin'ny 2 taona farany, ito ankohonana ito dia te-hanatsara ny fanadiovana, ny fidiovana na ny rano tao an-tranony, fa tsy afaka nanao izany noho ny antony maro samihafa?	0. Tsia 1. Eny	|__|	RAHA 0 ➔ D
C7	Inona no tianao natao tamin'izany? (Lazao izay rehetra azo ampiarina)	FANADIOVANA: 1.Lava-piringa vaovao 2. Fanatsarana lava-piringa efa misy (farito) 3. Fanavaozana lava-piringa efa misy (farito) FIDIOVANA: 4. Fanamboarana fanasana tànana vaovao 5. Fanatsarana fanasana tànana vaovao 6. Fanavaozana fanasana tànana efa misy 7. Fanamboarana/Fanatsarana fitahirizana rano RANO: 8. Fitarihana rano ao an-trano 9. Fanamboarana "branchement public" 10. Fanatsarana ny fitarihana rano ao an-trano 11. Fanatsarana ny "branchement public" 12. Fanamboarana foto-drafitr'asa fanangonana ranon'orana vaovao 98. Hafa (tanisao) _____	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__|	

C8	Inona ny antony tsy nahavitanao izany fanatsarana izany? (lazao izay rehetra azo ampiarina)	1. Tsy fahampian'ny vola 2. Tsy mahafantatra hoe ahoana 3. Tsy fahampian'ny fitaovana 4. Vady/hafa tsy manaiky 5. Tsy mahita fanampiana 98. Hafa (tanisao) _____	|__| |__| |__| |__| |__| |__|	

C9	Aminao, inona ny antony voalohany tsy nanaovanao ilay fanatsarana? (Valiny tokana)	1. Tsy fahampian'ny vola 2. Tsy mahafantatra hoe ahoana 3. Tsy fahampian'ny fitaovana 4. Vady/hafa tsy manaiky 5. Tsy mahita fanampiana 98. Hafa (tanisao) _____	|__|__|	

E. FAHAZOANA RANO

N°	FANONTANIANA	VALINY	CODE	ALLER A
D1	Iza no mpatsaka ato aminareo ? [Iza ilay olona voakasika voalohany]	1- Renim-pianakaviana / Vehivavy 2- Raim-pianakaviana / Lehilahy 3- Ankizivavy 4- Ankizilahy 98- Hafa, lazao _____	|__|	
D2	Izao dia hametraka fanontaniana mikasika ny tokatranonareo aho. Aiza no toerana tena fakanareo rano fisotro sy fampiasa ao an-dakozia?	1. Fitarihan-drano ao an-tokantrano (robinet) 2. Fitarihan-drano (robinet) ao an-tokontany 3. Fitarihan-drano (robinet) ao amin'ny trano mifanolobodirindrina 4. Fitarihan-drano (robinet) iombonana(publique) (BORNE FONTAINE)/Forage 5. Lavadrano na vovo manokana tsy misarona 6. Lavadrano na vovo manokana misarona sady misy paompy 7. Lavadrano na forage iombonana misarona sady misy paompy 8. Lavadrano na vovo iombonana tsy misarona 9. Loharano tsy voaaro (SOURCE NON PROTEGEE) 10. Loharano voaaro (SOURCE PROTEGEE) 11. Renirano, rano mikoriana 12. Rano miandrona/dobo/barrage/tanim-bary 13. Camion citerne 14. Ranon'orana 15. Rano amin'ny tavoahangy 98. Hafa,lazao _____	|__|__|	
D3	Firy ny tokantrano miara mampiasa io rano io ?	TOKANTRANO 99. Tsy hay	|__|__|	

D4	RAHA VALINY 1 NA 2 NA 3 NA 4 TAO AMIN'NY D2 Firy ny tarehimarika manavaka io fifandraisana io ? (SORATY NY N° COMPTEUR)	TAREHIMARIKA 99. Tsy hay	|__|__|	

D5	RAHA VALINY 1 NA 2 NA 3 NA 4 TAO AMIN'NY D2 Firy litatra ny fandaniana farany ary tao anatin'ny fe-potoana inona? Hamarino miaraka amin'ny faktiora	LITATRA 99. Tsy hay	|__|__|__|__|__| 1 - Tao anatin'ny andro iray 2 – Tao anatin'ny herinandro 3 – Tao anatin'ny iray volana 4 – Tao anatin'ny herin-taona 98 – Hafa (lazao)_____	
D6	Hafiriana eo no fotoana ilaina (MANDROSO SY MIVERINA) raha mandeha makany amin'io toerana fatsakana io ? SORATY NY ISAN'NY MINITRA (0 =raha toa ka tonga ao an-trano ilay fantsakana)	MINITRA 99. Tsy hay	|__|__|__|	
D7	Afaka lazainao ve ny halaviran' io toerana fakanareo rano io raha miala eto amin 'ny tranonareo? HAMARININA MANDRITRA NY FITSIDIHANA ILAY TOERANA	0- Ao an-trano 1- < 200 m 2- 200m – 500m 3- > 500m	|__|__|	
D8	Im-piry ianareo no mandeha maka rano ao anatin'ny iray andro?	1. In-dray 2. In-droa 3. In-telo 4. In-efatra 5. Mihoatra ny efatra 98. Hafa, lazao 97. Non appliquable	|__|__|	
D9	Isaky ny maka rano ianao, firy seau no miaraka entinao?	1. 1 seau 2. 2 seaux 3. 3 seaux 4. 4 seaux 5. Mihoatra ny 4 seaux 6. Hafa, lazao 97. Non appliquable	|__|__|	
D10	Afaka asehonao ahy ve ireo seaux ireo? SORATY NY ISAN'NY SEAU	1. Seau (5 l) 2. Seau (10l) 3. Seau (15 l) 4. Seau (20 l) 5. Seau (> 20 l)	|__| |__| |__| |__| |__|	

		97. Non appliquable	|__|	
D11	Manana olana ve ianao amin'ny fampiasana io toerana fakana rano io?	0. Tsia 1. Eny	|__|	0 ➔ D13

D12	Inona ny olana mitranga aminao ? (Lazao izay rehetra azo ampiharina)	1. Sarotra ny lalana 2. Olona na biby mampidi-doza eny an-dalana 3. Tsy ampy hery itondrana 4. Tsy avelan'ny olona ho any 5. Sahirana amin'ny fandoavana vola 6. Misy ifandraisana amin'ny maha mananon-tena 98 Hafa (Lazao) _____	|__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
D13	Hatraiza ny fahafam-ponao amin'ny HATSARAN'NY RANO azo avy amin'io fatsakana io ?	1.Tena tsy afa-po mihitsy 2. Tsy afa-po 3. Afa-po 4. Tena afa-po tokoa 99.Tsy hay	|__|__|	
D14	Hatraiza ny fahafam-ponao amin'ny HABETSAHAN'NY RANO azo avy amin'io fatsakana io ?	1.Tena tsy afa-po mihitsy 2. Tsy afa-po 3. Afa-po 4. Tena afa-po tokoa 99.Tsy hay	|__|__|	
D15 a	Hatraiza ny fahafam-ponao amin'ilay servisy miandraikitra ny fampitaovana an'io fatsakana io ?	1.Tena tsy afa-po mihitsy 2. Tsy afa-po 3. Afa-po 4. Tena afa-po tokoa 97. Tsy mihatra (NA) 99.Tsy hay	|__|__|	
D15 b	Mba mandray anjara amin'ny fanapaha-kevitra sy ny fanaraha-maso io toerana fatsakana rano io ve ianao ?	0. Tsia 1. Eny 97. Tsy mihatra	|__|__|	
D16	Io ihany ve ny rano ampiasainareo amin'ireo asa famokarana madinika fanaonareo (fambolena, rano hoan'ny biby fiompy madinika…)	0. Tsia 1. Eny	|__|	
D17	Mampiasa an'io fakana rano fisotro io ve ianareo mandava-taona ?	0. Tsia 1. Eny 99. Tsy fantatra	|__|__|	

D18	Aiza indray inareo no mandeha matsaka raha ohatra ka tsy ampy na ritra ny rano ao amin'io toerana fakanareo rano fisotro io ? (De façon saisonnière ou occasionnelle)	1. Fitarihan-drano ao an-tokantrano (robinet) 2. Fitarihan-drano (robinet) ao an-tokontany 3. Fitarihan-drano (robinet) ao amin'ny trano mifanolobodirindrina 4. Fitarihan-drano (robinet) iombonana(publique) (BORNE FONTAINE)/Forage 5. Lavadrano na vovo manokana tsy misarona 6. Lavadrano na vovo manokana misarona sady misy paompy 7. Lavadrano na forage iombonana misarona sady misy paompy 8. Lavadrano na vovo iombonana tsy misarona 9. Loharano tsy voaaro (SOURCE NON PROTEGEE) 10. Loharano voaaro (SOURCE PROTEGEE) 11. Rano miandrona/dobo/barrage/tanim-bary 12. Camion citerne 13. Ranon'orana 14. Rano amin'ny tavoahangy 98. Hafa,lazao _____	|__|__|	
D19	Inona avy no ampiasanao ny rano azo avy amin'io fatsakana io? [Mariho ny valinteny, mety valiny maromaro]	1. Sotroina 2. Handrahoin-tsakafo 3. Hanasan-tanana 4. Handroana 5. Ampiasaina ao an-tokantrano (hanasana lamba, trano,..) 6. Fambolena 98. Hafa,lazao _____	|__| |__| |__| |__| |__| |__| |__|	

F. FITEHIRIZANA SY FIKARAKARANA NY RANO

N°	FANONTANIANA	VALINY	CODE	ALLER A
E1	Ahoana ny fomba fitahirizanareo ny rano sotroinareo? TSY TANISAINA	1. Ao anaty ny seau fantsakana ihany 2. Ao anaty fitahirizana hafa mitsy 3. Ao anaty ny seau fatsaka sy ao anaty fitahirizana hafa 4. Fanangonan-drano eo amin'ny tafo, na citerne 97. Tsy mihatra (NA) (Tsy mitahiry rano) 98. Hafa, lazao : _____	|__| |__| |__| |__| |__| |__|	RAHA 97➔E9
E2	RAHA MAMPIASA FITAHIRIZANA IZY, ANONTANIO : Afaka jereko ve izany fitaovana fitahirizana izany ?	0. Tsia 1. Eny	|__|	0 ➔ E7
E3	ISAO NY ISAN' NY FITAOVANA FITAHIRIZANA AMPIASAINY ARY SORATY NY ISANY.	ISAN'NY FITAOVANA FITAHIRIZANA 99. Tsy hay	|__|__|	
E4	Ohatrin'ny ahoana ny endriky ny vavan'ny fitaovana ampiasainy hitahirizany rano? Diniho ary ampiasao ny valiteny lazainy, Ny vavany kely dia latsaky ny 3 Cm.	1. Vavany kely 2. Vavany malalaka 3. Karazany roa, Tery sy malalaka	|__|	
E5	DINIHO : Misarona ve ireo fitaovana fitahirizana ?	0. Tsia 1. Eny 2. Ny sasany misarona, ny sasany tsy misarona	|__|	
E6	Ahoana ny fomba fakanareo rano ao anatin'io fitaovana fitahirizana io? RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 »	1. Tovozina amin'ny Vera/kaopy/zinga 2. Tovozina amin'ny Sotrobe 3. Araraka ao anaty Vera /kaopy/zinga 4. Misy Robinet 98. Hafa (lazao) : _____	|__| |__| |__| |__| |__|	
E7	Isaky ny firy andro ianao no manasa io fitaovana fitahirizana io ?	1. Isan'andro 2. Isaky ny herinandro 3. Isam-bolana	|__|__|	

		4. Latsaky ny 1 isam-bolana 5. Tsy manasa mihitsy 98. Hafa, lazao _____		

E8	Isaky ny firy andro ianao no manasa io fitaovana fitahirizana io amin'ny savony ?	1. Isan'andro 2. Isaky ny herinandro 3. Isam-bolana 4. Latsaky ny 1 isam-bolana 5. Tsy manasa mihitsy 98. Hafa, lazao _____	|__|__|	
E9	Misy fikarakarana manokana ve ny rano sotroinareo?	0. Tsia 1. Eny	|__|	0 ➔ E15
E10	Inona no karazana fikarakarana ataonareo ny rano fisotro? AZA VAKIANA NY SAFIDY RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 »	1. Sur'eau ou na karazana mitovy aminy 2. Ampangotrahana 3. Filtre (FITAOVAONA MANOKANA) 4. Mampandry (Avela hitsika) 5. Mampiasa lamba hitatavanana rano 6. SODIS 98. Hafa, lazao _____	|__| |__| |__| |__| |__| |__| |__|	RAHA 2, 3, 4, 5, 6, 98➔E13
E11	RAHA TOA SUR'EAU NA FANADIOVANA RANO AVY AMIN'NY CHLORE: Azonao aseho ahy ve ilay tavoahangy/Fonosana nisy azy ?	MARIKA : Tavoahangy na fonosana hita mbola nisy ambiny ao anatiny ? 0. Tsia 1. Eny 99. Tsy afaka nohamarinina	|__|	
E12	Toy ny ahoana ny halavirana andehananao raha toa ka hitady io fanafody io (SUR'EAU)?	1. Latsaky ny 1km 2. 2 – 5 km 3. Mahery ny 5 km	|__|	
E13	Isaky ny inona ianareo no manao izany fiakarakarana manokana ny rano sotroina izany ?	1. Isan'andro 2. Matetika fa tsy isan'andro 3. Refa misy olona marary ato an-trano. 4. Mandritra ny fotoanan'ny orana. 5. Fotoana manokana	|__|	
E14	Iza no misotro ireo rano voakarakara manokana ireo ato an-trano?	1. Izahay rehetra 2. Ny ankizy ihany 3. Ny marary ihany 4. Ny olona antitra ihany 98. Hafa, lazao _____	|__|__|	

E15	Tamin'ny volana lasa, nisy fotoana ve ianareo nahazo vaovao na fanentanana mahakasika ny teknika fikarakarana rano ho sotroina.	0. Tsia 1. Eny	|__|	0 ➔ F

E16	Avy aiza no nahazoanareo izany vaovao izany ? aiza koa? SORATY DAHOLO IZAY « CANAUX D'INFORMATION » LAZAINY RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 »	1. Avy amin'ny toera-pitsaboana 2. Avy amin'ireo mpanentana 3. Avy amin'ireo ankizy mandeha mianatra 4. Radio 5. Afisy 98. Hafa (lazao) _____	|__| |__| |__| |__| |__| |__|	

G. FIDIOVANA

N°	FANONTANIANA	VALINY	CODE	ALLER A
F1	Nisy fotoana ve ianao nanasa zaza avy nangery hatramin'ny omaly maraina ?	0. Tsia 1. Eny 97. Tsy mihatra (NA) (Tsy misy zaza)	|__|__|	
F2	Manana savony ve ianareo ato an-tokantrano?	0. Tsia 1. Eny	|__|	1 ➔ F4
F3	Afaka lazainao ahy ve oe fa maninona ianareo no tsy manana savony?	1. Tsy manam-bola 2. Lafo loatra ny vidiny ho anay 3. Tsy fantatra ny tena ilana azy 98. Hafa, lazao _____	|__|__|	
F4	Ary ianao sy ny ankohonanao ve mampiasa savony na lavenona foana rehefa manasa tànana?	0. Tsia 1. Eny	|__|	
F5	Amin'ny ankapobeny, rehefa inona ao anatin'ny andro ianareo no manasa tanana amin'ny savony? SORATY NY VALINY REHETRA VOALAZA RAHA VOALAZA « 1», RAHA TSY VOALAZA « 0 » TSY TANISAINA	1. Rehefa avy any an-kabone 2. Rehefa avy nanaolo zaza na nanasa zaza na vodin-jaza 3. Alohan'ny fikarakarana ny sakafo 4. Alohan'ny sakafo 5. Alohan'ny hanomezana sakafo ny olona (ny zaza koa) 97. Tsy manasa tànana amin'ny savony mihitsy 98. Hafa, lazao _____ 99. Tsy fantatra	|__| |__| |__| |__| |__| |__| |__| |__|	F7
F6	Raha araka ny hevitrao, inona avy no antony tokony hanasana tanana amin'ny savony? SORATY NY VALINY REHETRA VOALAZA RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 » TSY TANISAINA	1. Isorohana ny aretim-pivalanana 2. Isorohana ny aretina hafa 3. Hanesorana ireo mikrôba 4. Hanakanana ny loto tsy hiditra any am-bava 5. Hanakanana ny loto tsy ho lasa any amin'ny sakafo 6. Manitra 7. Rehareha 99. Tsy mamaly, tsy fantatra 98. Hafa, lazao _____	|__| |__| |__| |__| |__| |__| |__| |__| |__|	

F7	Raha araka ny hevitrao, refa inona daholo no fotoana tena manan-danja tokony hanasana tanana? SORATY NY VALINY REHETRA VOALAZA RAHA VOALAZA « 1», RAHA TSY VOALAZA « 0» TSY TANISAINA	1. Avy mangery 2. Alohan'ny sakafo 3. Avy manasa na manolo zaza 4. Rehefa avy manasa kabone 5. Rehefa avy manasa tavy 6. Alohan'ny fikarakarana ny sakafo 7. Alohan'ny hanomezana sakafo ny zaza 8. Rehefa avy misakafo 98. Hafa (lazao) : _____ 99. Tsy mahafantatra	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__|	
F8	Afaka asehonao ahy ve ny toerana mahazatra fanasanareo tanana ? ANONTANIO ARY DINIHO	1. Ao an-trano/akaiky ny toerana fandroana/kabone 2. Ao an-trano / akaiky ny lakozia na toerana fikarakarana sakafo 3. Eny an-jaridaina 4. Eny an-tokotany 5. Tsy misy toerana manokana 6. Tsy afaka nijery	|__|	RAHA TSY AFAKA NIJERY➔f12
F9	DINIHO : inona no fitaovana ampiasainy hanasana tanana ?	1. Robinet 2. Tippy taps 3. Cuvette/seau 98. Hafa, lazao _____	|__|__|	
F10	DINIHO : nisy rano ve tao nandritra ny fotoana nanaovana ny fanadihadiana?	0. Tsia 1. Eny	|__|	
F11	DINIHO : misy savony ve na «détergent », na « autres produits locaux de nettoyage » ao. Raha ny tokony ho izy dia tokony ho hita eo amin 'io toerana io foana ireo fitaovana ireo raha tsy ohatra angaha hoe nafindra vetivety. Raha tsy izany dia SAFIDIO «TSY MISY» RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 »	1. Tsy misy 2. Savony 3. Détergeant 4. Lavenona 5. Fotaka 6. Fasika 98. Hafa, lazao _____	|__| |__| |__| |__| |__| |__| |__|	
F12	Afaka tanisainao ahy ve ireo hafatra telo mikasika ny DIORANO WASH RAHA VOALAZA « 1 »,	1. Fanasana tanana amin'ny rano sy savony 2. Fampiasana kabone azo sasana	|__| |__|	

	RAHA TSY VOALAZA « 0 » TSY TANISAINA	3. Fitandrovana ny fahadiovan'ny rano manomboka any amin'ny toerana hakana azy ka mandram-pisotroana azy 4. Tsy niteny ny iray tamin'ireo	|__| |__|	

F13	Milazà zavatra 3 tokony atao ho fiarovana amin'ny fivalanana ? TSY TANISAINA	1. Fanasana tanana 2. Fampiasana lavapiringa mety sasana 3. Fahafahana mitazona ny rana hadio lalandava manomboka amin'ny fakana azy hatrany amin'ny fisotroana azy 4. Tsy niteny ny iray tamin'ireo	|__| |__| |__| |__|	
F14	Tamin'ny volana lasa, nisy fotoana ve ianareo nahazo vaovao na fanentanana mahakasika ny fahadiovana sy ny fanasana tanana.	0. Tsia 1. Eny	|__|	0 ➔ G
F15	Avy aiza no nahazoanareo izany vaovao izany ? Taiza koa? SORATY DAHOLO IZAY « CANAUX D'INFORMATION » LAZAINY RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 »	1. Avy amin'ny toera-pitsaboana 2. Avy amin'ireo mpanentana 3. Avy amin'ireo ankizy mandeha mianatra 4. Radio 5. Afisy 98. Canaux hafa, lazao 99. Tsy mahafantatra (NSP)	|__| |__| |__| |__| |__| |__|	

