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Project Completion Report

Rural Access to New Opportunities for Health and Prosperity
RANO HP (HamPivoatra) Water for Progress
Madagascar





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This final report summarizes the activities and results of the RANO HP project from October 2009 to June 2013. Achievements include:

- 63,325 people provided with sustainable access to water from an improved source.
- 1,001 water connections were constructed and/or rehabilitated by the private sector.
- 97,685 people using latrines constructed by households/ communities without subsidies.
- 241 villages certified as Open Defecation Free.
- 26 communes established Community Water & Sanitation Business Plans.
- 352,785 people (cumulative) reached by water, sanitation and hygiene programs.

This publication was produced for review by the United States Agency for International Development. It was prepared by Catholic Relief Services.

Summary

The USAID-funded RANO HP project increased access to reliable and economically sustainable improved water supply and increased the coverage rates in sanitation and improved hygiene practices among rural households in participating communes along the east coast and in the south of Madagascar.

Drinking Water - RANO HP assisted 26 communes in preparing Community Water and Sanitation Business Plans. As part of the project, 1,001 water connections (private and “social” or shared connections) were constructed as a result of the Public Private Partnership approach. Water supply technologies included the rehabilitation of community gravity flow water systems and the installation of manually drilled wells fitted with hand pumps and boreholes fitted with solar-powered (PV) pumping systems supplying water through a gravity-fed piped system. The piped schemes included several service options including private and social connections. An estimated 62,325 people have gained sustainable access to improved water supply over the 45-month lifespan of the project. A total of 39,955 bottles of a POU chlorine solution (Sur'Eau) were sold by community health agents and, in southern Madagascar, 350 Tulip filters were distributed and their performance in the field was studied.

Sanitation - 97,685 people are now using latrines constructed by households and communities without subsidies through RANO HP. 241 villages have been certified as open defecation free (ODF). 254 Village Savings & Loan Associations (VSLA) that enabled funding for sanitation products were created as part of RANO HP. RANO HP worked with two Microfinance Institutions (MFIs) to introduce innovative loan products specific for latrine construction. RANO HP engaged both the MFIs and their respective local service providers in activities such as: 1) designing latrine components with the MFI, 2) training and equipping service providers and 3) marketing the loan products through a series of audio-visual promotional advertisements on local TV and radio and the production of communication tools.

Hygiene and WASH Messaging - 405 community health workers were trained in three key WASH messages (properly handling, treating and storing drinking water, using an improved latrine, washing one’s hands at key times). Numerous education materials were prepared and successfully used to deliver WASH messages that changed behaviors related to sanitation and hand washing with soap at critical moments.

Total number of beneficiaries – RANO HP reached a total of 352,785 people.

A summary of the key achievements by RANO HP are shown in Table 1.

Table 1 - Summary of Key Achievements by RANO HP

Program Achievements	Project Goal	Number Reached	% of Goal Reached
People using an improved water supply	55,000	62,325	113%
Number improved water connections constructed or rehabilitated by the private sector	800	1,001	125%
Number of latrines constructed by households/communities without subsidies	8,500	8,589	101%
Number of people using latrines constructed by households and communities w/o subsidies		97,685	
Number of people with first-time access to improved sanitation	49,500	54,785	111%
Number of communes with a management contract established with private sector service providers	12	12	100%
Number of villages certified Open Defecation Free	200	241	121%
Number of latrines constructed by communities without subsidies	8,500	8,589	101%
Commune Water & Sanitation Business Plans (CWSBPs) established	26	26	100%
Number of community health workers trained in 3 WASH messages	390	405	104%
Number of Village Level Savings Associations (VSLA) established	240	254	106%
Number of Microfinance Institutions (MFIs) offering loan products	2	2	100%
Total number of people reached by WASH components of the project	250,000	352,785	141%

DISCLAIMER: The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Background

The project “Rural Access to New Opportunities for Health and Prosperity” or RANO HamPivoatra (RANO HP), was developed in response to an Annual Program Statement issued by the United States Agency International Development (USAID) Mission in Madagascar in October 2008. RANO HP was implemented by a consortium led by Catholic Relief Services (CRS) as the Prime Recipient and included Cooperative for Assistance and Relief Everywhere (CARE) Madagascar, Caritas Nationale Madagascar (Caritas), Voahary Salama (VS), a platform of 12 Malagasy NGOs, and BushProof and Sandandrano, two local private sector companies specializing in rural water supply. The project built on the on-going community work of the individual implementing partner organizations in the consortium as well as the work of its private sector technical partners to develop affordable and market-oriented water supply services in Madagascar.