H. FAMPIASANA KABONE

N°	FANONTANIANA	VALINY	CODE	ALLERA
G1	Misy zaza latsaky ny 5 taona ve ato aminareo?	0. Tsia 1. Eny	|__|	RAHA 0➔G4
G2	Aiza ny toerana fangeren'ny zanakao kely indrindra? TSY TANISAINA	1. Nampiasa kabone 2. Nampiasa tavy (POT) 3. Nampiasa couche-culotte 4. Tato an-trano 5. Nandeha tany ivelan'ny toeram-ponenana 6. Nangery tao anaty akanjony 98. Hafa, lazao _____ 99. Tsy fantatra	|__|__|	
G3	Rehefa avy mangery ny zanakao kely indrindra, aiza no ariana ny tainy? TSY TANISAINA	1. Tany ankabone 2. Nalevina 3. Lavaka na daba-pako 4. Tany an-tokotany 5. Tany ivelan'ny toera-ponenana 6. Tao amin'ny tatatra 98. Hafa, lazao _____	|__|__|	
G4	Aiza ny toerana mahazatra ny olon-dehibe rehefa mandeha mangery? TSY TANISAINA	1. Any anaty natiora (Kirihitra/saha, amoron-dranomasina) 2. Kabone 3. Kabonem-pokonolona (publiques) 4. Kabone an'ny Sekoly / Tobim- pahasalamana 5. Monoblock 98. Hafa, lazao _____	LAHY VAVY |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
G5	Afaka lazainao ahy ve ny halavitr'io toerana io raha miala eto ?	METATRA SORATY 9999 RAHA TSY MAHAFANTATRA NY HALAVIRANA	|__|__|__|__|	
G6	Any amin'ny toerana izay angerenareo, tianay ho fantatra ny fomba fahitanareo azy.	1. Maloto « 1 », Madio « 2 » 2. Mampatahotra « 1 », Tsy mampatahotra «2» 3. Teritery «1», Malalaka «2» 4. Misy fofona «1», tsy misy fofona «2»	|__| |__| |__| |__|	

	Ho anao manokana, ohatra ny ahoana ny mitranga rehefa mandeha mangery any ? VAKIO NY SAFIDY	5. Lavitra «1», Akaiky «2» 6. Hitan'ny olona «1», Takona «2»	|__| |__|	

G7	Inona no zavatra tena fampiasanareo refa mifitra (PRINCIPALE)?	1. Papier hygiènique 2. Ravin-kazo 3. Tapa-kazo 4. Rano 5. Taratasy tsotra 98. Hafa, lazao _____	LAHY VAVY |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
G7a	Nisy fotoana ve tany aloha tany efa nanana kabone anareo manokana ity tokantranonareo ity ?	0. Tsia 1. Eny 99. Tsy mahafantatra (NSP)	|__|__|	RAHA 0➔G9
G7b	Tamin'ny taona firy ity tokantrano ity no nanangana kabone voalohany?	TAONA 97. Efa nisy kabone nitsangana tamin'izahay tonga teto 99. Tsy mahafantatra (NSP)	|__|__|__|__|	
G7c	Impiry ianareo no nanangana kabone vaovao ho solon'ny teo aloha taorian'ny fananganana an'ilay voalohany?	ISAN'NY FANANGANANA KABONE 0. Tsy mbola nanangana kabone vaovao ho solon'ilay voalohany 99. Tsy mahafantatra (NSP)	|__|__|	
G8	Ary ianao sy ny fianakavinao ve mampiasa kabone AMIN'IZAO FOTOANA IZAO?	0. Tsia 1. Eny	|__|	RAHA 0 ➔11
G9	Ny kabone izay ampiasainareo ve anareo manokana sa Itambarana amin'ny olona hafa sa kabone an'ny fokonolona?	0. ITAMBARANA AMIN'OLONA 1. ANAY MANOKANA 2. AN'NY FOKONOLONA	|__|	RAHA 0 NA 2 ➔G16
G10	Tamin'ny taona firy no namboarina ny kabone anareo?	TAONA 99. Tsy fantatra	|__|__|__|__|	
G11	Iza no nandray fanapahan-kevitra nanamboatra kabone ?	1. Loham-pianakaviana 2. Fianakaviana 98. Hafa, lazao _____	|__|__|	
G12	Inona no tena antony nandrisika anao hanamboatra kabone ho an'ny ankohonanao? SORATY IZAY LAZAINY	1. Trano vaovao 2. Misy olona antitra na marary 3. Ampanofaina ny trano 4. Rehareha sy voninahitra 5. Satria manana ny olona eo akaiky 6. Natao ho an'ny vahiny 7. Fiarovana amin'ny aretim-pivalanana 8. Nisy olona tonga teo an-tanàna namporisika anao 98. Hafa, lazao_____	|__| |__| |__| |__| |__| |__| |__| |__| |__|	

		99. Tsy hay		

G13	Iza no nanamboatra ny kabonenareo?	1. Olona ato an-trano ihany 2. Havana akaiky 3. Mpikarama 98. Hafa	|__| |__| |__| |__|	
G15	Ohatrinona ny vola laninao tamin'ny fanamboarana io kabone io? (VALEUR TOTALE – MATERIAUX ET MAINS D'ŒUVRE)	1. < 10 000 ar 2. < 20 000 ar 3. 20 000 – 50 000 ar 4. > 50 000 ar 99. Tsy fantatra	|__|__|	
G16	Afa-po amin'io kabonenao io ve ianao?	0. TSIA 1. ENY 2. Moyen	|__|	
G17	Inona no tena tsy tianao indrindra amin'io kabone io? TSY TANISAINA	1. Fofony 2. Lotony 3. Fandoavam-bola refa mampiasa 4. Halavirany (éloignement) 5. Tsy misy confort 6. Sarotra diovina 7. Mora feno 8. Filaharana 9. Fizarana amin'ny olon-kafa 10. Tsy azo antoka 97. Tsy mihatra (NA)(Tsy misy zavatra tsy tiany) 98. Hafa (lazao) _____	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__|	
G18	Inona no tena tianao amin'io kabone io? TSY TANISAINA	1. Ara-pahasalamana 2. Mitokana sy miafina tsara 3. Fahadiovana 4. Confort 5. Azo atokisana 6. Mihaja 7. Akaiky 8. Maoderina 97. Tsy mihatra (NA) (Tsy misy zavatra tiany) 98. Hafa (lazao) _____	|__| |__| |__| |__| |__| |__| |__| |__| |__|	
G19	RAHA ITAMBARANA NA AMIN'OLONA NA AN'NY FOKONOLONA TAO @ G9 Firy ny isan'ny tokan-trano mampiasa ilay kabone AMIN'NY ANDAVANANDRO?	TOKANTRANO	|__|__|	

G20	Iza avy ireo olona ireo?	1. Ankohonana 2. Fianakaviana lavitra 3. Mpiasa 4. Mpanofa 5. Mpifanolo-bodirindrina 6. Fokonolona tsy ankanavaka 98. Hafa, lazao: _____	|__|__| |__|__| |__|__| |__|__| |__|__| |__|__|	
G21	Tato anatin'ny 2 taona, efa nanao fanatsararana ny lavapiringanao ve ianao?	0. Tsia 1. Eny 99. Tsy fantatra	|__|__|	1 ➔ G22 0,2 ➔ G23
G22	Inona avy no nataonao?	1. Fanamboarana ireo efa misy 2. Fanatsarana ny dalle 3. Fanamboarana /Fanavaozana ny rindrina 4. Fanamboarana /Fanavaozana ny tafo 5. Fandoarana ny maloto 6. Fanamboarana lavapiringa fanampiny 98. Hafa	|__| |__| |__| |__| |__| |__| |__|	
G23	Tato anatin'ny 3 taona, efa nisy fotoana ka feno ve ny lava-piringanareo ?	0. Tsia 1. Eny 99. Tsy fantatra	|__|__|	1 ➔ G24 0,2 ➔ H
G24	Inona no nataonao rehefa nitranga izany ?	1. Nanamboatra lavapiringa vaovao 2. Nanaisotra ny maloto tao anaty lavaka 3. Nasiana "digesteur" nampidina ny maloto 4. Natsahatra ny fampiasana ilay lavapiringa	|__|	
G25	JEREO G9 ANONTANIO RAHA ITAMBARANA AMIN'OLONA (0) NA AZY MANOKANA (1) Afaka jerena ve le kabone ?	0. Tsia 1. Eny	|__|	RAHA 0 ➔11

I. FIZAHANA KABONE

N°	JEREO FOTSINY FA AZA ANONTANIANA	VALINY	CODE	ALLER A
H1	Misy rindrina ve le kabone ?	0. Tsia 1. Eny	|__|	0 ➔ H3
H2	Vita amin'ny inona ny rindrina	1. Fotaka 2. Hazo 3. Baoritra 4. Ravin-kazo 5. Biriky/Simenitra 6. Tôle 98. Hafa _____ _____ 99. Tsy fantatra	|__|__|	
H3	Misy tafo ve ilay kabone ?	0. Tsia 1. Eny	|__|	0 ➔ H5
H4	Vita amin'ny inona ny tafo	1. Fotaka 2. Hazo 3. Brique/Ciment 4. Tôle 5. Ravin-kazo 98. Hafa _____	|__|__|	
H5	Misy fanakonana toy rideau ve na varavarana ve ilay kabone ?	0. Tsia 1. Eny	|__|	
H6	Mihidy lakile ve?	0. Tsia 1. Eny	|__|	
H7	Raha ny fahitana azy, nampiasaina ve ilay kabone ? DINIHO raha misy tay ao amin 'ilay lavaka, andatsaho vato ao anatiny hanamarinana azy, misy zavatra avy nifirana ve, jereo ko ny làlana mankao raha nampiasaina.	0. Tsia 1. Eny	|__|	
H8	Inona no karazana gorodona (plate-forme) misy?	1. Porcelaine / Plastique 2. Planche 3. Bois rond / Rapaka milahatra 4. Tany 5. Ciment / Dallage 98. Hafa (Lazao) _____	|__|__|	
H9	Misarona ve io lavapiringa io amin'izao fotoana izao?	0. Tsia 1. Eny	|__|	

H10	Hatraiza ny fahafenoin'ilay lava-piringa?	1. Feno ilay lavapiringa 2. Kely ny elenelana/Efa ho feno 3. Misy elanelana 4. Misy elanelana be	|__|	
H11	Hatraiza ny fahadiovan'ilay lava-piringa ?	1. Madio 2. Somary maloto (misy pipi eo amin'ny dalle, misy taratasy tsy mbola nampiasaina 3. Maloto ba (misy diky tazana, misy taratasy efa nampiasaina eo ambony dalle)	|__|	
H12	Misy kifafa ve eo akaikin'ilay kabone?	0. Tsia 1. Eny	|__|	
H13	Misy toerana natokana hanasana tanana ve eo akaikin'ilay kabone ?	0. Tsia 1. Eny	|__|	
H14	Misy rano ve eo amin 'io toerana io?	0. Tsia 1. Eny	|__|	0 ➔ H16
H15	Inona no fitaovam-pitahirizana rano ampiasainy eo?	1. Robinet 2. Tippy taps 3. Seau 98. Hafa (lazao) _____	|__|__|	
H16	Misy zavatra afaka ampiasaina Hanadiovana tanana ve eo akaikin 'ilay kabone? SORATY IZAY ZAVATRA REHETRA EO	1. Tsy misy 2. Savony 3. Détergent (savony ranony) 4. Lavenona 98. Hafa (lazao) _____	|__|__|	

J. FAMPIASANA KABONE AMIN'NY HO AVY

HO AN'NY OLONA TSY MAPIASA KABONE (G8=0)
SY NY OLONA TSY MANANA KABONE MANOKANA (G9=0 NA 2)

N°	FANONTANIANA	VALINY	CODE	ALLER A
11	Efa nahita kabone ve ianao? OLONA TSY MAMPIASA KABONE IHANY	0. Tsia 1. Eny	|__|	
12	Inona ny antony lehibe manakana anareo tsy hanamboatra kabone ho anareo eto aminareo ? RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 » TSY TANISAINA	1. Tsy fahalalana ny teknika fanamboarana kabone. 2. Tery ny toerana. 3. Karazana tany tsy mety hanaovana lavaka 4. Nappe d'eau marivo. 5. Tsy fisian'ireo teknisiana mahafehy ny teknika (maçon, mandavaka lavaka) 6. Sarotra ny mitady ireo fitaovana anamboarana azy. 7. Sarotra ny manokana vola hanamboarana azy. 8. Afa-po amin'ny Kabone iombonana 9. Olana amin'ny fahazoana alalana hanangana 10. Fady 11. Tsy fahazarana 98. Hafa _____ _____	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__|	
13	Raha araka ny hevitrao, ohatran'ny ahoana izany kabone tsara izany ? RAHA VOALAZA « 1 », RAHA TSY VOALAZA « 0 »	1. Tsy misy fofona 2. Misy rivotra tsara 3. Mora esorina ny tay ao anatiny 4. Afaka ampiasain'ny ankizy 5. Misy seza 6. Mora karakaraina 98. Hafa _____ _____	|__| |__| |__| |__| |__| |__| |__|	
14	Raha araka ny hevitrao, inona avy no fe-petra tokony hanan'ny kabone ho an'ny ankizy? Raha VOALAZA « 1 », TSY VOALAZA « 0 »	1. Kabone misy lavaka kely ho an'ny ankizy 2. Fipetrahana iva kokoa 99. Tsy fantatra 98. Hafa _____	|__| |__| |__| |__|	

15	Raha afaka herin-taona, ahoana ny chance mety hanananareo kabone? TSY TANISAINA	1. Betsaka 2. Antonony 3. Kely 4. Tsy misy	|__|	

I6	Tamin'ny volana lasa, nisy fotoana ve ianareo nahazo vaovao na fanentanana mahakasika ny fampiasana kabone?	0. Tsia 1. Eny	|__|	RAHA 0 ➔ J
I7	Avy aiza no nahazoanareo na nahitanareo izany vaovao izany? Taiza koa? SORATY DAHOLO NY «CANAUX D'INFORMATION » VOALAZANY Raha VOALAZA « 1 », TSY VOALAZA « 0 »	1. Tobim-pahasalamana 2. Mpanentana 3. Ankizy mandeha any an-tsekoly 4. Radio 5. Afisy 98. Hafa, lazao _____	|__| |__| |__| |__| |__| |__|	

K. FIVALANANA

N°	FANONTANIANA	VALINY	CODE	ALLER A
J1	Firy ny isan'ny zaza latsaky ny dimy taona ato aminareo? Soraty avy hatrany ny isa izay voalaza	ZAZA LATSAKY NY DIMY TAONA	|__|	RAHA 0 ➔FARANO
J2	Nisy nivalana tamin'ireo zaza ireo tao anatin'ny roa herinandro farany?	0. Tsia 1. Eny 99. Tsy fantatra	|__|__|	RAHA 0➔FARANO
J3	Firy taoana izao i (ANARANA)? _____ IZAY KELY INDRINDRA NO RAISINA RAHA MIHOATRA NY ZAZA IRAY NO NIVALANA	VOLANA	|__|__|	

FAMANGIAN'NY MPANAO FANADIHADIANA				
	TSIDIKA 1	TSIDIKA 2	TSIDIKA 3	TSIDIKA FARANY
ANDRO (DATE) MPANADIHADY ANDRO NAMANGIANA (jour : lundi, mardi, …) VOKATRY NY FANADIHADIANA (ampiasao ny kaody eo ambany)	_____ _____ _____ ☐	_____ _____ _____ ☐	_____ _____ _____ ☐	ANDRO |____| VOLANA |____| TAONA |2|0|1|6| LAHARAN'NY MPANADIHADY |____|
FAMANGIANA MANARAKA DATY ORA	_____ _____	_____ _____		

VOKATRA FARAN'NY FANADIHADIANA (FARITO ANATY BORIBORY NY ANANKIRAY)

1 VITA HATRAMIN'NY FARANY

2 TSY NISY OLONA TAO AN-TRANO, NA TSY NISY OLONA AFAKA NAMALY TAO AN-TRANO TAMIN'NY FOTOANA NANDALOVANA

3 TSY MISY OLONA AO AN-TRANO MANDRITRA NY FOTOANA MAHARITRA

4 NAHEMOTRA NA TSY VITA HATRAMIN'NY FARANY

5 NANDÀ

98 HAFA (LAZAO)_____

_____

D. OPEN DEFECATION FREE VERIFICATION INSTRUMENT

Open Defecation Free Verification Instrument: Full Process	
Introductory information	Date
	Region
	Partner
	Commune
	Fokontany
	Village
	Triggered village
Table 1: Giving mark to the village completely out of the use to make excrement in a public area	There is not a new shitting place on a public area (20: there is no excrement that we can perceive in another place apart of the usual; 0: there is excrement that we can perceive on a new place not usual to shit before)
	Standing as a witness made by a woman (2:There was one woman or more who said that there is no more shitting on a public area; 0: There was not woman who said that there is no more shitting on a public area)
	Standing as a witness made by a kids (5: There was one kids or more who said that there is no more shitting on a public area; 0:There were not kids who said that there is no more shitting on a public area)
	Standing as a witness made by a leader at the village (2: There was one leader or more at the village who said that there is no more shitting on a public area; 0: There was not a leader who said that there is no more shitting on a public area)
	Rate of the toilet's use at the village= number of toilet/number of house (10:Using toilet 75% - 100% of people; 8:Using toilet 50% - 75% of people; 5: Using toilet 50% - 75% of people; 3:Using toilet 20% - 30% of people; 0: Using toilet less than 20% of the people)
	Excrement on view (5: There is no excrement on view for 100% of houses; 4: there is no excrement on view for the 75% - 100% of houses; 2 :there is no excrement on view for the 50% - 75% of houses; 0 :there is excrement on view for more than 50% of houses)
	Toilet cleaned/ clean (5 : A cleaned and clean toilet for the 100% of houses; 4 :A cleaned and clean toilet for the 75% - 100% of houses; 2 : A cleaned and clean toilet for the 50% - 75% of houses; 0 :A dirty toilet for more than 50% of houses)

	Instrument use to wash the hand near to the toilet (Water + soap or ash) (7 : 95-100% of the sample taken have instrument to wash their hands; 6 : 90-94% of the sample taken have instrument to wash their hands; 5 :80-89% of the sample taken have instrument to wash their hands; 4 : 70-79% of the sample taken have instrument to wash their hands; 3 : 60-69% of the sample taken have instrument to wash their hands; 2 : 50-59% of the sample taken have instrument to wash their hands; 0 : Less than 50% of the sample taken have instrument to wash their hands)
	Structure (5: 100% of the goal was reached; 1: 60 to 100% of the goal was reached; 0: Less than 60% of the goal was reached)
	Intern rules to make succeed the no shitting on a public area (fine, a nickname for the person caught shitting on a public area, a leading made by the Tangalamena or the king…) (2: There is an intern rules; 0:There is not an intern rules)
	Total mark
	Total rate
	Final mark for Table 1
	Final rate for Table 1
Table 2: Confirmation to the school, church, hospital, or a common place	Toilet (10: There is; 0: There is no)
	Excrement spilled on view (5: There is no excrement on view; 0: The excrement is spilled on view)
	Hole with a cover (5 :A covered hole where flies can't get access; 0 : Uncover hole)
	Toilet cleaned/ clean (5: Toilet Cleaned/ clean; 0 : A dirty toilet)
	Existence of soap or ash (2 : There is a soap or ash; 0 : There is no soap or ash)
	Instruments to wash the hands (3 : There is instrument to wash the hand; 0 : There is no instrument to wash the hand)
	Total mark(school, hospital, communal place,…)
	Total rate(score/30*100= total %)
Totals	Final mark for Table 1 and Table 2
	Final rate for Table 1 and Table 2
	Résult : ODF village

Open Defecation Free Verification Instrument: Partial Process	
Introductory information	Date
	Region
	Partner
	Commune
	Fokontany
	Village
	Triggered village
Table 1: Giving mark to the village completely out of the use to make excrement in a public area	The shitting place on a public area was cleaned (20: There is no more excrement on view; 0: There is excrement on view)
	There is not a new shitting place on a public area (20:There is no excrement that we can perceive in another place apart of the usual; 0: There is excrement that we can perceive on a new place not usual to shit before)
	Standing as a witness made by the responsible on the village in charge of the water for cleanness and cleanliness (2:There was one responsible or more at the village who said that there is no more shitting on a public area; 0: The Ac or the fokontany president didn't say that there is no more shitting on a public area)
	Structure (5: 100% of the goal was reached; 1: 60 to 100% of the goal was reached; 0: Less than 60% of the goal was reached)
	Intern rules to make succeed the no shitting on a public area (fine, a nickname for the person caught shitting on a public area, a leading made by the Tangalamena or the king…)
	Total mark
	Total rate(Mark/49*100= total%)
	Final mark for Table 1
	Final rate for Table 1
	Toilet using (10: There is; 0 : There is not)

Table 2: Confirmation to the school, church, hospital, or a common place	Excrement spilled (5: There is not excrement on view; 0: The excrement is spilled on view)
	Total mark(school, hospital, communal place,…)
	Total rate(score 15*100= total %)
Totals	Final mark for Table 1 and Table 2
	Final rate for Table 1 and Table 2
	Résult : ODF village

ANNEX IV: SOURCES OF INFORMATION

A. LIST OF PERSONS INTERVIEWED (QUALITATIVE INTERVIEWS)

Type of interview	Implementer/ Organization	Region	Commune	Fokontany	Village
FGD Community Members	CARE - Mateza	Analanjirofo	Saranambana	Ambatrabe	Ambodivoahangy
KII Community Health Worker	CARE - Mateza	Analanjirofo	Saranambana	Saranambana	Saranambana
KII CWSBP stakeholder	CARE - Mateza	Analanjirofo	Saranambana	Saranambana	Saranambana
KII Implementer	CARE - Mateza	Analanjirofo	n/a	n/a	n/a
KII Local Leader	CARE - Mateza	Analanjirofo	Saranambana	Ambodihasina	Soafierenana
KII Local Leader	CARE - Mateza	Analanjirofo	Saranambana	Anjahamarina	Anjahamarina
KII Local Mason	CARE - Mateza	Analanjirofo	Saranambana	Anjahamarina	Anjahamarina
KII VSLA Agent	CARE - Mateza	Analanjirofo	Saranambana	Ambodihasina	Ambodinanto
FGD Community Members	CARE - SAF Amboasary	Anosy	Sampona	Ankilimitraha	Ankilimitraha
KII CLTS facilitator	CARE - SAF Amboasary	Anosy	Sampona	Ankilimitraha	Ankilimitraha I, II
KII Community Health Worker	CARE - SAF Amboasary	Anosy	Sampona	Vahavola Centre	Vahavola Centre, Vahavola Sarakambo, Andranogoa
KII CWSBP stakeholder	CARE - SAF Amboasary	Anosy	Sampona	Manindra	Manindra
KII Implementer	CARE - SAF Amboasary	Anosy	Sampona	n/a	
KII Local Leader	CARE - SAF Amboasary	Anosy	Sampona	Ambonaivo	Ambonaivo
KII Local Leader	CARE - SAF Amboasary	Anosy	Sampona	Amborignabo	Amborignabo
KII Local Mason	CARE - SAF Amboasary	Anosy	Sampona	Sampona Centre	
KII Implementer	CARE - SAF FJKM	Atsinanana, Anosy	n/a		
FGD Community Members	CARE - SAF Moramanga	Atsinanana	Anivorano Est	Ambodimolaina	Ambalakondro

FGD Community Members	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ambodivandrika	Ambodivandrika
KII Community Health Worker	CARE - SAF Moramanga	Atsinanana	Anivorano Est	Anivorano Est	Ambalafary, Section I, Section II, Depot
KII Community Health Worker	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ambodivandrika	Ambodilahoaty, Andacour Lava, Anivontany, Tanambao, Vohitsara Atsimo
KII CWSBP stakeholder	CARE - SAF Moramanga	Atsinanana	Anivorano Est	n/a	n/a
KII CWSBP stakeholder	CARE - SAF Moramanga	Atsinanana	Ilaka Est	n/a	n/a
KII Implementer	CARE - SAF Moramanga	Ilaka Est	Ilaka Est	n/a	n/a
KII Local Leader	CARE - SAF Moramanga	Atsinanana	Anivorano Est	Antseranambe	Sahavolo
KII Local Leader	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ilaka Est	Ilaka Est Centre
KII Local Leader	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ilaka Est	Ilaka Est Centre, Antambao, Amborivaly
KII Local Mason	CARE - SAF Moramanga	Atsinanana	Anivorano Est	Ambalatenina Sud	Amboditafara
KII Local Mason	CARE - SAF Moramanga	Atsinanana	Ilaka Est	n/a	n/a
KII MFI	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ilaka Est	Ilaka Est Centre
KII Monoblock Operator	CARE - SAF Moramanga	Atsinanana	Anivorano Est	Anivorano Est	n/a

KII Monoblock Operator	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ilaka Est	Antanambao, Ambodibakoly, Ilaka Est Centre
KII VSLA Agent	CARE - SAF Moramanga	Atsinanana	Ilaka Est	Ambodivandrika	Ambodivandrika
FGD Community Members	CRS - Caritas	Atsimo Atsinanana	Soamanova	Mahela	Tongaindroy
FGD Community Members	CRS - Caritas	Vatovavy Fitovinany	Anteza	Anteza	Ambohimiarina
FGD Diorano WASH	CRS - Caritas	Atsimo Atsinanana	Soamanova	n/a	n/a
KII Community Health Worker	CRS - Caritas	Atsimo Atsinanana	Soamanova	Mahela	Tongaindroy
KII Community Health Worker	CRS - Caritas	Atsimo Atsinanana	Soamanova	Sanasemba	Sahalanany, Eteny, Ambanivorika, Mangaseky
KII Community Health Worker	CRS - Caritas	Vatovavy Fitovinany	Anteza	Anteza	Ambohimahavelo, Ambohimanga, Andoharena, Anteza Centre
KII CWSBP stakeholder	CRS - Caritas	Atsimo Atsinanana	Soamanova	n/a	n/a
KII CWSBP stakeholder	CRS - Caritas	Vatovavy Fitovinany	Anteza	n/a	n/a
KII Local Leader	CRS - Caritas	Atsimo Atsinanana	Soamanova	Eteny	Fedana
KII Local Leader	CRS - Caritas	Atsimo Atsinanana	Soamanova	Sanasemba	n/a
KII Local Leader	CRS - Caritas	Vatovavy Fitovinany	Anteza	Ambodivakoka	Ambodivakoka
KII Local Leader	CRS - Caritas	Vatovavy Fitovinany	Anteza	Ampatsy	Ampatsy
KII Local Mason	CRS - Caritas	Atsimo Atsinanana	Soamanova	Sanasemba	Manambodala
KII Local Mason	CRS - Caritas	Atsimo Atsinanana	Soamanova	Sanasemba	Tangainony
KII Local Mason	CRS - Caritas	Vatovavy Fitovinany	Anteza	Ambodivakoka	Ambodivakoka
KII VSLA Agent	CRS - Caritas	Atsimo Atsinanana	Soamanova	Mavogisy	Nosivelo

KII VSLA Agent	CRS - Caritas	Vatovavy Fitovinany	Anteza	Ambodivakoka	Ambodivakoka
KII Implementer	CRS - Caritas	Vatovavy Fitovinany, Atsimo Atsinanana	n/a		
KII Monoblock Operator	SERT RANO	Ilaka Est	Ilaka Est	n/a	n/a
KII USAID	USAID	n/a	n/a	n/a	n/a

B. BIBLIOGRAPHY OF DOCUMENTS REVIEWED

Annis, J. and G. Razafinjato. 2011. *Public-Private Partnerships in Madagascar: A Promising Approach to Increase Sustainability of Piped Water Supply Systems in Rural Towns*. Paper presented at 6th International Rural Water Supply Network Forum, Kampala, Uganda, November 29 – Dec 1.

Bushproof. 2013. *Amélioration de l'Alimentation en Eau Potable de la Commune Rurale d'Ilaka Est*. (Improvement of Drinking Water Supply Provision in the Rural Commune of Ilaka Est).

Bushproof. 2011. *Amélioration de l'Alimentation en Eau Potable de la Commune Rurale de Soamanova*. (Improvement of Drinking Water Supply Provision in the Rural Commune of Soamanova).

CAETIC Development. 2014. *Evaluation of the USAID/Madagascar Water Supply, Sanitation and Hygiene Bilateral Projects: RANO-HP and RANON'ala.* USAID.

Catholic Relief Services. 2013. *Building on RANO-HP's Achievements.* USAID.

Catholic Relief Services. 2013. *Commune Water and Sanitation Business Plan – Anteza.* USAID.

Catholic Relief Services. 2013. *Commune Water and Sanitation Business Plan – Sampona Sud.* USAID.

Catholic Relief Services. 2013. *RANO-HP Completion Report.* USAID.

Catholic Relief Services. 2013. *RANO-HP Exit Strategy.* USAID.

Catholic Relief Services. 2011. *RANO-HP Fiscal Year 2010 Annual Report.* USAID.

Catholic Relief Services. 2012. *RANO-HP Fiscal Year 2011 Annual Report.* USAID.

Catholic Relief Services. 2013. *RANO-HP Fiscal Year 2012 Annual Report.* USAID.

Catholic Relief Services. 2016. *Rapid Evaluation of RANO-HP.* USAID.

Catholic Relief Services. 2010. *Rapport d'Enquête de Baseline (RANO HamPivoatra Baseline Survey Report)*.

Catholic Relief Services. 2010. *Strategies Related to Sanitation and Hygiene in RANO-HP Program.* USAID.

Institute for Health Metrics and Evaluation. 2015. *Global Burden of Disease Profile: Madagascar*. http://www.healthdata.org/Madagascar (February 20, 2017).

Hanchett, Suzanne, Drieger L., Kahn M.H., Kullmann C., and Ahmed R. 2011. *Long-Term Sustainability of Improved Sanitation in Rural Bangladesh. WSP.*

Kar, K. and R. Chambers. 2008. *Handbook on Community-Led Total Sanitation.* London: Plan UK.

Madagascar Ministry of Water, Sanitation, and Hygiene. N.D. *Madagascar WASH Sector: Key Results Framework 2016-2019*.

Malagasy Raitra Consulting. 2013. *Endline Survey of RANO-HP Project.* USAID.

Milward, K., S. Pradhan, and K. Pasteur. 2014. *Promising Pathways: Innovations and Best Practices in CLTS at Scale in Madagascar.* Kolkata, India: CLTS Foundation.

Ong Azafady. 2011. *Evaluation of Community-Led Total Sanitation in Vatambe and Emagnevy Mahatalaky Rural Commune, Anosy Region, S.E. Madagascar*.

Ryan, P. and R. Carter. 2016. *WASH Service Provision in Rural Madagascar: Sustainability Check 2*. UNICEF.

Ryan, P. 2014. *WASH Sector Service Provision in Madagascar: Bottleneck Analysis Tool*. UNICEF. *French*.

Sandandrano. 2010. *Amélioration de l'Alimentation en Eau Potable de la Commune Rurale d'Anivorano Est* (Improvement of Drinking Water Supply Provision in the Rural Commune of Anivorano Est*).*

Sandandrano. 2010. *Amélioration de l'Alimentation en Eau Potable de la Commune Rurale de Saranambana.* (Improvement of Drinking Water Supply Provision in the Rural Commune of Saranambana*).*

Tyndale-Biscoe, P., M. Bond, and R. Kidd. 2013. *ODF Sustainability Study*. Plan International.

UNICEF and Madagascar Ministry of Water. 2016. *Key Facts Sheet: Madagascar Water Access, Sanitation and Hygiene.*

USAID. 2017, January 30. *From Aid to Investment.* <https://www.usaid.gov/what-we-do/global-health/hiv-and-aids/technical-areas/aid-investment> (February 15, 2017).

USAID. 2012, August. *Field Review of USAID's Approaches to WASH in Madagascar: Success Factors and Lessons Learned.*

WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. 2015. *Progress on Sanitation and Drinking Water – 2015 update and MDG assessment*.

WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. 2015. *Madagascar: Estimates on the Use of Water Sources and Sanitation Facilities (1980-2015)*.

World Health Organization Department of Maternal, Newborn, Child and Adolescent Health. 2016. *Madagascar: Neonatal and Child Health Profile*.

Water Supply and Sanitation Collaborative Council (WSSCC). 2016. *Sanitation and Hygiene Behaviour Change at Scale: Understanding Slippage*.

C. COMPLETE DATA TABLES

Tables

Figures

Table 1a. Overall Demographic and Key WASH Outcomes

	2016 Follow-up (n=688)			2013 Endline (n=559)			% change from 2013	
	mean	SE	95% CI	mean	SE	95% CI		
Demographic characteristics								
Female respondent	78.6%	0.03	[0.73, 0.84]	100%		-	-21%	
Respondent not married	28.7%	0.02	[0.25, 0.33]	24.7%	0.03	[0.19, 0.30]	16%	
Respondent cannot read	34.6%	0.05	[0.23, 0.46]	47.4%	0.06	[0.36, 0.59]	-27%	
Household size	5.7	0.23	[5.22, 6.18]	6.1	0.2	[5.71, 6.54]	-7%	
No adult men in HH	17.3%	0.02	[0.12, 0.22]	17.9%	0.02	[0.13, 0.23]	-3%	
Has children under 5	62.8%	0.03	[0.56, 0.69]	100%		-	-37%	
Key outcome variables								
Sanitation								
3.6: HH uses latrine	45.3%	0.07	[0.32, 0.59]	69.1%	0.03	[0.63, 0.75]	-34%	*
3.8: HH uses private latrine	21.2%	0.04	[0.14, 0.29]	36.5%	0.03	[0.31, 0.42]	-42%	*
3.10: HH uses shared latrine	23.5%	0.04	[0.16, 0.31]	31.1%	0.02	[0.27, 0.36]	-24%	
3.2: HH properly disposes children's excreta	8.7%	0.02	[0.05, 0.12]	64.2%	0.02	[0.59, 0.69]	-86%	*
3.9: HH uses latrine with walls and door (private or shared)	32.1%	0.05	[0.22, 0.43]	57.6%	0.03	[0.51, 0.65]	-44%	*
3.12: HH uses latrine with no walls or roof (private or shared)	2.6%	0.01	[0.01, 0.04]	2.5%	0.01	[0.01, 0.04]	4%	
3.1a: HH uses improved latrine with washable slab (observed in private or shared	4.1%	0.01	[0.02, 0.07]	6.4%	0.01	[0.04, 0.09]	-36%	
Women in HH typically defecate in the open	53.2%	0.07	[0.39, 0.68]	31.7%	0.03	[0.25, 0.38]	68%	*
Men in HH typically defecate in the open	51.2%	0.07	[0.37, 0.65]	31.7%	0.03	[0.25, 0.38]	62%	
Hygiene								
3.13: Respondents who practice handwashing at key times	1.1%	0	[0.00, 0.02]	9.7%	0.02	[0.06, 0.13]	-89%	*
3.14: Respondents capable of citing 3 WASH messages	27.3%	0.03	[0.22, 0.33]	56.5%	0.05	[0.46, 0.67]	-52%	*
3.11: HH has soap and water near latrine	2.0%	0.01	[-0.00, 0.04]	7.7%	0.01	[0.05, 0.10]	-74%	*
3.5: HH practices safe storage	25.4%	0.05	[0.16, 0.35]	9.7%	0.03	[0.04, 0.16]	162%	*
3.16: HH has soap	69.7%	0.04	[0.61, 0.78]	87.5%	0.04	[0.80, 0.95]	-20%	*
2.10: HH treats drinking water, every day for all	39.5%	0.04	[0.31, 0.48]	51.9%	0.05	[0.42, 0.62]	-24%	
Water access								
4.2: Time to fetch water (minutes, round trip)	19.7	1.46	[16.75, 22.71]	17.9	2.61	[12.62, 23.27]	10%	
2.2: # liters water used per capita daily	17.3	1.68	[13.91, 20.75]	17.8	0.28	[17.27, 18.40]	-3%	
2.5a: HH has access to improved drinking water (main or secondary source)	24.5%	0.07	[0.10, 0.39]	28.4%	0.07	[0.13, 0.44]	-14%	

** Significant difference at p<0.05*

*** Key outcome variable numbers (e.g. 3.6) refer to RANO-HP results framework indicator numbers*

Table 1b. Overall Latrine Use, Maintenance, WASH Aspirations (part 1)

	2016 Follow-up		
	mean	**SE**	**95% CI**
Latrine usage and maintenance			
Women in HH typically defecate in latrine	46.0%	0.07	[0.32, 0.60]
Men in HH typically defecate in latrine	41.9%	0.06	[0.29, 0.55]
Constructed latrine in past 2 years	23.2%	0.04	[0.15, 0.31]
Private latrine was built after 2013	65.2%	0.06	[0.52, 0.78]
Response to filled latrine pit:			
Built new latrine	25.4%	0.05	[0.16, 0.35]
Evacuated latrine pit	3.1%	0.02	[-0.01, 0.07]
Stopped using latrine	3.7%	0.01	[0.01, 0.07]
Latrine improvements in past 2 years:			
Any improvement	15.3%	0.05	[0.06, 0.25]
Slab	4.6%	0.03	[-0.01, 0.10]
Superstructure (walls, roof)	12.1%	0.04	[0.04, 0.21]
Hired skilled labor to construct latrine (among those who constructed latrine in past 2 years)	45.4%	0.06	[0.32, 0.59]
Hired skilled labor to improve latrine (among those who constructed latrine in past 2 years)	35.4%	0.1	[0.12, 0.58]
WASH aspirations, barriers			
HH was unable to enact desired improvements in past 2 years:			
Any WASH improvement	39.4%	0.06	[0.28, 0.51]
Sanitation improvement	27.8%	0.04	[0.20, 0.36]
Hygiene facilities	3.7%	0.01	[0.01, 0.06]
Main barrier to enacting desired WASH improvements:			
Lack of money	75.6%	0.04	[0.68, 0.83]
Lack of knowledge	4.3%	0.01	[0.01, 0.07]
Lack of materials	8.5%	0.02	[0.04, 0.13]
Lack of help	10.1%	0.03	[0.04, 0.16]

	2016 Follow-up		
	mean	SE	95% CI
Main challenge preventing latrine construction (among those without a latrine)			
Not aware of techniques to build latrine	8.8%	0.02	[0.04, 0.14]
No space to build	19.1%	0.04	[0.11, 0.27]
Kind of land impossible to dig a hole	2.5%	0.01	[0.00, 0.05]
Shallow water table	0.0%	0	[0.00, 0.00]
No skilled technicians available (mason, hole digging)	1.7%	0.01	[0.01, 0.03]
Difficult to find the materials for digging	13.3%	0.02	[0.09, 0.17]
Difficult to save money for latrine building	45.2%	0.05	[0.36, 0.55]
Satisfied with public latrines	5.7%	0.02	[0.02, 0.09]
Problems related to authorization permit	3.0%	0.02	[-0.00, 0.06]
Taboo	0.5%	0	[-0.00, 0.01]
Not common	28.0%	0.04	[0.20, 0.36]
Other	17.3%	0.03	[0.11, 0.24]

Table 1c. Overall VSLA Practices

	2016 Follow-up		
	mean	SE	95% CI
Respondent has been member of VSLA	18.7%	0.03	[0.12, 0.26]
VSLA members borrowed money for WASH-related things in past two years	17.8%	0.06	[0.05, 0.31]
VSLA members borrowed money for latrine construction/improvement in past two years	17.2%	0.06	[0.05, 0.30]
VSLA members borrowed money for handwashing facility in past two years	6.6%	0.05	[-0.04, 0.17]

Table 2a. Demographics by Region

	Region	2016 Follow-up (n=688)			2013 Endline (n=559)			% change
		mean	SE	95% CI	mean	SE	95% CI	from
Female respondent	Vatovavy Fitovinany	72.5%	0.05	[0.62, 0.83]	100%	-	-	-28%
	Atsimo Atsinanana	74.0%	0.03	[0.68, 0.80]	100%	-	-	-26%
	Atsinanana	83.5%	0.05	[0.74, 0.93]	100%	-	-	-17%
	Anosy	89.6%	0.06	[0.78, 1.01]	100%	-	-	-10%
	Total	**78.6%**	**0.03**	**[0.73, 0.84]**	**100%**	**-**	**-**	**-21%**
Respondent not married	Vatovavy Fitovinany	28.1%	0.04	[0.20, 0.36]	22.9%	0.03	[0.17, 0.29]	23%
	Atsimo Atsinanana	23.3%	0.03	[0.18, 0.29]	28.6%	0.07	[0.15, 0.42]	-19%
	Atsinanana	32.6%	0.03	[0.26, 0.40]	18.9%	0.03	[0.12, 0.26]	72%
	Anosy	29.0%	0.03	[0.22, 0.36]	33.8%	0.03	[0.28, 0.39]	-14%
	Total	**28.7%**	**0.02**	**[0.25, 0.33]**	**24.7%**	**0.03**	**[0.19, 0.30]**	**16%**
Respondent cannot read	Vatovavy Fitovinany	40.0%	0.07	[0.25, 0.55]	44.4%	0.09	[0.27, 0.62]	-10%
	Atsimo Atsinanana	62.7%	0.03	[0.57, 0.68]	69.7%	0.02	[0.65, 0.75]	-10%
	Atsinanana	9.9%	0.04	[0.02, 0.18]	23.4%	0.08	[0.08, 0.39]	-58%
	Anosy	43.3%	0.07	[0.28, 0.59]	58.5%	0.04	[0.51, 0.66]	-26%
	Total	**34.6%**	**0.05**	**[0.23, 0.46]**	**47.4%**	**0.06**	**[0.36, 0.59]**	**-27%**
Household size	Vatovavy Fitovinany	5.2	0.14	[4.94, 5.49]	5.5	0.22	[5.10, 5.99]	-6%
	Atsimo Atsinanana	7.5	0.27	[6.89, 8.01]	7.1	0.21	[6.66, 7.53]	5%
	Atsinanana	4.7	0.15	[4.43, 5.06]	5.4	0.17	[5.02, 5.70]	-11%
	Anosy	6.6	0.2	[6.15, 6.95]	6.9	0.47	[5.92, 7.83]	-5%
	Total	**5.7**	**0.23**	**[5.22, 6.18]**	**6.1**	**0.2**	**[5.71, 6.54]**	**-7%**
No adult men in HH	Vatovavy Fitovinany	16.6%	0.04	[0.08, 0.26]	14.6%	0.03	[0.09, 0.20]	14%
	Atsimo Atsinanana	8.5%	0.02	[0.03, 0.13]	20.6%	0.05	[0.09, 0.32]	-59%
	Atsinanana	23.1%	0.04	[0.15, 0.31]	13.1%	0.03	[0.07, 0.20]	76%
	Anosy	18.7%	0.07	[0.04, 0.33]	30.8%	0.02	[0.27, 0.35]	-39%
	Total	**17.3%**	**0.02**	**[0.12, 0.22]**	**17.9%**	**0.02**	**[0.13, 0.23]**	**-3%**
Has children under 5	Vatovavy Fitovinany	65.6%	0.02	[0.61, 0.71]	100%	-	-	-34%
	Atsimo Atsinanana	79.9%	0.03	[0.75, 0.85]	100%	-	-	-20%
	Atsinanana	48.1%	0.03	[0.41, 0.55]	100%	-	-	-52%
	Anosy	69.1%	0.02	[0.65, 0.73]	100%	-	-	-31%
	Total	**62.8%**	**0.03**	**[0.56, 0.69]**	**100%**	**-**	**-**	**-37%**