The RANO HP Cooperative Agreement was signed between CRS Madagascar and USAID on September 15, 2009. Five Modifications to the Cooperative Agreement were issued by USAID over the life of project. In May 2012, USAID notified RANO HP that it was not able to provide to RANO HP \$2.30 million (approximately 30%) of the originally approved budget. USAID requested that RANO HP submit a proposal for a revision of the project based on the reduced budget. The RANO HP proposal was approved as an integral part of Modification Number 5 to the Cooperative Agreement on October 16, 2012.

RANO HP’s goal was to increase sustainable access to improved water supply, enhance the coverage rates in sanitation and improve hygiene practices among households in twenty-six (26) communes in eleven (11) districts along the east coast and in the south of Madagascar. The target zones overlapped with those of two concurrent USAID-funded programs: SantéNet2 and Strengthening Access to Livelihood Opportunities for Health and Income (SALOHI).

The communes that were targeted are located in the zones with some of the lowest water and sanitation coverage rates in Madagascar. CRS worked in 13 communes located in the Atsimo Atsinanana and Vatovavy Fitovinany regions. CARE implemented the activities of RANO HP in 13 communes in Analanjirofo, Atsinanana and Anosy regions.

Final Activities Completed / Key Accomplishments

The project goal and four strategic objectives are summarized below.

Goal: Rural communities in Madagascar have broad access to reliable and economically sustainable water and sanitation services for health, security, and prosperity.

Strategic Objective 1: The organization and governance of the water and sanitation sector and collaboration with the private sector is improved at the commune level

The types of activities implemented under this strategic objective included supporting communes to develop Commune Water and Sanitation Business Plans (CWSBPs), collaborating with microfinance institutions to establish innovative loan products specific for households latrine products and other WASH services, establishing and mentoring Village Savings and Loans Associations (VSLA), training local entrepreneurs in WASH services and linking service providers with target communes.

Result 1.1: Communities, private sector partners, and communes are organized to manage their water and sanitation systems

Participating communes developed their CWSBP by identifying and prioritizing their WASH-related needs leading towards developing a 5-year action plan to address those needs. This process engaged communities in a way that built ownership and local accountability for improving access to water and sanitation services. The process of drafting CWSBPs built the institutional capacity of local authorities to understand the CWSBP process. Each CWSBP included an estimate of the resources needed to attain the short and long-term water and sanitation objectives for the commune. The types of resources include human and financial capital, management systems, RANO HP project contributions, and other donor funds. The CWSBPs served as the foundation for subsequent activities throughout the project. The 6-month process of drafting a CWSBP was one of the fundamental building blocks of RANO HP.

Results vs. Performance Indicator

26 communes prepared their CWSBPs (100% of the project target).

Result 1.2: Increase private sector and household investment for water and sanitation products and services

A unique and innovative aspect of RANO HP was the involvement of Microfinance Institutions (MFIs) to develop financing instruments that stimulate household investment in WASH products and services. The project signed a Memorandum of Understanding (MOU) with two Malagasy MFIs, OTIV ZL (*Ombona Tahiry Ifampisamborana Vola Zone Litoralle*) and TIAVO (*Tahiry Ifamonjena Amin'ny Vola*). The MOU was used to develop and market loan products to facilitate the construction of hygienic latrines at the household level. The latrine loan approaches used by OTIV ZL and TIAVO are shown in Table 2. OTIV ZL and TIAVO are two of the oldest and most well-established MFIs in Madagascar.

Both institutions operate as cooperatives as they are owned and managed largely by the members themselves though a hierarchical structure of elected officials. Both MFIs have an extensive presence in rural areas. Commune-level branch offices operate through local member networks that are governed by autonomous management structures. Collectively, the two organizations have over 134,000 active members within eight regions of Madagascar.