Table 2b. Key Sanitation Outcomes by Region

3.6: HH uses latrine	Vatovavy Fitovinany	42.5%	0.08	[0.26, 0.59]	72.2%	0.03	[0.66, 0.78]	-41%
	Atsimo Atsinanana	17.5%	0.08	[0.02, 0.33]	60.6%	0.06	[0.47, 0.74]	-71%
	Atsinanana	66.2%	0.09	[0.47, 0.85]	74.9%	0.04	[0.66, 0.84]	-12%
	Anosy	42.3%	0.08	[0.27, 0.58]	69.2%	0.06	[0.58, 0.81]	-39%
	Total	**45.3%**	**0.07**	**[0.32, 0.59]**	**69.1%**	**0.03**	**[0.63, 0.75]**	**-34%**
3.8: HH uses private latrine	Vatovavy Fitovinany	17.0%	0.05	[0.08, 0.26]	32.6%	0.05	[0.23, 0.42]	-48%
	Atsimo Atsinanana	11.4%	0.06	[-0.01, 0.24]	28.6%	0.05	[0.19, 0.38]	-60%
	Atsinanana	31.6%	0.06	[0.20, 0.43]	45.7%	0.04	[0.38, 0.53]	-31%
	Anosy	18.2%	0.04	[0.10, 0.27]	41.5%	0.02	[0.37, 0.46]	-56%
	Total	**21.2%**	**0.04**	**[0.14, 0.29]**	**36.5%**	**0.03**	**[0.31, 0.42]**	**-42%**
3.10: HH uses shared latrine	Vatovavy Fitovinany	24.8%	0.05	[0.15, 0.35]	38.2%	0.05	[0.29, 0.47]	-35%
	Atsimo Atsinanana	5.2%	0.02	[0.01, 0.10]	30.9%	0.04	[0.23, 0.39]	-83%
	Atsinanana	34.1%	0.05	[0.24, 0.44]	27.4%	0.04	[0.20, 0.35]	24%
	Anosy	24.0%	0.04	[0.15, 0.33]	26.2%	0.05	[0.16, 0.36]	-8%
	Total	**23.5%**	**0.04**	**[0.16, 0.31]**	**31.1%**	**0.02**	**[0.27, 0.36]**	**-24%**
3.2: HH properly disposes children's excreta	Vatovavy Fitovinany	7.6%	0.03	[0.02, 0.13]	57.6%	0.04	[0.50, 0.65]	-87%
	Atsimo Atsinanana	5.8%	0.03	[0.00, 0.11]	59.4%	0.05	[0.49, 0.69]	-90%
	Atsinanana	11.2%	0.03	[0.05, 0.18]	71.4%	0.02	[0.66, 0.76]	-84%
	Anosy	9.3%	0	[0.09, 0.10]	72.3%	0.03	[0.67, 0.78]	-87%
	Total	**8.7%**	**0.02**	**[0.05, 0.12]**	**64.2%**	**0.02**	**[0.59, 0.69]**	**-86%**
3.9: HH uses latrine with walls and door (private or shared)	Vatovavy Fitovinany	31.6%	0.08	[0.15, 0.48]	61.1%	0.03	[0.54, 0.68]	-48%
	Atsimo Atsinanana	11.3%	0.05	[0.01, 0.21]	46.9%	0.07	[0.33, 0.61]	-76%
	Atsinanana	46.5%	0.08	[0.30, 0.62]	64.6%	0.06	[0.53, 0.77]	-28%
	Anosy	29.9%	0.07	[0.15, 0.44]	60.0%	0.07	[0.46, 0.74]	-50%
	Total	**32.1%**	**0.05**	**[0.22, 0.43]**	**57.6%**	**0.03**	**[0.51, 0.65]**	**-44%**
3.12: HH uses latrine with no walls or roof (private or shared)	Vatovavy Fitovinany	2.2%	0.01	[0.00, 0.04]	1.4%	0.01	[-0.00, 0.03]	57%
	Atsimo Atsinanana	1.4%	0.01	[-0.00, 0.03]	2.9%	0.01	[0.00, 0.05]	-52%
	Atsinanana	3.6%	0.02	[0.00, 0.07]	2.3%	0.01	[0.00, 0.04]	57%
	Anosy	2.3%	0.02	[-0.03, 0.07]	4.6%	0.02	[0.02, 0.08]	-50%
	Total	**2.6%**	**0.01**	**[0.01, 0.04]**	**2.5%**	**0.01**	**[0.01, 0.04]**	**4%**
3.1a: HH uses improved latrine with washable slab (observed in private or shared	Vatovavy Fitovinany	4.8%	0.02	[0.01, 0.09]	6.9%	0.02	[0.02, 0.12]	-30%
	Atsimo Atsinanana	0.4%	0	[-0.00, 0.01]	5.7%	0.02	[0.02, 0.09]	-93%
	Atsinanana	6.8%	0.02	[0.02, 0.11]	6.3%	0.02	[0.02, 0.11]	8%
	Anosy	1.1%	0.01	[-0.01, 0.03]	7.7%	0.01	[0.06, 0.09]	-86%
	Total	**4.1%**	**0.01**	**[0.02, 0.07]**	**6.4%**	**0.01**	**[0.04, 0.09]**	**-36%**
Women in HH typically defecate in the open	Vatovavy Fitovinany	55.4%	0.09	[0.37, 0.73]	29.9%	0.03	[0.23, 0.37]	85%
	Atsimo Atsinanana	82.5%	0.08	[0.67, 0.98]	40.0%	0.07	[0.26, 0.54]	106%
	Atsinanana	31.3%	0.1	[0.10, 0.52]	25.1%	0.04	[0.16, 0.34]	25%
	Anosy	58.5%	0.08	[0.42, 0.75]	30.8%	0.06	[0.19, 0.42]	90%
	Total	**53.2%**	**0.07**	**[0.39, 0.68]**	**31.7%**	**0.03**	**[0.25, 0.38]**	**68%**
Men in HH typically defecate in the open	Vatovavy Fitovinany	52.6%	0.08	[0.36, 0.70]	28.5%	0.03	[0.22, 0.35]	85%
	Atsimo Atsinanana	82.1%	0.08	[0.66, 0.98]	41.1%	0.06	[0.28, 0.54]	100%
	Atsinanana	28.5%	0.1	[0.09, 0.48]	25.1%	0.04	[0.16, 0.34]	14%
	Anosy	58.5%	0.08	[0.42, 0.75]	30.8%	0.06	[0.19, 0.42]	90%
	Total	**51.2%**	**0.07**	**[0.37, 0.65]**	**31.7%**	**0.03**	**[0.25, 0.38]**	**62%**

Table 2c. Key Hygiene Outcomes by Region

3.13: Respondents who practice handwashing at key times	Vatovavy Fitovinany	0.8%	0.01	[-0.00, 0.02]	9.7%	0.03	[0.04, 0.16]	-92%
	Atsimo Atsinanana	1.1%	0.01	[-0.01, 0.03]	7.4%	0.03	[0.02, 0.13]	-85%
	Atsinanana	1.6%	0.01	[-0.00, 0.03]	10.9%	0.03	[0.05, 0.17]	-85%
	Anosy	0.0%	0	[0.00, 0.00]	12.3%	0.02	[0.08, 0.17]	-100%
	Total	**1.1%**	**0**	**[0.00, 0.02]**	**9.7%**	**0.02**	**[0.06, 0.13]**	**-89%**
3.14: Respondents capable of citing 3 WASH messages	Vatovavy Fitovinany	28.4%	0.06	[0.16, 0.40]	50.0%	0.06	[0.38, 0.62]	-43%
	Atsimo Atsinanana	37.8%	0.05	[0.28, 0.47]	45.1%	0.07	[0.32, 0.59]	-16%
	Atsinanana	22.0%	0.02	[0.17, 0.27]	61.7%	0.1	[0.41, 0.82]	-64%
	Anosy	18.6%	0.04	[0.11, 0.26]	87.7%	0.04	[0.80, 0.95]	-79%
	Total	**27.3%**	**0.03**	**[0.22, 0.33]**	**56.5%**	**0.05**	**[0.46, 0.67]**	**-52%**
3.11: HH has soap and water near latrine	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]	6.3%	0.02	[0.02, 0.11]	-100%
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]	5.1%	0.01	[0.02, 0.08]	-100%
	Atsinanana	4.3%	0.02	[-0.01, 0.09]	9.7%	0.02	[0.06, 0.14]	-56%
	Anosy	3.9%	0.01	[0.02, 0.06]	12.3%	0.05	[0.01, 0.23]	-68%
	Total	**2.0%**	**0.01**	**[-0.00, 0.04]**	**7.7%**	**0.01**	**[0.05, 0.10]**	**-74%**
3.5: HH practices safe storage	Vatovavy Fitovinany	26.9%	0.07	[0.13, 0.41]	8.3%	0.03	[0.03, 0.14]	224%
	Atsimo Atsinanana	9.4%	0.02	[0.06, 0.13]	2.9%	0.02	[-0.01, 0.07]	224%
	Atsinanana	32.3%	0.09	[0.14, 0.50]	8.6%	0.06	[-0.03, 0.21]	276%
	Anosy	34.4%	0.01	[0.33, 0.36]	33.8%	0.02	[0.30, 0.38]	2%
	Total	**25.4%**	**0.05**	**[0.16, 0.35]**	**9.7%**	**0.03**	**[0.04, 0.16]**	**162%**
3.16: HH has soap	Vatovavy Fitovinany	68.5%	0.08	[0.53, 0.84]	95.8%	0.02	[0.92, 0.99]	-28%
	Atsimo Atsinanana	64.0%	0.05	[0.53, 0.75]	77.1%	0.1	[0.57, 0.97]	-17%
	Atsinanana	80.4%	0.05	[0.70, 0.91]	95.4%	0.02	[0.91, 1.00]	-16%
	Anosy	46.0%	0.12	[0.22, 0.70]	75.4%	0.04	[0.67, 0.84]	-39%
	Total	**69.7%**	**0.04**	**[0.61, 0.78]**	**87.5%**	**0.04**	**[0.80, 0.95]**	**-20%**

Table 2d. Key Water Outcomes by Region

2.10: HH treats drinking water, every day for all	Vatovavy Fitovinany	24.5%	0.08	[0.08, 0.41]	32.6%	0.05	[0.22, 0.44]	-25%
	Atsimo Atsinanana	44.0%	0.05	[0.34, 0.53]	42.3%	0.07	[0.27, 0.58]	4%
	Atsinanana	50.8%	0.07	[0.37, 0.65]	69.7%	0.06	[0.58, 0.82]	-27%
	Anosy	30.7%	0.12	[0.06, 0.56]	72.3%	0.04	[0.63, 0.81]	-58%
	Total	**39.5%**	**0.04**	**[0.31, 0.48]**	**51.9%**	**0.05**	**[0.42, 0.62]**	**-24%**
4.2: Time to fetch water (minutes, round trip)	Vatovavy Fitovinany	17.7	2.35	[12.94, 22.54]	12.7	1.38	[9.91, 15.56]	39%
	Atsimo Atsinanana	17.3	1.26	[14.75, 19.87]	15.9	2.01	[11.78, 19.98]	9%
	Atsinanana	18.8	2.06	[14.59, 22.99]	14.1	1.95	[10.08, 18.04]	34%
	Anosy	35.4	5.34	[24.54, 46.32]	45.5	16.06	[12.76, 78.26]	-22%
	Total	**19.7**	**1.46**	**[16.75, 22.71]**	**17.9**	**2.61**	**[12.62, 23.27]**	**10%**
2.2: # liters water used per capita daily	Vatovavy Fitovinany	18.2	1.1	[15.94, 20.44]	17.5	0.67	[16.14, 18.86]	4%
	Atsimo Atsinanana	10.2	0.5	[9.20, 11.23]	18.0	0.24	[17.52, 18.48]	-43%
	Atsinanana	20.6	3.65	[13.18, 28.06]	18.3	0.53	[17.24, 19.42]	13%
	Anosy	20.0	0.31	[19.41, 20.69]	16.8	0.35	[16.12, 17.54]	19%
	Total	**17.3**	**1.68**	**[13.91, 20.75]**	**17.8**	**0.28**	**[17.27, 18.40]**	**-3%**
2.5a: HH has access to improved drinking water (main or secondary source)	Vatovavy Fitovinany	22.6%	0.09	[0.04, 0.41]	38.2%	0.12	[0.14, 0.63]	-41%
	Atsimo Atsinanana	14.5%	0.1	[-0.06, 0.35]	34.9%	0.17	[-0.00, 0.70]	-58%
	Atsinanana	38.8%	0.14	[0.11, 0.67]	22.9%	0.11	[0.01, 0.44]	69%
	Anosy	0.0%	0	[0.00, 0.00]	4.6%	0.01	[0.02, 0.07]	-100%
	Total	**24.5%**	**0.07**	**[0.10, 0.39]**	**28.4%**	**0.07**	**[0.13, 0.44]**	**-14%**

Table 2e. Latrine Use, Maintenance, and WASH Aspirations, by Region

	Region	2016 Follow-up		
		mean	SE	95% CI
Latrine usage and maintenance				
Women in HH typically defecate in latrine	Vatovavy Fitovinany	0.431	0.08	[0.26, 0.60]
	Atsimo Atsinanana	0.171	0.07	[0.02, 0.32]
	Atsinanana	0.681	0.1	[0.47, 0.89]
	Anosy	0.415	0.08	[0.25, 0.58]
	Total	**0.46**	**0.07**	**[0.32, 0.60]**
Men in HH typically defecate in latrine	Vatovavy Fitovinany	0.377	0.08	[0.21, 0.54]
	Atsimo Atsinanana	0.171	0.07	[0.02, 0.32]
	Atsinanana	0.618	0.09	[0.42, 0.81]
	Anosy	0.388	0.07	[0.25, 0.53]
	Total	**0.419**	**0.06**	**[0.29, 0.55]**
Constructed latrine in past 2 years	Vatovavy Fitovinany	0.156	0.05	[0.06, 0.26]
	Atsimo Atsinanana	0.082	0.05	[-0.02, 0.19]
	Atsinanana	0.404	0.05	[0.31, 0.50]
	Anosy	0.166	0.02	[0.13, 0.20]
	Total	**0.232**	**0.04**	**[0.15, 0.31]**
Private latrine was built after 2013	Vatovavy Fitovinany	0.494	0.17	[0.14, 0.85]
	Atsimo Atsinanana	0.722	0.17	[0.37, 1.08]
	Atsinanana	0.728	0.04	[0.65, 0.81]
	Anosy	0.487	0.09	[0.30, 0.68]
	Total	**0.652**	**0.06**	**[0.52, 0.78]**
Response to filled latrine pit:				
Built new latrine	Vatovavy Fitovinany	0.152	0.04	[0.07, 0.24]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.379	0.03	[0.32, 0.44]
	Anosy	0.072	0.07	[-0.06, 0.21]
	Total	**0.254**	**0.05**	**[0.16, 0.35]**
Evacuated latrine pit	Vatovavy Fitovinany	0.015	0.01	[-0.01, 0.04]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.05	0.04	[-0.02, 0.12]
	Anosy	0	0	[0.00, 0.00]
	Total	**0.031**	**0.02**	**[-0.01, 0.07]**

Response to filled latrine pit:				
Stopped using latrine	Vatovavy Fitovinany	0.005	0.01	[-0.01, 0.02]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.055	0.02	[0.00, 0.10]
	Anosy	0.065	0.02	[0.01, 0.11]
	Total	**0.037**	**0.01**	**[0.01, 0.07]**
Latrine improvements in past 2 years:				
Any improvement in past 2 years	Vatovavy Fitovinany	0.134	0.05	[0.04, 0.23]
	Atsimo Atsinanana	0.023	0.02	[-0.02, 0.06]
	Atsinanana	0.219	0.08	[0.06, 0.37]
	Anosy	0.105	0.12	[-0.14, 0.35]
	Total	**0.153**	**0.05**	**[0.06, 0.25]**
Slab	Vatovavy Fitovinany	0	0	[0.00, 0.00]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.088	0.05	[-0.01, 0.18]
	Anosy	0.023	0.03	[-0.03, 0.08]
	Total	**0.046**	**0.03**	**[-0.01, 0.10]**
Superstructure (walls, roof)	Vatovavy Fitovinany	0.091	0.06	[-0.02, 0.20]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.187	0.06	[0.06, 0.32]
	Anosy	0.084	0.1	[-0.11, 0.28]
	Total	**0.121**	**0.04**	**[0.04, 0.21]**
Hired skilled labor to construct latrine (among those who constructed	Vatovavy Fitovinany	0.483	0.11	[0.26, 0.70]
	Atsimo Atsinanana	0.42	0.14	[0.13, 0.71]
	Atsinanana	0.425	0.09	[0.24, 0.61]
	Anosy	0.676	0.07	[0.53, 0.82]
	Total	**0.454**	**0.06**	**[0.32, 0.59]**
WASH aspirations, barriers				
HH was unable to enact desired improvements in past 2 years:				
Any WASH improvement	Vatovavy Fitovinany	0.108	0.03	[0.05, 0.16]
	Atsimo Atsinanana	0.227	0.06	[0.10, 0.35]
	Atsinanana	0.718	0.05	[0.62, 0.81]
	Anosy	0.425	0	[0.41, 0.43]
	Total	**0.394**	**0.06**	**[0.28, 0.51]**

Main challenge preventing latrine construction (among those without a latrine)				
Kind of land impossible to dig a hole	Vatovavy Fitovinany	0.013	0.01	[-0.01, 0.03]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.047	0.03	[-0.02, 0.11]
	Anosy	0.057	0	[0.05, 0.06]
	Total	**0.025**	**0.01**	**[0.00, 0.05]**
Shallow water table	Vatovavy Fitovinany	0	0	[0.00, 0.00]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0	0	[0.00, 0.00]
	Anosy	0	0	[0.00, 0.00]
	Total	**0**	**0**	**[0.00, 0.00]**
No skilled technicians available (mason, hole digging)	Vatovavy Fitovinany	0.012	0.01	[-0.00, 0.03]
	Atsimo Atsinanana	0.01	0.01	[-0.00, 0.02]
	Atsinanana	0.021	0.01	[0.00, 0.04]
	Anosy	0.043	0.02	[0.01, 0.08]
	Total	**0.017**	**0.01**	**[0.01, 0.03]**
Difficult to find the materials for digging	Vatovavy Fitovinany	0.111	0.02	[0.06, 0.16]
	Atsimo Atsinanana	0.141	0.04	[0.06, 0.22]
	Atsinanana	0.137	0.04	[0.06, 0.21]
	Anosy	0.171	0.07	[0.04, 0.30]
	Total	**0.133**	**0.02**	**[0.09, 0.17]**
Difficult to save money for latrine building	Vatovavy Fitovinany	0.308	0.07	[0.16, 0.46]
	Atsimo Atsinanana	0.547	0.08	[0.38, 0.71]
	Atsinanana	0.466	0.09	[0.29, 0.65]
	Anosy	0.599	0.1	[0.39, 0.81]
	Total	**0.452**	**0.05**	**[0.36, 0.55]**
Satisfied with public latrines	Vatovavy Fitovinany	0.051	0.02	[0.01, 0.10]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.103	0.03	[0.04, 0.17]
	Anosy	0.076	0.03	[0.01, 0.15]
	Total	**0.057**	**0.02**	**[0.02, 0.09]**
Problems related to authorization permit	Vatovavy Fitovinany	0.004	0	[-0.00, 0.01]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.034	0.03	[-0.02, 0.09]
	Anosy	0.174	0.12	[-0.06, 0.41]
	Total	**0.03**	**0.02**	**[-0.00, 0.06]**

Main challenge preventing latrine construction (among those without a latrine)				
Taboo	Vatovavy Fitovinany	0	0	[0.00, 0.00]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0	0	[0.00, 0.00]
	Anosy	0.047	0.01	[0.02, 0.07]
	Total	**0.005**	**0**	**[-0.00, 0.01]**
Not common	Vatovavy Fitovinany	0.339	0.07	[0.20, 0.47]
	Atsimo Atsinanana	0.484	0.03	[0.42, 0.55]
	Atsinanana	0.089	0.02	[0.04, 0.14]
	Anosy	0.169	0.08	[0.01, 0.33]
	Total	**0.28**	**0.04**	**[0.20, 0.36]**
Other	Vatovavy Fitovinany	0.158	0.04	[0.09, 0.23]
	Atsimo Atsinanana	0.113	0.05	[0.00, 0.22]
	Atsinanana	0.267	0.07	[0.12, 0.41]
	Anosy	0.08	0.03	[0.02, 0.14]
	Total	**0.173**	**0.03**	**[0.11, 0.24]**

Table 2f. VSLA Practices by Region

	Region	2016 Follow-up		
		mean	SE	95% CI
Respondent has been member of VSLA	Vatovavy Fitovinany	0.024	0.01	[-0.00, 0.05]
	Atsimo Atsinanana	0.179	0.05	[0.07, 0.29]
	Atsinanana	0.257	0.02	[0.21, 0.31]
	Anosy	0.435	0.13	[0.17, 0.70]
	Total	**0.187**	**0.03**	**[0.12, 0.26]**
VSLA members borrowed money for WASH-related things in past two years	Vatovavy Fitovinany	0.272	0.19	[-0.12, 0.66]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.175	0.09	[-0.02, 0.37]
	Anosy	0.377	0.05	[0.28, 0.48]
	Total	**0.178**	**0.06**	**[0.05, 0.31]**
VSLA members borrowed money for latrine construction/improvement in past	Vatovavy Fitovinany	0.272	0.19	[-0.12, 0.66]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0.175	0.09	[-0.02, 0.37]
	Anosy	0.333	0.03	[0.28, 0.39]
	Total	**0.172**	**0.06**	**[0.05, 0.30]**
VSLA members borrowed money for handwashing facility in past two years	Vatovavy Fitovinany	0.1	0.08	[-0.06, 0.26]
	Atsimo Atsinanana	0	0	[0.00, 0.00]
	Atsinanana	0	0	[0.00, 0.00]
	Anosy	0.307	0.07	[0.17, 0.44]
	Total	**0.066**	**0.05**	**[-0.04, 0.17]**

Table3a. Key Sanitation Outcomes by Gender of Household Head

	Gender of household (HH) head	2016 Follow-up (n=688)			2013 Endline (n=559)			% change from 2013
		mean	SE	95% CI	mean	SE	95% CI	
3.6: HH uses latrine	Male-headed	44.2%	0.07	[0.30, 0.59]	70.8%	0.02	[0.66, 0.76]	-38%
	No men in HH	50.7%	0.06	[0.39, 0.62]	61.0%	0.07	[0.46, 0.76]	-17%
	Total	**45.3%**	**0.07**	**[0.32, 0.59]**	**69.1%**	**0.03**	**[0.63, 0.75]**	**-34%**
3.8: HH uses private latrine	Male-headed	21.5%	0.04	[0.13, 0.30]	37.9%	0.03	[0.32, 0.44]	-43%
	No men in HH	19.9%	0.05	[0.10, 0.30]	30.0%	0.06	[0.18, 0.42]	-34%
	Total	**21.2%**	**0.04**	**[0.14, 0.29]**	**36.5%**	**0.03**	**[0.31, 0.42]**	**-42%**
3.10: HH uses shared latrine	Male-headed	22.2%	0.04	[0.15, 0.30]	31.6%	0.02	[0.28, 0.36]	-30%
	No men in HH	30.1%	0.05	[0.20, 0.40]	29.0%	0.06	[0.16, 0.42]	4%
	Total	**23.5%**	**0.04**	**[0.16, 0.31]**	**31.1%**	**0.02**	**[0.27, 0.36]**	**-24%**
3.2: HH properly disposes children's excreta	Male-headed	9.3%	0.02	[0.06, 0.13]	64.1%	0.02	[0.59, 0.69]	-85%
	No men in HH	5.7%	0.02	[0.02, 0.10]	65.0%	0.05	[0.54, 0.76]	-91%
	Total	**8.7%**	**0.02**	**[0.05, 0.12]**	**64.2%**	**0.02**	**[0.59, 0.69]**	**-86%**
3.9: HH uses latrine with walls and door (private or shared)	Male-headed	32.0%	0.06	[0.20, 0.44]	59.7%	0.03	[0.54, 0.65]	-46%
	No men in HH	32.8%	0.06	[0.20, 0.45]	48.0%	0.08	[0.31, 0.65]	-32%
	Total	**32.1%**	**0.05**	**[0.22, 0.43]**	**57.6%**	**0.03**	**[0.51, 0.65]**	**-44%**
3.12: HH uses latrine with no walls or roof (private or shared)	Male-headed	2.1%	0.01	[0.01, 0.04]	1.5%	0.01	[0.00, 0.03]	40%
	No men in HH	4.5%	0.03	[-0.01, 0.10]	7.0%	0.02	[0.02, 0.12]	-36%
	Total	**2.6%**	**0.01**	**[0.01, 0.04]**	**2.5%**	**0.01**	**[0.01, 0.04]**	**4%**
3.1a: HH uses improved latrine with washable slab (observed in private	Male-headed	3.3%	0.01	[0.01, 0.06]	6.5%	0.01	[0.04, 0.09]	-49%
	No men in HH	8.3%	0.03	[0.01, 0.15]	6.0%	0.02	[0.01, 0.11]	38%
	Total	**4.1%**	**0.01**	**[0.02, 0.07]**	**6.4%**	**0.01**	**[0.04, 0.09]**	**-36%**

Table 3b. Key Hygiene, Water Outcomes by Gender of Household Head

	Gender of household (HH) head	2016 Follow-up (n=688)			2013 Endline (n=559)			% change from 2013
		mean	SE	95% CI	mean	SE	95% CI	
3.13: Respondents who practice handwashing at key times	Male-headed	1.3%	0.01	[0.00, 0.02]	10.0%	0.02	[0.07, 0.13]	-87%
	No men in HH	0.0%	0	[0.00, 0.00]	8.0%	0.03	[0.02, 0.14]	-100%
	Total	**1.1%**	**0**	**[0.00, 0.02]**	**9.7%**	**0.02**	**[0.06, 0.13]**	**-89%**
3.14: Respondents capable of citing 3 WASH messages	Male-headed	27.0%	0.03	[0.21, 0.33]	55.3%	0.05	[0.44, 0.66]	-51%
	No men in HH	28.6%	0.05	[0.18, 0.39]	62.0%	0.07	[0.48, 0.76]	-54%
	Total	**27.3%**	**0.03**	**[0.22, 0.33]**	**56.5%**	**0.05**	**[0.46, 0.67]**	**-52%**
3.11: HH has soap and water near latrine	Male-headed	1.6%	0.01	[-0.00, 0.04]	8.3%	0.01	[0.05, 0.11]	-81%
	No men in HH	3.6%	0.02	[-0.01, 0.08]	5.0%	0.02	[0.00, 0.10]	-28%
	Total	**2.0%**	**0.01**	**[-0.00, 0.04]**	**7.7%**	**0.01**	**[0.05, 0.10]**	**-74%**
3.5: HH practices safe storage	Male-headed	25.8%	0.04	[0.17, 0.35]	10.0%	0.03	[0.04, 0.16]	158%
	No men in HH	23.6%	0.07	[0.10, 0.37]	8.0%	0.04	[-0.00, 0.16]	195%
	Total	**25.4%**	**0.05**	**[0.16, 0.35]**	**9.7%**	**0.03**	**[0.04, 0.16]**	**162%**
3.16: HH has soap	Male-headed	70.0%	0.04	[0.61, 0.79]	90.4%	0.03	[0.85, 0.96]	-23%
	No men in HH	68.5%	0.05	[0.58, 0.80]	74.0%	0.07	[0.59, 0.89]	-7%
	Total	**69.7%**	**0.04**	**[0.61, 0.78]**	**87.5%**	**0.04**	**[0.80, 0.95]**	**-20%**
2.10: HH treats drinking water, every day for all	Male-headed	38.1%	0.04	[0.30, 0.46]	50.5%	0.05	[0.40, 0.61]	-25%
	No men in HH	46.5%	0.08	[0.31, 0.62]	58.0%	0.06	[0.46, 0.70]	-20%
	Total	**39.5%**	**0.04**	**[0.31, 0.48]**	**51.9%**	**0.05**	**[0.42, 0.62]**	**-24%**
4.2: Time to fetch water (minutes, round trip)	Male-headed	20.0	1.5	[16.94, 23.08]	17.4	2.83	[11.66, 23.20]	15%
	No men in HH	18.4	1.98	[14.33, 22.43]	20.3	2.56	[15.10, 25.54]	-10%
	Total	**19.7**	**1.46**	**[16.75, 22.71]**	**17.9**	**2.61**	**[12.62, 23.27]**	**10%**
2.2: # liters water used per capita daily	Male-headed	16.5	1.68	[13.03, 19.88]	17.8	0.29	[17.23, 18.39]	-8%
	No men in HH	21.5	2.06	[17.29, 25.71]	18.0	0.56	[16.82, 19.09]	20%
	Total	**17.3**	**1.68**	**[13.91, 20.75]**	**17.8**	**0.28**	**[17.27, 18.40]**	**-3%**
2.5a: HH has access to improved drinking water (main or	Male-headed	23.7%	0.07	[0.10, 0.37]	29.6%	0.08	[0.14, 0.45]	-20%
	No men in HH	28.6%	0.1	[0.09, 0.48]	23.0%	0.08	[0.06, 0.40]	24%
	Total	**24.5%**	**0.07**	**[0.10, 0.39]**	**28.4%**	**0.07**	**[0.13, 0.44]**	**-14%**

Table 4a. Key Sanitation Outcomes by Literacy of Respondent

	Respondent literacy	2016 Follow-up (n=688)			2013 Endline (n=559)			% change from 2013
		mean	SE	95% CI	mean	SE	95% CI	
3.6: HH uses latrine	Literate	59.2%	0.06	[0.46, 0.72]	76.5%	0.03	[0.71, 0.82]	-23%
	Cannot read	19.1%	0.05	[0.09, 0.29]	60.8%	0.04	[0.53, 0.68]	-69%
	Total	**45.3%**	**0.07**	**[0.32, 0.59]**	**69.1%**	**0.03**	**[0.63, 0.75]**	**-34%**
3.8: HH uses private latrine	Literate	29.1%	0.04	[0.21, 0.37]	42.9%	0.03	[0.37, 0.49]	-32%
	Cannot read	6.4%	0.03	[0.01, 0.12]	29.4%	0.03	[0.24, 0.35]	-78%
	Total	**21.2%**	**0.04**	**[0.14, 0.29]**	**36.5%**	**0.03**	**[0.31, 0.42]**	**-42%**
3.10: HH uses shared latrine	Literate	29.3%	0.04	[0.21, 0.37]	32.0%	0.03	[0.25, 0.39]	-8%
	Cannot read	12.6%	0.04	[0.05, 0.20]	30.2%	0.03	[0.25, 0.35]	-58%
	Total	**23.5%**	**0.04**	**[0.16, 0.31]**	**31.1%**	**0.02**	**[0.27, 0.36]**	**-24%**
3.2: HH properly disposes children's excreta	Literate	11.5%	0.02	[0.07, 0.16]	70.1%	0.02	[0.66, 0.74]	-84%
	Cannot read	3.3%	0.02	[-0.01, 0.07]	57.7%	0.03	[0.51, 0.64]	-94%
	Total	**8.7%**	**0.02**	**[0.05, 0.12]**	**64.2%**	**0.02**	**[0.59, 0.69]**	**-86%**
3.9: HH uses latrine with walls and door (private or shared)	Literate	42.9%	0.05	[0.32, 0.54]	66.7%	0.03	[0.60, 0.74]	-36%
	Cannot read	11.7%	0.04	[0.04, 0.19]	47.5%	0.04	[0.40, 0.55]	-75%
	Total	**32.1%**	**0.05**	**[0.22, 0.43]**	**57.6%**	**0.03**	**[0.51, 0.65]**	**-44%**
3.12: HH uses latrine with no walls or roof (private or shared)	Literate	3.5%	0.01	[0.01, 0.06]	1.0%	0.01	[-0.00, 0.02]	250%
	Cannot read	0.7%	0	[-0.00, 0.02]	4.2%	0.01	[0.02, 0.06]	-83%
	Total	**2.6%**	**0.01**	**[0.01, 0.04]**	**2.5%**	**0.01**	**[0.01, 0.04]**	**4%**
3.1a: HH uses improved latrine with washable slab (observed in private or	Literate	5.6%	0.02	[0.02, 0.09]	7.5%	0.01	[0.04, 0.11]	-25%
	Cannot read	1.4%	0.01	[-0.01, 0.03]	5.3%	0.01	[0.02, 0.08]	-74%
	Total	**4.1%**	**0.01**	**[0.02, 0.07]**	**6.4%**	**0.01**	**[0.04, 0.09]**	**-36%**
Women in HH typically defecate in the open	Literate	39.0%	0.07	[0.25, 0.53]	24.1%	0.03	[0.18, 0.30]	62%
	Cannot read	80.1%	0.05	[0.70, 0.90]	40.0%	0.04	[0.32, 0.48]	100%
	Total	**53.2%**	**0.07**	**[0.39, 0.68]**	**31.7%**	**0.03**	**[0.25, 0.38]**	**68%**
Men in HH typically defecate in the open	Literate	36.9%	0.07	[0.23, 0.51]	24.1%	0.03	[0.18, 0.30]	53%
	Cannot read	78.4%	0.05	[0.68, 0.89]	40.0%	0.04	[0.32, 0.48]	96%
	Total	**51.2%**	**0.07**	**[0.37, 0.65]**	**31.7%**	**0.03**	**[0.25, 0.38]**	**62%**

Table 4b. Key Hygiene, Water Outcomes by Literacy of Respondent

	Respondent literacy	2016 Follow-up (n=688)			2013 Endline (n=559)			% change from 2013
		mean	SE	95% CI	mean	SE	95% CI	
3.13: Respondents who practice handwashing at key times	Literate	1.6%	0.01	[0.00, 0.03]	13.6%	0.02	[0.09, 0.18]	-88%
	Cannot read	0.2%	0	[-0.00, 0.00]	5.3%	0.01	[0.02, 0.08]	-96%
	Total	**1.1%**	**0**	**[0.00, 0.02]**	**9.7%**	**0.02**	**[0.06, 0.13]**	**-89%**
3.14: Respondents capable of citing 3 WASH messages	Literate	27.1%	0.03	[0.21, 0.33]	66.7%	0.05	[0.57, 0.77]	-59%
	Cannot read	27.8%	0.03	[0.21, 0.35]	45.3%	0.06	[0.33, 0.58]	-39%
	Total	**27.3%**	**0.03**	**[0.22, 0.33]**	**56.5%**	**0.05**	**[0.46, 0.67]**	**-52%**
3.11: HH has soap and water near latrine	Literate	3.0%	0.02	[-0.00, 0.06]	8.8%	0.02	[0.05, 0.12]	-66%
	Cannot read	0.0%	0	[0.00, 0.00]	6.4%	0.01	[0.03, 0.09]	-100%
	Total	**2.0%**	**0.01**	**[-0.00, 0.04]**	**7.7%**	**0.01**	**[0.05, 0.10]**	**-74%**
3.5: HH practices safe storage	Literate	32.9%	0.05	[0.22, 0.44]	11.6%	0.04	[0.04, 0.19]	184%
	Cannot read	11.3%	0.02	[0.06, 0.16]	7.5%	0.03	[0.00, 0.15]	51%
	Total	**25.4%**	**0.05**	**[0.16, 0.35]**	**9.7%**	**0.03**	**[0.04, 0.16]**	**162%**
3.16: HH has soap	Literate	78.4%	0.04	[0.71, 0.86]	94.6%	0.02	[0.90, 1.00]	-17%
	Cannot read	53.2%	0.05	[0.43, 0.63]	79.6%	0.05	[0.69, 0.90]	-33%
	Total	**69.7%**	**0.04**	**[0.61, 0.78]**	**87.5%**	**0.04**	**[0.80, 0.95]**	**-20%**
2.10: HH treats drinking water, every day for all	Literate	43.1%	0.05	[0.33, 0.54]	61.2%	0.06	[0.49, 0.73]	-30%
	Cannot read	32.7%	0.05	[0.23, 0.42]	41.5%	0.05	[0.31, 0.52]	-21%
	Total	**39.5%**	**0.04**	**[0.31, 0.48]**	**51.9%**	**0.05**	**[0.42, 0.62]**	**-24%**
4.2: Time to fetch water (minutes, round trip)	Literate	19.2	1.83	[15.50, 22.95]	15.5	1.76	[11.95, 19.13]	24%
	Cannot read	20.7	1.4	[17.83, 23.55]	20.6	3.84	[12.79, 28.44]	0%
	Total	**19.7**	**1.46**	**[16.75, 22.71]**	**17.9**	**2.61**	**[12.62, 23.27]**	**10%**
2.2: # liters water used per capita daily	Literate	19.7	2.19	[15.21, 24.12]	17.8	0.41	[16.93, 18.61]	11%
	Cannot read	13.0	1	[10.95, 15.04]	17.9	0.3	[17.30, 18.53]	-27%
	Total	**17.3**	**1.68**	**[13.91, 20.75]**	**17.8**	**0.28**	**[17.27, 18.40]**	**-3%**
2.5a: HH has access to improved drinking water (main or secondary	Literate	32.3%	0.09	[0.14, 0.51]	33.0%	0.08	[0.16, 0.50]	-2%
	Cannot read	9.7%	0.04	[0.01, 0.19]	23.4%	0.09	[0.05, 0.41]	-59%
	Total	**24.5%**	**0.07**	**[0.10, 0.39]**	**28.4%**	**0.07**	**[0.13, 0.44]**	**-14%**

Table 5a. Open Defecation Verification—Partial Process Results

Criterion	n	Mean (met criterion)	SD
Old OD zones are clean*	15	20.0%	0.41
No new OD zones*	15	66.7%	0.49
At least one witness claims no OD in community	15	13.3%	0.35
Leader claims 100% of action plan achieved	15	0.0%	0.00
Community has OD regulations	15	33.3%	0.49
Institutions have latrines	7	57.1%	0.54
No visible feces soiling institutional latrines	7	57.1%	0.54
Total community score	**7**	**8.6**	**5.56**
Total institutional score	**15**	**18.4**	**10.36**
Total percentage score	**15**	**39.9**	**22.13**
Village meets ODF criteria (>82% score)	15	6.7%	0.26

**Most influential criteria (20 points or 0)*

Table 5b. Open Defecation Verification—Full Process Results

Criterion	n	Mean (met criterion)	SD
Old OD zones are clean*	5	20.0%	0.45
No new OD zones*	5	80.0%	0.45
Woman witness claims no OD in community	5	40.0%	0.55
Child witness claims no OD in community	5	40.0%	0.55
Community leader claims no OD in community	5	20.0%	0.45
75-100% households in village have latrine*	5	0.0%	0.00
No households have visible feces around latrine	5	20.0%	0.45
100% of household latrines are clean	5	20.0%	0.45
100% of household have handwashing station near toilet	5	20.0%	0.45
Leader claims 100% of action plan achieved	5	0.0%	0.00
Institutions have latrines	3	66.7%	0.58
No visible feces soiling institutional latrines	3	0.0%	0.00
Institutional latrines are covered	3	0.0%	0.00
Institutional latrines are clean	3	33.3%	0.58
Soap or ash available at institutional latrines	3	0.0%	0.00
Handwashing station available at institutional latrines	3	0.0%	0.00
Total percentage score	**5**	**35.25**	**30.77**
Village meets ODF criteria (>82% score)	**5**	**20%**	**0.45**

**Most influential criteria (20 points or 0)*

Table 5c. Open Defecation Free (ODF) Verification, by Commune and Region

Region	Commune	Verification process	Num. villages sampled	Num. still ODF	% villages still ODF
Anosy	BEHARA	Full	1	0	0%
Atsimo Atsinanana	IVANDRIKA	Partial	3	0	0%
	SOAMANOVA	Full	1	0	0%
	SOAMANOVA	Partial	3	0	0%
Atsinanana	AMBODIMOLAINA	Partial	1	0	0%
	ANIVORANO EST	Full	1	0	0%
	ANIVORANO EST	Partial	2	0	0%
	TSARASAMBO	Partial	3	1	33%
Vatovavy Fitovinany	ILAKATRA	Full	1	1	100%
	ILAKAKA	Partial	1	0	0%
	MANAKARA (510)	Full	1	0	0%
	MAROMIANDRA	Partial	1	0	0%
	MIASAMANDRA	Partial	1	0	0%
Total			**20**	**2**	

Table 6a. Key Demographic Outcomes by Region, Only Among Communes Affected by Recent UNICEF or GSF Interventions

		UNICEF/GSF: 2016 Follow-up				UNICEF/GSF: 2013 Endline				%	
		n**	mean	SE	95% CI	n**	mean	SE	95% CI	change	*
Female respondent	Vatovavy Fitovinany (GSF)	67	76.4%	0.06	[0.64, 0.89]	33	100%	-	-	-24%	-
	Atsimo Atsinanana (UNICEF)	44	82.2%	0.09	[0.63, 1.01]	52	100%	-	-	-18%	-
	Analanjirofo (UNICEF)	285	80.4%	0.04	[0.71, 0.90]	401	100%	-	-	-20%	-
	Anosy (UNICEF)	110	96.2%	0.01	[0.94, 0.99]	48	100%	-	-	-4%	-
	Total	**506**	**81.5%**	**0.04**	**[0.74, 0.89]**	**534**	**100%**	**-**	**-**	**-19%**	-
Respondent not married	Vatovavy Fitovinany (GSF)	67	26.2%	0.05	[0.16, 0.36]	33	30.3%	0.09	[0.11, 0.50]	-14%	-
	Atsimo Atsinanana (UNICEF)	44	26.8%	0.05	[0.16, 0.38]	52	25.0%	0.04	[0.16, 0.34]	7%	-
	Analanjirofo (UNICEF)	285	15.3%	0.02	[0.12, 0.19]	401	17.0%	0.02	[0.12, 0.22]	-10%	-
	Anosy (UNICEF)	110	29.7%	0.05	[0.20, 0.40]	48	16.7%	0.06	[0.04, 0.29]	78%	-
	Total	**506**	**18.3%**	**0.02**	**[0.15, 0.22]**	**534**	**18.5%**	**0.02**	**[0.14, 0.23]**	**-1%**	n.s.
Respondent cannot read	Vatovavy Fitovinany (GSF)	67	23.8%	0.01	[0.22, 0.26]	33	45.5%	0.08	[0.28, 0.63]	-48%	-
	Atsimo Atsinanana (UNICEF)	44	28.1%	0.1	[0.06, 0.50]	52	32.7%	0.15	[0.01, 0.64]	-14%	-
	Analanjirofo (UNICEF)	285	34.9%	0.04	[0.27, 0.43]	401	39.4%	0.05	[0.30, 0.49]	-11%	-
	Anosy (UNICEF)	110	58.2%	0.07	[0.43, 0.74]	48	68.8%	0.05	[0.59, 0.79]	-15%	-
	Total	**506**	**35.3%**	**0.03**	**[0.28, 0.42]**	**534**	**41.8%**	**0.04**	**[0.33, 0.51]**	**-16%**	n.s.
Household size	Vatovavy Fitovinany (GSF)	67	5.2	0.02	[5.12, 5.20]	33	5.3	0.25	[4.81, 5.86]	-3%	-
	Atsimo Atsinanana (UNICEF)	44	6.2	0.01	[6.14, 6.20]	52	6.5	0.39	[5.69, 7.31]	-5%	-
	Analanjirofo (UNICEF)	285	5.0	0.14	[4.74, 5.33]	401	5.1	0.13	[4.83, 5.36]	-1%	-
	Anosy (UNICEF)	110	6.5	0.21	[6.07, 6.92]	48	7.7	0.33	[7.04, 8.42]	-16%	-
	Total	**506**	**5.3**	**0.15**	**[4.96, 5.57]**	**534**	**5.5**	**0.2**	**[5.06, 5.90]**	**-4%**	n.s.
No adult men in HH	Vatovavy Fitovinany (GSF)	67	15.1%	0.04	[0.06, 0.24]	33	21.2%	0.07	[0.06, 0.36]	-29%	-
	Atsimo Atsinanana (UNICEF)	44	11.1%	0.03	[0.06, 0.17]	52	13.5%	0.02	[0.08, 0.19]	-18%	-
	Analanjirofo (UNICEF)	285	10.2%	0.01	[0.08, 0.12]	401	12.7%	0.02	[0.09, 0.16]	-20%	-
	Anosy (UNICEF)	110	25.9%	0.03	[0.19, 0.33]	48	16.7%	0.05	[0.06, 0.27]	55%	-
	Total	**506**	**11.9%**	**0.01**	**[0.10, 0.14]**	**534**	**13.7%**	**0.02**	**[0.11, 0.17]**	**-13%**	n.s.
Has children under 5	Vatovavy Fitovinany (GSF)	67	57.3%	0.02	[0.53, 0.61]	33	100%	-	-	-43%	-
	Atsimo Atsinanana (UNICEF)	44	59.9%	0.1	[0.38, 0.82]	52	100%	-	-	-40%	-
	Analanjirofo (UNICEF)	285	50.0%	0.02	[0.45, 0.55]	401	100%	-	-	-50%	-
	Anosy (UNICEF)	110	90.4%	0.02	[0.86, 0.94]	48	100%	-	-	-10%	-
	Total	**506**	**54.7%**	**0.03**	**[0.49, 0.61]**	**534**	**100%**	**-**	**-**	**-45%**	-

** Significant difference at p<0.05. N.S. = not significant. Significance not tested for regional disaggregations.*

Table 6b. Key Sanitation Outcomes by Region, Only Among Communes Affected by Recent UNICEF or GSF Interventions

		UNICEF/GSF: 2016 Follow-up				UNICEF/GSF: 2013 Endline				%	
		n	mean	SE	95% CI	n	mean	SE	95% CI	change	
3.6: HH uses latrine	Vatovavy Fitovinany (GSF)	67	27.7%	0.05	[0.17, 0.39]	33	84.8%	0.05	[0.74, 0.95]	-67%	-
	Atsimo Atsinanana (UNICEF)	44	60.7%	0.22	[0.15, 1.07]	52	73.1%	0.06	[0.60, 0.86]	-17%	-
	Analanjirofo (UNICEF)	285	98.7%	0.01	[0.97, 1.00]	401	74.6%	0.01	[0.72, 0.78]	32%	-
	Anosy (UNICEF)	110	99.3%	0.01	[0.98, 1.01]	48	77.1%	0.05	[0.66, 0.88]	29%	-
	Total	**506**	**90.0%**	**0.04**	**[0.81, 0.99]**	**534**	**75.3%**	**0.01**	**[0.72, 0.78]**	**20%**	*
3.8: HH uses private latrine	Vatovavy Fitovinany (GSF)	67	14.7%	0.08	[-0.02, 0.32]	33	48.5%	0.05	[0.38, 0.59]	-70%	-
	Atsimo Atsinanana (UNICEF)	44	19.8%	0.08	[0.04, 0.36]	52	38.5%	0.01	[0.36, 0.41]	-49%	-
	Analanjirofo (UNICEF)	285	72.5%	0.05	[0.62, 0.83]	401	37.9%	0.02	[0.34, 0.42]	91%	-
	Anosy (UNICEF)	110	76.8%	0.08	[0.61, 0.92]	48	52.1%	0.05	[0.41, 0.63]	47%	-
	Total	**506**	**63.7%**	**0.06**	**[0.52, 0.75]**	**534**	**39.9%**	**0.02**	**[0.36, 0.43]**	**60%**	*
3.10: HH uses shared latrine	Vatovavy Fitovinany (GSF)	67	13.0%	0.03	[0.07, 0.19]	33	30.3%	0.05	[0.20, 0.41]	-57%	-
	Atsimo Atsinanana (UNICEF)	44	40.9%	0.14	[0.11, 0.71]	52	34.6%	0.05	[0.24, 0.45]	18%	-
	Analanjirofo (UNICEF)	285	26.1%	0.05	[0.15, 0.37]	401	35.4%	0.02	[0.32, 0.39]	-26%	-
	Anosy (UNICEF)	110	22.5%	0.07	[0.08, 0.37]	48	25.0%	0.03	[0.19, 0.31]	-10%	-
	Total	**506**	**26.2%**	**0.05**	**[0.17, 0.36]**	**534**	**34.1%**	**0.01**	**[0.31, 0.37]**	**-23%**	n.s.
3.2: HH properly disposes children's excreta	Vatovavy Fitovinany (GSF)	67	5.3%	0.04	[-0.02, 0.13]	33	66.7%	0.11	[0.43, 0.90]	-92%	-
	Atsimo Atsinanana (UNICEF)	44	16.5%	0.07	[0.03, 0.30]	52	75.0%	0.01	[0.72, 0.78]	-78%	-
	Analanjirofo (UNICEF)	285	33.4%	0.04	[0.25, 0.41]	401	63.8%	0.02	[0.60, 0.68]	-48%	-
	Anosy (UNICEF)	110	56.0%	0.11	[0.34, 0.78]	48	66.7%	0.07	[0.53, 0.80]	-16%	-
	Total	**506**	**31.5%**	**0.04**	**[0.24, 0.39]**	**534**	**65.4%**	**0.02**	**[0.61, 0.69]**	**-52%**	*
3.9: HH uses latrine with walls and door (private or shared)	Vatovavy Fitovinany (GSF)	67	13.2%	0.05	[0.03, 0.24]	33	75.8%	0.07	[0.62, 0.89]	-83%	-
	Atsimo Atsinanana (UNICEF)	44	54.1%	0.2	[0.13, 0.95]	52	69.2%	0.07	[0.54, 0.85]	-22%	-
	Analanjirofo (UNICEF)	285	90.5%	0.03	[0.85, 0.96]	401	61.8%	0.03	[0.56, 0.67]	46%	-
	Anosy (UNICEF)	110	37.0%	0.18	[-0.01, 0.75]	48	64.6%	0.06	[0.52, 0.77]	-43%	-
	Total	**506**	**77.3%**	**0.06**	**[0.66, 0.89]**	**534**	**63.7%**	**0.02**	**[0.59, 0.69]**	**21%**	n.s.
3.12: HH uses latrine with no walls or roof (private or shared)	Vatovavy Fitovinany (GSF)	67	10.0%	0.01	[0.08, 0.12]	33	6.1%	0.02	[0.03, 0.10]	64%	-
	Atsimo Atsinanana (UNICEF)	44	3.3%	0.01	[0.01, 0.06]	52	1.9%	0.01	[0.00, 0.03]	74%	-
	Analanjirofo (UNICEF)	285	0.3%	0	[-0.00, 0.01]	401	3.0%	0.01	[0.01, 0.05]	-90%	-
	Anosy (UNICEF)	110	17.9%	0.08	[0.01, 0.35]	48	2.1%	0.02	[-0.02, 0.06]	752%	-
	Total	**506**	**2.7%**	**0.01**	**[0.00, 0.05]**	**534**	**3.0%**	**0.01**	**[0.02, 0.04]**	**-10%**	n.s.
3.1a: HH uses improved latrine with washable slab (observed in private or shared	Vatovavy Fitovinany (GSF)	67	2.4%	0.01	[-0.00, 0.05]	33	9.1%	0.03	[0.03, 0.15]	-74%	-
	Atsimo Atsinanana (UNICEF)	44	6.6%	0.03	[0.01, 0.12]	52	21.2%	0.05	[0.10, 0.32]	-69%	-
	Analanjirofo (UNICEF)	285	1.1%	0.01	[-0.00, 0.03]	401	6.2%	0.01	[0.03, 0.09]	-82%	-
	Anosy (UNICEF)	110	1.0%	0.01	[-0.01, 0.03]	48	4.2%	0.04	[-0.03, 0.12]	-76%	-
	Total	**506**	**1.7%**	**0.01**	**[0.00, 0.03]**	**534**	**7.7%**	**0.02**	**[0.04, 0.11]**	**-78%**	*
Women in HH typically defecate in the open	Vatovavy Fitovinany (GSF)	67	75.1%	0.04	[0.67, 0.84]	33	15.2%	0.05	[0.05, 0.26]	394%	-
	Atsimo Atsinanana (UNICEF)	44	39.3%	0.22	[-0.07, 0.85]	52	28.8%	0.05	[0.18, 0.40]	36%	-
	Analanjirofo (UNICEF)	285	0.5%	0	[-0.00, 0.01]	401	25.4%	0.02	[0.22, 0.29]	-98%	-
	Anosy (UNICEF)	110	0.7%	0.01	[-0.01, 0.02]	48	22.9%	0.05	[0.12, 0.34]	-97%	-
	Total	**506**	**9.6%**	**0.04**	**[0.00, 0.19]**	**534**	**24.9%**	**0.01**	**[0.22, 0.28]**	**-61%**	*
Men in HH typically defecate in the open	Vatovavy Fitovinany (GSF)	67	75.1%	0.04	[0.67, 0.84]	33	15.2%	0.05	[0.05, 0.26]	394%	-
	Atsimo Atsinanana (UNICEF)	44	39.3%	0.22	[-0.07, 0.85]	52	28.8%	0.05	[0.18, 0.40]	36%	-
	Analanjirofo (UNICEF)	285	0.8%	0.01	[-0.00, 0.02]	401	25.9%	0.01	[0.23, 0.29]	-97%	-
	Anosy (UNICEF)	110	0.7%	0.01	[-0.01, 0.02]	48	22.9%	0.05	[0.12, 0.34]	-97%	-
	Total	**506**	**9.8%**	**0.04**	**[0.01, 0.19]**	**534**	**25.3%**	**0.01**	**[0.22, 0.28]**	**-61%**	*

** Significant difference at p<0.05. N.S. = not significant. Significance not tested for regional disaggregations.*

*** Commune distribution was as follows:*

RANO-HP only: Vatovavy Fitovinany (5 communes); Atsimo Atsinanana (4 communes); Atsinanana (5 communes); Anosy (1 commune)

UNICEF/GSF: Vatovavy Fitovinanay (2 communes); Atsimo Atsinanana (2 communes); Analanjirofo (4 communes); Anosy (2 communes)

Table 6c. Key Hygiene Outcomes by Region, Only Among Communes Affected by Recent UNICEF or GSF Interventions

		UNICEF/GSF: 2016 Follow-up				UNICEF/GSF: 2013 Endline				%	
		n	mean	SE	95% CI	n	mean	SE	95% CI	change	
3.13: Respondents who practice handwashing at key times	Vatovavy Fitovinany (GSF)	67	1.0%	0.01	[-0.01, 0.03]	33	9.1%	0.03	[0.03, 0.15]	-89%	-
	Atsimo Atsinanana (UNICEF)	44	13.2%	0.05	[0.02, 0.24]	52	26.9%	0.1	[0.05, 0.49]	-51%	-
	Analanjirofo (UNICEF)	285	3.0%	0.01	[0.00, 0.06]	401	9.0%	0.02	[0.05, 0.13]	-67%	-
	Anosy (UNICEF)	110	2.0%	0.01	[-0.00, 0.04]	48	18.8%	0.04	[0.11, 0.26]	-89%	-
	Total	**506**	**3.7%**	**0.01**	**[0.01, 0.07]**	**534**	**11.6%**	**0.02**	**[0.06, 0.17]**	**-68%**	n.s.
3.14: Respondents capable of citing 3 WASH messages	Vatovavy Fitovinany (GSF)	67	19.2%	0.04	[0.10, 0.28]	33	63.6%	0.08	[0.47, 0.80]	-70%	-
	Atsimo Atsinanana (UNICEF)	44	58.7%	0.05	[0.48, 0.69]	52	59.6%	0.09	[0.40, 0.79]	-2%	-
	Analanjirofo (UNICEF)	285	24.0%	0.04	[0.16, 0.32]	401	60.8%	0.04	[0.53, 0.68]	-61%	-
	Anosy (UNICEF)	110	33.2%	0.03	[0.27, 0.40]	48	66.7%	0.06	[0.55, 0.79]	-50%	-
	Total	**506**	**27.6%**	**0.04**	**[0.19, 0.36]**	**534**	**61.4%**	**0.03**	**[0.55, 0.67]**	**-55%**	*
3.11: HH has soap and water near latrine	Vatovavy Fitovinany (GSF)	67	1.0%	0.01	[-0.01, 0.03]	33	9.1%	0.04	[0.01, 0.17]	-89%	-
	Atsimo Atsinanana (UNICEF)	44	3.3%	0.01	[0.01, 0.06]	52	26.9%	0.02	[0.22, 0.31]	-88%	-
	Analanjirofo (UNICEF)	285	21.9%	0.06	[0.09, 0.35]	401	6.7%	0.01	[0.04, 0.09]	227%	-
	Anosy (UNICEF)	110	30.3%	0.09	[0.13, 0.48]	48	14.6%	0.06	[0.02, 0.28]	108%	-
	Total	**506**	**19.3%**	**0.05**	**[0.09, 0.30]**	**534**	**9.6%**	**0.02**	**[0.06, 0.14]**	**101%**	n.s.
3.5: HH practices safe storage	Vatovavy Fitovinany (GSF)	67	4.5%	0	[0.04, 0.05]	33	0.0%	0	[0.00, 0.00]	-100%	-
	Atsimo Atsinanana (UNICEF)	44	37.6%	0.13	[0.10, 0.65]	52	30.8%	0.09	[0.12, 0.50]	22%	-
	Analanjirofo (UNICEF)	285	11.7%	0.03	[0.05, 0.19]	401	6.2%	0.02	[0.03, 0.10]	89%	-
	Anosy (UNICEF)	110	54.9%	0.09	[0.37, 0.73]	48	22.9%	0.06	[0.10, 0.35]	140%	-
	Total	**506**	**17.0%**	**0.04**	**[0.09, 0.25]**	**534**	**9.7%**	**0.03**	**[0.04, 0.15]**	**75%**	n.s.
3.16: HH has soap	Vatovavy Fitovinany (GSF)	67	83.1%	0.01	[0.81, 0.85]	33	100.0%	0	[1.00, 1.00]	-17%	-
	Atsimo Atsinanana (UNICEF)	44	92.5%	0.08	[0.76, 1.09]	52	96.2%	0.01	[0.93, 0.99]	-4%	-
	Analanjirofo (UNICEF)	285	91.9%	0.01	[0.89, 0.95]	401	95.5%	0.02	[0.91, 1.00]	-4%	-
	Anosy (UNICEF)	110	39.1%	0.04	[0.31, 0.47]	48	91.7%	0.03	[0.85, 0.99]	-57%	-
	Total	**506**	**87.1%**	**0.03**	**[0.82, 0.93]**	**534**	**95.5%**	**0.02**	**[0.92, 0.99]**	**-9%**	n.s.

** Significant difference at p<0.05. N.S. = not significant. Significance not tested for regional disaggregations.*

*** Commune distribution was as follows:*

RANO-HP only: Vatovavy Fitovinany (5 communes); Atsimo Atsinanana (4 communes); Atsinanana (5 communes); Anosy (1 commune)

UNICEF/GSF: Vatovavy Fitovinanay (2 communes); Atsimo Atsinanana (2 communes); Analanjirofo (4 communes); Anosy (2 communes)

Table 6d. Key Water Outcomes by Region, Only Among Communes Affected by Recent UNICEF or GSF Interventions

		UNICEF/GSF: 2016 Follow-up				UNICEF/GSF: 2013 Endline				%	
		n	mean	SE	95% CI	n	mean	SE	95% CI	change	
2.10: HH treats drinking water, every day for all	Vatovavy Fitovinany (GSF)	67	64.0%	0.08	[0.48, 0.80]	33	63.6%	0.02	[0.60, 0.68]	1%	-
	Atsimo Atsinanana (UNICEF)	44	13.2%	0.05	[0.02, 0.24]	52	38.5%	0.09	[0.19, 0.58]	-66%	-
	Analanjirofo (UNICEF)	285	63.9%	0.08	[0.48, 0.80]	401	90.3%	0.03	[0.83, 0.97]	-29%	-
	Anosy (UNICEF)	110	61.5%	0.08	[0.45, 0.78]	48	62.5%	0.09	[0.44, 0.81]	-2%	-
	Total	**506**	**59.0%**	**0.07**	**[0.45, 0.73]**	**534**	**81.1%**	**0.05**	**[0.71, 0.91]**	**-27%**	n.s.
4.2: Time to fetch water (minutes, round trip)	Vatovavy Fitovinany (GSF)	67	9.2	1.31	[6.52, 11.94]	33	9.3	0.53	[8.18, 10.37]	0%	-
	Atsimo Atsinanana (UNICEF)	44	13.1	3.29	[6.31, 19.96]	52	15.6	3.74	[7.83, 23.36]	-16%	-
	Analanjirofo (UNICEF)	285	12.7	1.42	[9.77, 15.66]	401	11.2	1.09	[8.91, 13.42]	14%	-
	Anosy (UNICEF)	110	151.8	62.88	[21.43, 282.22]	48	109.6	25.95	[55.77, 163.39]	39%	-
	Total	**506**	**23.5**	**7.4**	**[8.20, 38.89]**	**534**	**20.3**	**4.91**	**[10.14, 30.52]**	**16%**	n.s.
2.2: # liters water used per capita daily	Vatovavy Fitovinany (GSF)	67	18.5	0.19	[18.12, 18.92]	33	16.7	0.6	[15.44, 17.92]	11%	-
	Atsimo Atsinanana (UNICEF)	44	19.8	3.91	[11.67, 27.89]	52	15.8	1.41	[12.91, 18.76]	25%	-
	Analanjirofo (UNICEF)	285	24.0	1.57	[20.71, 27.22]	401	18.8	0.22	[18.37, 19.28]	27%	-
	Anosy (UNICEF)	110	10.2	1.74	[6.62, 13.83]	48	16.5	0.78	[14.87, 18.11]	-38%	-
	Total	**506**	**22.1**	**1.44**	**[19.08, 25.03]**	**534**	**18.2**	**0.34**	**[17.50, 18.92]**	**21%**	*
2.5a: HH has access to improved drinking water (main or secondary source)	Vatovavy Fitovinany (GSF)	67	0.0%	0	[0.00, 0.00]	33	36.4%	0.1	[0.16, 0.57]	-100%	-
	Atsimo Atsinanana (UNICEF)	44	72.6%	0.29	[0.13, 1.32]	52	40.4%	0.16	[0.08, 0.73]	80%	-
	Analanjirofo (UNICEF)	285	19.7%	0.12	[-0.05, 0.44]	401	1.0%	0.01	[-0.01, 0.03]	1870%	-
	Anosy (UNICEF)	110	22.7%	0.2	[-0.19, 0.65]	48	2.1%	0.02	[-0.02, 0.06]	981%	-
	Total	**506**	**23.4%**	**0.1**	**[0.02, 0.45]**	**534**	**7.1%**	**0.04**	**[-0.02, 0.16]**	**230%**	n.s.

** Significant difference at p<0.05. N.S. = not significant. Significance not tested for regional disaggregations.*

*** Commune distribution was as follows:*

RANO-HP only: Vatovavy Fitovinany (5 communes); Atsimo Atsinanana (4 communes); Atsinanana (5 communes); Anosy (1 commune)

UNICEF/GSF: Vatovavy Fitovinanay (2 communes); Atsimo Atsinanana (2 communes); Analanjirofo (4 communes); Anosy (2 communes)

Table 6e. Latrine Use, Maintenance, WASH Aspirations, Only Among Communes Affected by Recent UNICEF or GSF Interventions

Region		UNICEF/GSF: 2016 Follow-up		
		mean	SE	95% CI
Latrine usage and maintenance				
Women in HH typically defecate in latrine	Vatovavy Fitovinany	24.9%	0.04	[0.16, 0.33]
	Atsimo Atsinanana	60.7%	0.22	[0.15, 1.07]
	Analanjirofo	99.0%	0.01	[0.98, 1.00]
	Anosy	99.3%	0.01	[0.98, 1.01]
	Total	**90.1%**	**0.04**	**[0.81, 0.99]**
Men in HH typically defecate in latrine	Vatovavy Fitovinany	24.9%	0.04	[0.16, 0.33]
	Atsimo Atsinanana	57.4%	0.21	[0.14, 1.01]
	Analanjirofo	95.1%	0.01	[0.92, 0.98]
	Anosy	94.1%	0.03	[0.88, 1.01]
	Total	**86.4%**	**0.04**	**[0.77, 0.95]**
Constructed latrine in past 2 years	Vatovavy Fitovinany	4.5%	0	[0.04, 0.05]
	Atsimo Atsinanana	33.0%	0.13	[0.06, 0.60]
	Analanjirofo	42.6%	0.06	[0.30, 0.55]
	Anosy	30.8%	0.02	[0.26, 0.36]
	Total	**38.0%**	**0.05**	**[0.28, 0.48]**
Private latrine was built after 2013	Vatovavy Fitovinany	42.9%	0.06	[0.31, 0.55]
	Atsimo Atsinanana	66.7%	0	[0.67, 0.67]
	Analanjirofo	49.3%	0.08	[0.32, 0.67]
	Anosy	42.7%	0.05	[0.32, 0.53]
	Total	**49.1%**	**0.07**	**[0.34, 0.64]**
Response to filled latrine pit:				
Built new latrine	Vatovavy Fitovinany	26.4%	0.06	[0.13, 0.39]
	Atsimo Atsinanana	21.8%	0.01	[0.20, 0.23]
	Analanjirofo	24.5%	0.04	[0.16, 0.33]
	Anosy	32.5%	0.09	[0.13, 0.52]
	Total	**25.1%**	**0.04**	**[0.18, 0.33]**
Evacuated latrine pit	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	0.2%	0	[-0.00, 0.00]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**0.1%**	**0**	**[-0.00, 0.00]**

Response to filled latrine pit:				
Stopped using latrine	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	4.3%	0.03	[-0.01, 0.10]
	Anosy	2.0%	0.02	[-0.02, 0.06]
	Total	**3.7%**	**0.02**	**[-0.01, 0.08]**
Latrine improvements in past 2 years:				
Any improvement in past 2 years	Vatovavy Fitovinany	13.9%	0.09	[-0.05, 0.33]
	Atsimo Atsinanana	46.7%	0.03	[0.40, 0.53]
	Analanjirofo	42.3%	0.06	[0.30, 0.55]
	Anosy	25.1%	0.07	[0.10, 0.40]
	Total	**40.0%**	**0.05**	**[0.29, 0.51]**
Slab	Vatovavy Fitovinany	2.8%	0.02	[-0.02, 0.08]
	Atsimo Atsinanana	5.1%	0.07	[-0.09, 0.20]
	Analanjirofo	6.4%	0.02	[0.02, 0.10]
	Anosy	12.5%	0.05	[0.02, 0.23]
	Total	**6.7%**	**0.02**	**[0.03, 0.10]**
Superstructure (walls, roof)	Vatovavy Fitovinany	3.7%	0.03	[-0.03, 0.11]
	Atsimo Atsinanana	36.0%	0.04	[0.28, 0.44]
	Analanjirofo	31.2%	0.05	[0.21, 0.42]
	Anosy	13.0%	0.04	[0.05, 0.21]
	Total	**28.8%**	**0.04**	**[0.20, 0.38]**
Hired skilled labor to construct latrine (among those who constructed latrine in past 2 years)	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	90.0%	0	[0.90, 0.90]
	Analanjirofo	29.1%	0.09	[0.11, 0.47]
	Anosy	28.1%	0.12	[0.03, 0.53]
	Total	**33.7%**	**0.09**	**[0.16, 0.51]**
WASH aspirations, barriers				
HH was unable to enact desired improvements in past 2 years:				
Any WASH improvement	Vatovavy Fitovinany	8.2%	0.04	[0.01, 0.16]
	Atsimo Atsinanana	38.9%	0.03	[0.33, 0.44]
	Analanjirofo	24.0%	0.05	[0.13, 0.35]
	Anosy	29.6%	0.05	[0.20, 0.39]
	Total	**24.7%**	**0.04**	**[0.16, 0.33]**

WASH aspirations, barriers				
HH was unable to enact desired improvements in past 2 years:				
Sanitation improvement	Vatovavy Fitovinany	8.2%	0.04	[0.01, 0.16]
	Atsimo Atsinanana	23.2%	0.05	[0.12, 0.34]
	Analanjirofo	17.0%	0.04	[0.09, 0.25]
	Anosy	27.1%	0.04	[0.19, 0.35]
	Total	**17.7%**	**0.03**	**[0.11, 0.24]**
Hygiene facilities	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	13.2%	0.05	[0.02, 0.24]
	Analanjirofo	3.0%	0.02	[-0.01, 0.07]
	Anosy	2.7%	0.02	[-0.01, 0.07]
	Total	**3.7%**	**0.02**	**[-0.00, 0.08]**
Main barrier to enacting desired WASH improvements:				
Lack of money	Vatovavy Fitovinany	100.0%	0	[1.00, 1.00]
	Atsimo Atsinanana	56.4%	0.06	[0.43, 0.70]
	Analanjirofo	82.8%	0.08	[0.65, 1.00]
	Anosy	100.0%	0	[1.00, 1.00]
	Total	**81.0%**	**0.07**	**[0.66, 0.96]**
Lack of knowledge	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	1.6%	0.01	[-0.01, 0.05]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**1.2%**	**0.01**	**[-0.01, 0.04]**
Lack of materials	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	34.0%	0.16	[0.01, 0.67]
	Analanjirofo	11.4%	0.06	[-0.01, 0.24]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**13.3%**	**0.06**	**[0.01, 0.26]**
Lack of help	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	9.6%	0.09	[-0.10, 0.29]
	Analanjirofo	3.7%	0.03	[-0.03, 0.10]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**4.1%**	**0.03**	**[-0.01, 0.10]**
Main challenge preventing latrine construction (among those without a latrine)				
Not aware of techniques to build latrine	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	11.9%	0.05	[0.01, 0.23]
	Analanjirofo	4.8%	0.03	[-0.01, 0.10]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**5.2%**	**0.02**	**[0.01, 0.09]**

Main challenge preventing latrine construction (among those without a latrine)				
Not aware of techniques to build latrine	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	11.9%	0.05	[0.01, 0.23]
	Analanjirofo	4.8%	0.03	[-0.01, 0.10]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**5.2%**	**0.02**	**[0.01, 0.09]**
No space to build	Vatovavy Fitovinany	10.6%	0.07	[-0.03, 0.24]
	Atsimo Atsinanana	59.2%	0.27	[0.03, 1.15]
	Analanjirofo	43.6%	0.07	[0.29, 0.59]
	Anosy	29.1%	0.05	[0.19, 0.39]
	Total	**40.4%**	**0.09**	**[0.22, 0.59]**
Kind of land impossible to dig a hole	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	1.6%	0.01	[-0.02, 0.05]
	Analanjirofo	4.1%	0.03	[-0.01, 0.09]
	Anosy	34.4%	0.08	[0.17, 0.52]
	Total	**4.4%**	**0.02**	**[0.00, 0.08]**
Shallow water table	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	5.1%	0.05	[-0.04, 0.15]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**2.9%**	**0.03**	**[-0.03, 0.09]**
No skilled technicians available (mason, hole digging)	Vatovavy Fitovinany	2.4%	0.01	[-0.01, 0.05]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	0.8%	0.01	[-0.01, 0.03]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**0.9%**	**0.01**	**[-0.00, 0.02]**
Difficult to find the materials for digging	Vatovavy Fitovinany	6.5%	0.02	[0.03, 0.10]
	Atsimo Atsinanana	1.6%	0.01	[-0.02, 0.05]
	Analanjirofo	8.8%	0.05	[-0.01, 0.19]
	Anosy	17.8%	0.07	[0.04, 0.31]
	Total	**7.4%**	**0.03**	**[0.01, 0.14]**
Difficult to save money for latrine building	Vatovavy Fitovinany	62.4%	0.06	[0.50, 0.74]
	Atsimo Atsinanana	47.5%	0.21	[0.03, 0.92]
	Analanjirofo	30.7%	0.11	[0.07, 0.54]
	Anosy	40.0%	0.09	[0.22, 0.58]
	Total	**40.0%**	**0.08**	**[0.23, 0.57]**

Main challenge preventing latrine construction (among those without a latrine)				
Satisfied with public latrines	Vatovavy Fitovinany	1.2%	0.01	[-0.01, 0.04]
	Atsimo Atsinanana	5.7%	0.01	[0.05, 0.07]
	Analanjirofo	2.1%	0.02	[-0.01, 0.06]
	Anosy	14.0%	0.04	[0.05, 0.23]
	Total	**3.3%**	**0.01**	**[0.01, 0.06]**
Problems related to authorization permit	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	0.0%	0	[0.00, 0.00]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**0.0%**	**0**	**[0.00, 0.00]**
Taboo	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	0.0%	0	[0.00, 0.00]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**0.0%**	**0**	**[0.00, 0.00]**
Not common	Vatovavy Fitovinany	23.8%	0.02	[0.20, 0.28]
	Atsimo Atsinanana	20.2%	0.19	[-0.20, 0.60]
	Analanjirofo	2.5%	0.02	[-0.01, 0.06]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**9.6%**	**0.05**	**[-0.00, 0.19]**
Other	Vatovavy Fitovinany	10.8%	0.05	[0.00, 0.21]
	Atsimo Atsinanana	4.1%	0.02	[-0.00, 0.08]
	Analanjirofo	26.5%	0.06	[0.15, 0.38]
	Anosy	0.0%	0	[0.00, 0.00]
	Total	**18.0%**	**0.04**	**[0.10, 0.26]**

Table 6f. VSLA Practices, Only Among Communes Affected by Recent UNICEF or GSF Interventions

	Region	2016 Follow-up		
		mean	SE	95% CI
Respondent has been member of VSLA	Vatovavy Fitovinany	14.5%	0.01	[0.12, 0.17]
	Atsimo Atsinanana	33.0%	0.13	[0.06, 0.60]
	Analanjirofo	14.7%	0.06	[0.03, 0.27]
	Anosy	36.6%	0.15	[0.05, 0.68]
	Total	**18.1%**	**0.05**	**[0.08, 0.28]**
VSLA members borrowed money for WASH-related things in past two years	Vatovavy Fitovinany	25.6%	0.08	[0.09, 0.42]
	Atsimo Atsinanana	20.0%	0	[0.20, 0.20]
	Analanjirofo	5.4%	0.04	[-0.04, 0.15]
	Anosy	44.1%	0.04	[0.35, 0.53]
	Total	**14.9%**	**0.05**	**[0.04, 0.26]**
VSLA members borrowed money for latrine construction/improvement in past two	Vatovavy Fitovinany	25.6%	0.08	[0.09, 0.42]
	Atsimo Atsinanana	20.0%	0	[0.20, 0.20]
	Analanjirofo	5.1%	0.04	[-0.04, 0.15]
	Anosy	43.6%	0.05	[0.34, 0.54]
	Total	**14.4%**	**0.05**	**[0.03, 0.25]**
VSLA members borrowed money for handwashing facility in past two years	Vatovavy Fitovinany	0.0%	0	[0.00, 0.00]
	Atsimo Atsinanana	0.0%	0	[0.00, 0.00]
	Analanjirofo	0.0%	0	[0.00, 0.00]
	Anosy	3.4%	0.03	[-0.02, 0.09]
	Total	**0.5%**	**0.01**	**[-0.01, 0.02]**

Table 7a. Comparison of Key Sanitation Outcomes in RANO-HP Areas with Those Later Targeted by Other Donors

Outcome	Region	RANO-HP communes only:								UNICEF/GSF communes:							
		2016 Follow-up			2013 Endline			% change from 2013		2016 Follow-up			2013 Endline			% change from 2013	
		n**	mean	95% CI	n**	mean	95% CI			n**	mean	95% CI	n**	mean	95% CI		
3.6: HH uses latrine	Vatovavy Fitovinany	263	42.5%	[0.26, 0.59]	144	72.2%	[0.66, 0.78]	-41%	-	67	27.7%	[0.17, 0.39]	33	84.8%	[0.74, 0.95]	-67%	-
	Atsimo Atsinanana	168	17.5%	[0.02, 0.33]	175	60.6%	[0.47, 0.74]	-71%	-	44	60.7%	[0.15, 1.07]	52	73.1%	[0.60, 0.86]	-17%	-
	Atsinanana	191	66.2%	[0.47, 0.85]	175	74.9%	[0.66, 0.84]	-12%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	98.7%	[0.97, 1.00]	401	74.6%	[0.72, 0.78]	32%	-
	Anosy	66	42.3%	[0.27, 0.58]	65	69.2%	[0.58, 0.81]	-39%	-	110	99.3%	[0.98, 1.01]	48	77.1%	[0.66, 0.88]	29%	-
	Total	**688**	**45.3%**	**[0.32, 0.59]**	**559**	**69.1%**	**[0.63, 0.75]**	**-34%**	*	**506**	**90.0%**	**[0.81, 0.99]**	**534**	**75.3%**	**[0.72, 0.78]**	**20%**	*
3.8: HH uses private latrine	Vatovavy Fitovinany	263	17.0%	[0.08, 0.26]	144	32.6%	[0.23, 0.42]	-48%	-	67	14.7%	[-0.02, 0.32]	33	48.5%	[0.38, 0.59]	-70%	-
	Atsimo Atsinanana	168	11.4%	[-0.01, 0.24]	175	28.6%	[0.19, 0.38]	-60%	-	44	19.8%	[0.04, 0.36]	52	38.5%	[0.36, 0.41]	-49%	-
	Atsinanana	191	31.6%	[0.20, 0.43]	175	45.7%	[0.38, 0.53]	-31%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	72.5%	[0.62, 0.83]	401	37.9%	[0.34, 0.42]	91%	-
	Anosy	66	18.2%	[0.10, 0.27]	65	41.5%	[0.37, 0.46]	-56%	-	110	76.8%	[0.61, 0.92]	48	52.1%	[0.41, 0.63]	47%	-
	Total	**688**	**21.2%**	**[0.14, 0.29]**	**559**	**36.5%**	**[0.31, 0.42]**	**-42%**	*	**506**	**63.7%**	**[0.52, 0.75]**	**534**	**39.9%**	**[0.36, 0.43]**	**60%**	*
3.10: HH uses shared latrine	Vatovavy Fitovinany	263	24.8%	[0.15, 0.35]	144	38.2%	[0.29, 0.47]	-35%	-	67	13.0%	[0.07, 0.19]	33	30.3%	[0.20, 0.41]	-57%	-
	Atsimo Atsinanana	168	5.2%	[0.01, 0.10]	175	30.9%	[0.23, 0.39]	-83%	-	44	40.9%	[0.11, 0.71]	52	34.6%	[0.24, 0.45]	18%	-
	Atsinanana	191	34.1%	[0.24, 0.44]	175	27.4%	[0.20, 0.35]	24%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	26.1%	[0.15, 0.37]	401	35.4%	[0.32, 0.39]	-26%	-
	Anosy	66	24.0%	[0.15, 0.33]	65	26.2%	[0.16, 0.36]	-8%	-	110	22.5%	[0.08, 0.37]	48	25.0%	[0.19, 0.31]	-10%	-
	Total	**688**	**23.5%**	**[0.16, 0.31]**	**559**	**31.1%**	**[0.27, 0.36]**	**-24%**	n.s.	**506**	**26.2%**	**[0.17, 0.36]**	**534**	**34.1%**	**[0.31, 0.37]**	**-23%**	n.s.
3.2: HH properly disposes children's excreta	Vatovavy Fitovinany	263	7.6%	[0.02, 0.13]	144	57.6%	[0.50, 0.65]	-87%	-	67	5.3%	[-0.02, 0.13]	33	66.7%	[0.43, 0.90]	-92%	-
	Atsimo Atsinanana	168	5.8%	[0.00, 0.11]	175	59.4%	[0.49, 0.69]	-90%	-	44	16.5%	[0.03, 0.30]	52	75.0%	[0.72, 0.78]	-78%	-
	Atsinanana	191	11.2%	[0.05, 0.18]	175	71.4%	[0.66, 0.76]	-84%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	33.4%	[0.25, 0.41]	401	63.8%	[0.60, 0.68]	-48%	-
	Anosy	66	9.3%	[0.09, 0.10]	65	72.3%	[0.67, 0.78]	-87%	-	110	56.0%	[0.34, 0.78]	48	66.7%	[0.53, 0.80]	-16%	-
	Total	**688**	**8.7%**	**[0.05, 0.12]**	**559**	**64.2%**	**[0.59, 0.69]**	**-86%**	*	**506**	**31.5%**	**[0.24, 0.39]**	**534**	**65.4%**	**[0.61, 0.69]**	**-52%**	*
Women in HH typically defecate in the open	Vatovavy Fitovinany	263	55.4%	[0.37, 0.73]	144	29.9%	[0.23, 0.37]	85%	-	67	75.1%	[0.67, 0.84]	33	15.2%	[0.05, 0.26]	394%	-
	Atsimo Atsinanana	168	82.5%	[0.67, 0.98]	175	40.0%	[0.26, 0.54]	106%	-	44	39.3%	[-0.07, 0.85]	52	28.8%	[0.18, 0.40]	36%	-
	Atsinanana	191	31.3%	[0.10, 0.52]	175	25.1%	[0.16, 0.34]	25%		285	0.5%	[-0.00, 0.01]	401	25.4%	[0.22, 0.29]	-98%	-
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Anosy	66	58.5%	[0.42, 0.75]	65	30.8%	[0.19, 0.42]	90%	-	110	0.7%	[-0.01, 0.02]	48	22.9%	[0.12, 0.34]	-97%	-
	Total	**688**	**53.2%**	**[0.39, 0.68]**	**559**	**31.7%**	**[0.25, 0.38]**	**68%**	*	**506**	**9.6%**	**[0.00, 0.19]**	**534**	**24.9%**	**[0.22, 0.28]**	**-61%**	*
Men in HH typically defecate in the open	Vatovavy Fitovinany	263	52.6%	[0.36, 0.70]	144	28.5%	[0.22, 0.35]	85%	-	67	75.1%	[0.67, 0.84]	33	15.2%	[0.05, 0.26]	394%	-
	Atsimo Atsinanana	168	82.1%	[0.66, 0.98]	175	41.1%	[0.28, 0.54]	100%	-	44	39.3%	[-0.07, 0.85]	52	28.8%	[0.18, 0.40]	36%	-
	Atsinanana	191	28.5%	[0.09, 0.48]	175	25.1%	[0.16, 0.34]	14%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	0.8%	[-0.00, 0.02]	401	25.9%	[0.23, 0.29]	-97%	-
	Anosy	66	58.5%	[0.42, 0.75]	65	30.8%	[0.19, 0.42]	90%	-	110	0.7%	[-0.01, 0.02]	48	22.9%	[0.12, 0.34]	-97%	-
	Total	**688**	**51.2%**	**[0.37, 0.65]**	**559**	**31.7%**	**[0.25, 0.38]**	**62%**	n.s.	**506**	**9.8%**	**[0.01, 0.19]**	**534**	**25.3%**	**[0.22, 0.28]**	**-61%**	*

** Significant difference at p<0.05. N.S. = not significant. Significance not tested for*

*** Commune distribution was as follows:*

RANO-HP only: Vatovavy Fitovinany (5 communes); Atsimo Atsinanana (4 communes); Atsinanana (5 communes); Anosy (1 commune)

UNICEF/GSF: Vatovavy Fitovinanay (2 communes); Atsimo Atsinanana (2 communes); Analanjirofo (4 communes); Anosy (2 communes)

Table 7b. Comparison of Key Hygiene and Water Outcomes in RANO-HP Areas With Those Later Targeted by Other Donors

Outcome	Region	RANO-HP communes only:								UNICEF/GSF communes:							
		2016 Follow-up			2013 Endline			% change from 2013		2016 Follow-up			2013 Endline			% change from 2013	
		n**	mean	95% CI	n**	mean	95% CI			n**	mean	95% CI	n**	mean	95% CI		
3.13: Respondents who practice handwashing at key times	Vatovavy Fitovinany	263	0.8%	[-0.00, 0.02]	144	9.7%	[0.04, 0.16]	-92%	-	67	1.0%	[-0.01, 0.03]	33	9.1%	[0.03, 0.15]	-89%	-
	Atsimo Atsinanana	168	1.1%	[-0.01, 0.03]	175	7.4%	[0.02, 0.13]	-85%	-	44	13.2%	[0.02, 0.24]	52	26.9%	[0.05, 0.49]	-51%	-
	Atsinanana	191	1.6%	[-0.00, 0.03]	175	10.9%	[0.05, 0.17]	-85%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	3.0%	[0.00, 0.06]	401	9.0%	[0.05, 0.13]	-67%	-
	Anosy	66	0.0%	[0.00, 0.00]	65	12.3%	[0.08, 0.17]	-100%	-	110	2.0%	[-0.00, 0.04]	48	18.8%	[0.11, 0.26]	-89%	-
	Total	**688**	**1.1%**	**[0.00, 0.02]**	**559**	**9.7%**	**[0.06, 0.13]**	**-89%**	*	**506**	**3.7%**	**[0.01, 0.07]**	**534**	**11.6%**	**[0.06, 0.17]**	**-68%**	n.s.
3.11: HH has soap and water near latrine	Vatovavy Fitovinany	263	0.0%	[0.00, 0.00]	144	6.3%	[0.02, 0.11]	-100%	-	67	1.0%	[-0.01, 0.03]	33	9.1%	[0.01, 0.17]	-89%	-
	Atsimo Atsinanana	168	0.0%	[0.00, 0.00]	175	5.1%	[0.02, 0.08]	-100%	-	44	3.3%	[0.01, 0.06]	52	26.9%	[0.22, 0.31]	-88%	-
	Atsinanana	191	4.3%	[-0.01, 0.09]	175	9.7%	[0.06, 0.14]	-56%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	21.9%	[0.09, 0.35]	401	6.7%	[0.04, 0.09]	227%	-
	Anosy	66	3.9%	[0.02, 0.06]	65	12.3%	[0.01, 0.23]	-68%	-	110	30.3%	[0.13, 0.48]	48	14.6%	[0.02, 0.28]	108%	-
	Total	**688**	**2.0%**	**[-0.00, 0.04]**	**559**	**7.7%**	**[0.05, 0.10]**	**-74%**	*	**506**	**19.3%**	**[0.09, 0.30]**	**534**	**9.6%**	**[0.06, 0.14]**	**101%**	n.s.
3.5: HH practices safe storage	Vatovavy Fitovinany	263	26.9%	[0.13, 0.41]	144	8.3%	[0.03, 0.14]	224%	-	67	4.5%	[0.04, 0.05]	33	0.0%	[0.00, 0.00]	-	-
	Atsimo Atsinanana	168	9.4%	[0.06, 0.13]	175	2.9%	[-0.01, 0.07]	224%	-	44	37.6%	[0.10, 0.65]	52	30.8%	[0.12, 0.50]	22%	-
	Atsinanana	191	32.3%	[0.14, 0.50]	175	8.6%	[-0.03, 0.21]	276%		285	11.7%	[0.05, 0.19]	401	6.2%	[0.03, 0.10]	89%	-
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Anosy	66	34.4%	[0.33, 0.36]	65	33.8%	[0.30, 0.38]	2%	-	110	54.9%	[0.37, 0.73]	48	22.9%	[0.10, 0.35]	140%	-
	Total	**688**	**25.4%**	**[0.16, 0.35]**	**559**	**9.7%**	**[0.04, 0.16]**	**162%**	n.s.	**506**	**17.0%**	**[0.09, 0.25]**	**534**	**9.7%**	**[0.04, 0.15]**	**75%**	n.s.
2.10: HH treats drinking water, every day for all	Vatovavy Fitovinany	263	24.5%	[0.08, 0.41]	144	32.6%	[0.22, 0.44]	-25%	-	67	64.0%	[0.48, 0.80]	33	63.6%	[0.60, 0.68]	1%	-
	Atsimo Atsinanana	168	44.0%	[0.34, 0.53]	175	42.3%	[0.27, 0.58]	4%	-	44	13.2%	[0.02, 0.24]	52	38.5%	[0.19, 0.58]	-66%	-
	Atsinanana	191	50.8%	[0.37, 0.65]	175	69.7%	[0.58, 0.82]	-27%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	63.9%	[0.48, 0.80]	401	90.3%	[0.83, 0.97]	-29%	-
	Anosy	66	30.7%	[0.06, 0.56]	65	72.3%	[0.63, 0.81]	-58%	-	110	61.5%	[0.45, 0.78]	48	62.5%	[0.44, 0.81]	-2%	-
	Total	**688**	**39.5%**	**[0.31, 0.48]**	**559**	**51.9%**	**[0.42, 0.62]**	**-24%**	n.s.	**506**	**59.0%**	**[0.45, 0.73]**	**534**	**81.1%**	**[0.71, 0.91]**	**-27%**	n.s.
2.5a: HH has access to improved drinking water (main or secondary	Vatovavy Fitovinany	263	22.6%	[0.04, 0.41]	144	38.2%	[0.14, 0.63]	-41%	-	67	0.0%	[0.00, 0.00]	33	36.4%	[0.16, 0.57]	-100%	-
	Atsimo Atsinanana	168	14.5%	[-0.06, 0.35]	175	34.9%	[-0.00, 0.70]	-58%	-	44	72.6%	[0.13, 1.32]	52	40.4%	[0.08, 0.73]	80%	-
	Atsinanana	191	38.8%	[0.11, 0.67]	175	22.9%	[0.01, 0.44]	69%		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Analanjirofo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	285	19.7%	[-0.05, 0.44]	401	1.0%	[-0.01, 0.03]	1870%	-
	Anosy	66	0.0%	[0.00, 0.00]	65	4.6%	[0.02, 0.07]	-100%	-	110	22.7%	[-0.19, 0.65]	48	2.1%	[-0.02, 0.06]	981%	-
	Total	**688**	**24.5%**	**[0.10, 0.39]**	**559**	**28.4%**	**[0.13, 0.44]**	**-14%**	n.s.	**506**	**23.4%**	**[0.02, 0.45]**	**534**	**7.1%**	**[-0.02, 0.16]**	**230%**	n.s.

** Significant difference at p<0.05. N.S. = not significant.*

*** Commune distribution was as follows:*

RANO-HP only: Vatovavy Fitovinany (5 communes); Atsimo Atsinanana (4 communes); Atsinanana (5 communes); Anosy (1 commune)

UNICEF/GSF: Vatovavy Fitovinanay (2 communes); Atsimo Atsinanana (2 communes); Analanjirofo (4 communes); Anosy (2 communes)

Table 8a. Open Defecation Verification- Partial Process Results, Only Among Communes Affected by Recent UNICEF or GSF Interventions

Variable	Criterion	n	Mean (met criterion)	SD
cleandefzone	Old OD zones are clean*	44	77.3%	0.42
nonewdefzone	No new OD zones*	44	93.2%	0.26
witness	At least one witness claims no OD in community	44	84.1%	0.37
goalmet	Leader claims 100% of action plan achieved	44	45.5%	0.50
hasrules	Community has OD regulations	44	84.1%	0.37
instlatuse	Institutions have latrines	29	79.3%	0.41
instnofeces	No visible feces soiling institutional latrines	29	96.6%	0.19
table2total	**Total community score**	29	12.8	4.55
table1total	**Total institutional score**	44	40.2	12.54
totalperc	**Total percentage score**	44	83.1	24.42
odf	**Village meets ODF criteria (>82% score)**	44	72.7%	0.45

**Most influential criteria (20 points or 0)*

Table 8b. Open Defecation Verification- Full Process Results, Only Among Communes Affected by Recent UNICEF or GSF Interventions

Variable	Criterion	n	Mean (met criterion)	SD
cleandefzone	Old OD zones are clean*	5	80.0%	0.45
nonewdefzone	No new OD zones*	5	100.0%	0.00
womwitness	Woman witness claims no OD in community	5	80.0%	0.45
kidwitness	Child witness claims no OD in community	5	80.0%	0.45
leadwitness	Community leader claims no OD in community	5	60.0%	0.55
highlatuse	75-100% households in village have latrine*	5	60.0%	0.55
nofeces	No households have visible feces around latrine	5	40.0%	0.55
cleanlat	100% of household latrines are clean	5	40.0%	0.55
highhwstat~n	100% of household have handwashing station near toilet	5	0.0%	0.00
goalmet	Leader claims 100% of action plan achieved	5	40.0%	0.55
instlatuse	Institutions have latrines	2	50.0%	0.71
instnofeces	No visible feces soiling institutional latrines	2	100.0%	0.00
instcovered	Institutional latrines are covered	2	50.0%	0.71
instcleanl~s	Institutional latrines are clean	2	50.0%	0.71
instsoap	Soap or ash available at institutional latrines	2	0.0%	0.00
insthwstat~n	Handwashing station available at institutional latrines	2	50.0%	0.71
totalperc	**Total percentage score**	5	74.0	28.28
odf	**Village meets ODF criteria (>82% score)**	5	60.0%	0.55

**Most influential criteria (20 points or 0)*

Figure 1. Latrine Use by Region, Donor Disaggregated

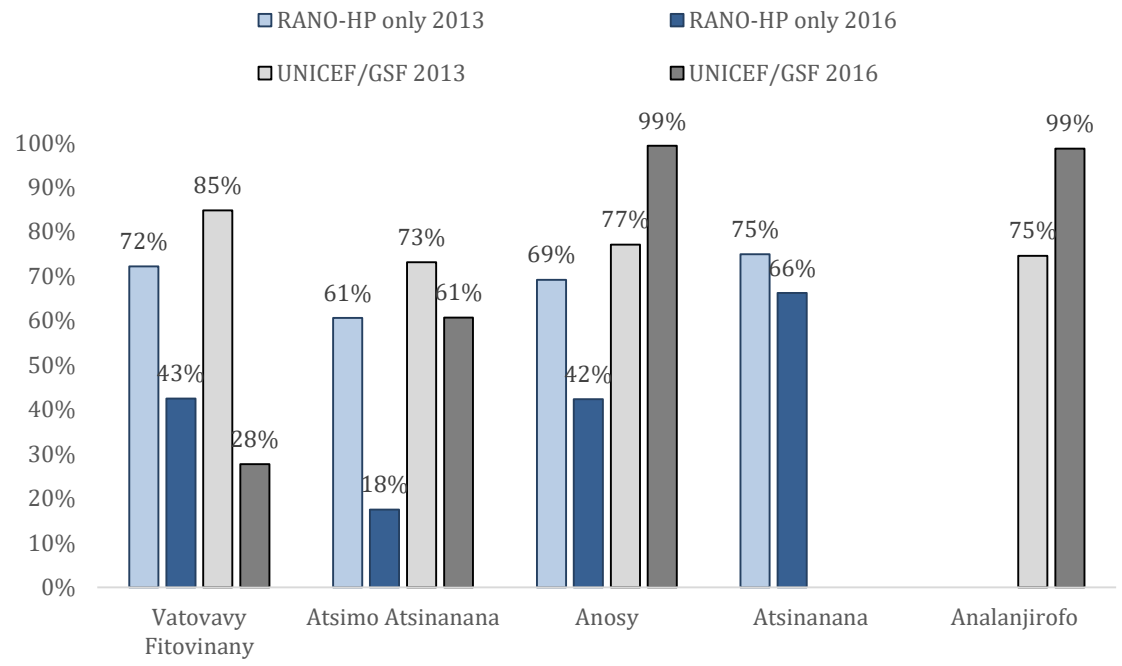


Figure 2. Handwashing Station by Region, Donor Disaggregated

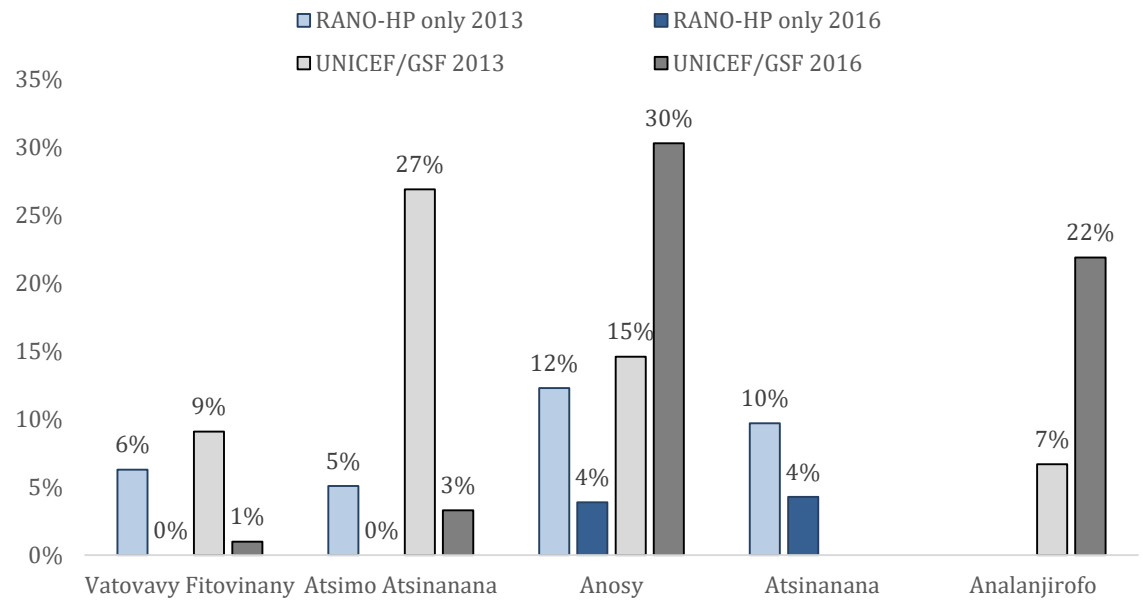
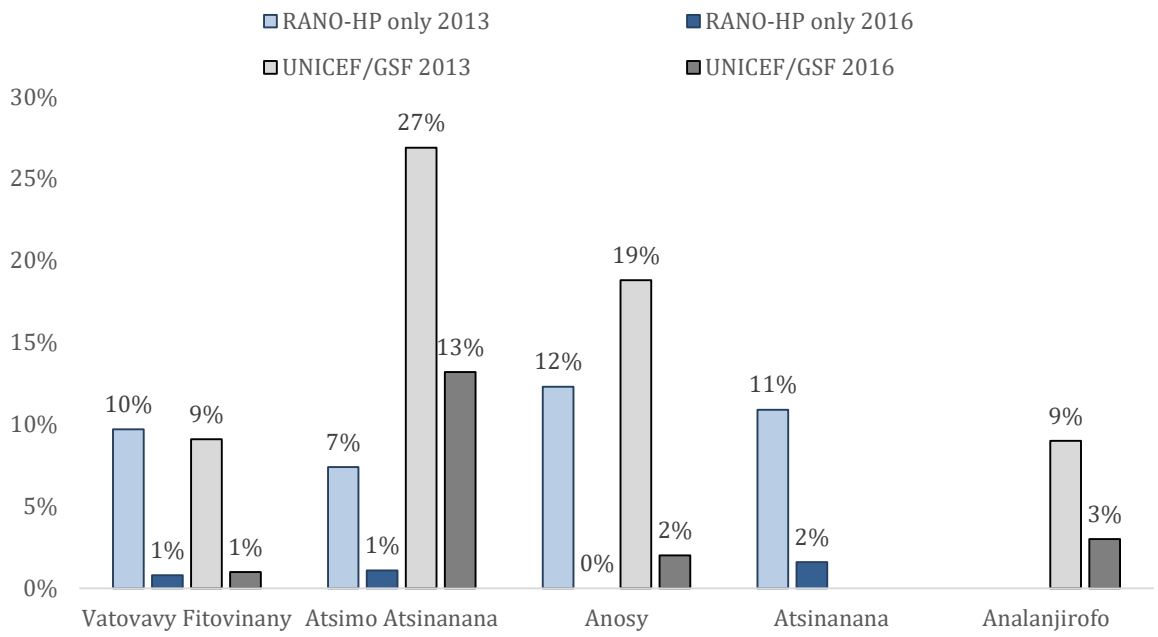


Figure 3: Reported Handwashing at Key Times by Region, Donor Disaggregated



ANNEX V: KEY TERMS

Community-led total sanitation (CLTS): Community-led total sanitation is "an integrated approach to achieving and sustaining ODF status. CLTS entails the facilitation of the community's analysis of their sanitation profile, their practices of defecation, and the consequences, leading to collective action to become ODF. Approaches in which outsiders 'teach' community members are not CLTS. CLTS processes can precede and lead on to, or occur simultaneously with improvement of latrine design; the adoption and improvement of hygiene practices; solid waste management; wastewater disposal; care, protection, and maintenance of drinking water sources; and other environmental measure" (IDS and Plan UK 2013).

Ex-Post: USAID defines ex-post as being "usually, though not always, conducted either when a project is likely to end or has ended. Such evaluations should cover both intended and unintended effects of a project--which can be positive and negative." (March 25, 2009. USAID Evaluation Guidelines for Foreign Assistance).

Fokontany: A fokontany is an administrative division in Madagascar below a commune and above a village. A fokontany may contain one to several villages.

Improved latrine: In the context of RANO-HP, an improved latrine matches the Joint Monitoring Programme definition of a "pit latrine with slab." This is a dry pit latrine whereby the pit is fully covered by a slab or platform that is fitted either with a squatting hole or seat. The platform should be solid and can be made of any type of material (concrete, logs with earth or mud, cement, etc.) as long as it adequately covers the pit without exposing the pit content other than through the squatting hole or seat.

Open defection: Open defecation means defecating in the open and leaving the feces exposed so as to spread environmental contamination further. The feces may be left exposed to the air or into water bodies. By this definition the project systems classify open pit latrines and any latrine discharging directly into water bodies as equivalent to open defecation.

Open defecation free (ODF): Open defecation free is the termination of fecal-oral transmission, defined by: no visible feces found in the environment/village and every household as well as public/community institution using a safe technology option for disposal of feces.

ODF certified: An ODF–declared village that has gone through the ODF verification process and met the criteria with a score of more than 80 percent.

Slippage: The return to unhygienic behaviors, or the inability of some or all community members to continue to meet all ODF criteria, for formerly ODF–declared villages.

Sustainability: USAID defines sustainability as "achieved when country partners and communities take ownership of the service and there are local systems to deliver inputs needed to maintain results and deliver impacts beyond the life of USAID projects." (USAID Sustainable WASH Systems Broad Agency Announcement 2016).

Unimproved water source: Water that is not stored or protected from the elements and therefore subject to runoff, animal contamination, fecal contamination (WHO and UNICEF Progress on Sanitation 2015).