This initiative, the first of its kind in Madagascar, successfully:

- Developed loan products that were outside the scope of traditional lending practices and which linked households to capital offered by MFIs and service providers specializing in latrine construction.
- Demonstrated that there is latent demand (i.e. market potential) for loan products that increase household-level access to WASH services.

Table 2 - Latrine Loan Approaches

Partner MFI	OTIV ZL	TIAVO
Type of MFI	Mutual	Mutual
Service Provider(s)	OSG through "sani-markets" in Tamatave and Vatomandry	10 MPAGA
Regional coverage	Atsinanana	Atsimo Atsinanana, Vatovavy Fitovinany
# of participating branches	9	8
Large municipalities	Tamatave, Brickaville, Vatomandry	Manakara, Vohipeno, Farafangana, Vangaindrano
Rural communes (RANO HP target communes)	Anivorano Est, Ilaka Est	Ikongo, Vondrozo, Matanga
Monthly interest rate (%)	2	3
Loan period (months)	6 (required)	1 to 24
Guarantee	100% of materiel cost	100% of materiel costs
Latrine models offered	Four latrine models: washable slabs and reinforced pits without the superstructure	Five latrine models with the option of including the superstructure in the price of the loan

MFI Final Results vs. Performance Indicator – Two MFIs offered loan products to finance household water supply and sanitation services (100% of the goal). By the end of the project 86 households had used WASH loan products (69% of the project goal). While the willingness of various parties (MFIs, latrine builders and the RANO HP project) to support the business, technical concepts and procedures is promising, the implementation of this complicated activity was more difficult than originally planned. It took more effort to supervise and support latrine builders in promoting proper financial credits than planned. Moreover, in the case of the South East area, some agents were reluctant in pursuing credit for latrines.

RANO HP established and mentored Village Savings and Loan Associations (VSLA) by assisting its members with savings and income generation skills that could be used over time to invest in water and sanitation activities. A VSLA is a self-selected group of people who pool their money into a fund from which members can borrow. The money is paid back with interest, allowing the fund to grow. After a predetermined time period, the account is dissolved and each household receives the money it initially contributed plus a proportion of the income received through the borrowing activities. As all money saved and borrowed stays within the VSLA, there is no profit to be made by an outside agency.

VSLA Final Results vs. Performance Indicator - By the end of the project there were 254 VSLAs functioning (with 4,605 members) exceeding the project goal of 204 VSLAs. 2,974 VSLA members invested in WASH products and services (e.g. latrine building, POU water treatment, payment for water connection hookup) greatly exceeding the project goal of 545 members. In addition, the percentage of households with increased savings increased from 13.7% at baseline to 33.3% exceeding the goal of 18.7%.



Village saving and loan associations

Strategic Objective 2: Sustainable access to improved water supply is increased

The types of activities implemented under this strategic objective included

Result 2.1: Household water supply coverage is increased

The access by households to improved water supply infrastructure has improved greatly in RANO HP intervention areas. In general, three types of drinking water infrastructure were constructed during the RANO HP project:

- Rehabilitation of existing large gravity flow water systems
- Construction of new manually-drilled wells fitted with village-level operation and maintenance (VLOM) hand pumps
- Construction of new boreholes with solar powered pumping systems and piped distribution networks.

The piped water systems include different service options including private household connections and social connections (for 3 -10 households).

In RANO HP, the mean cost for an improved water supply system per beneficiary was \$43. This is much less than \$100 per capita for gravity flow and pumped systems cited in the Malagasy Water Ministry's Manual of Procedures. It should be noted that the cost per beneficiary varies significantly depending on whether it is a gravity flow system, manually drilled system with hand pump or a borehole with solar powered pumping system. The technological simplicity of gravity flow systems makes them economically viable options in general. As expected, the costs of solar pumping schemes are significantly higher.

RANO HP has found that the average cost of installing a water service connection is approximately US\$110 (Ar220,000). The actual cost of each connection was marginally higher or lower depending of the length of piping from the mainline to installation site. Using this figure as a reference, RANO HP subsidized, on average, 82% of the installation cost for a social connection and 65% of the cost of a private connection. The RANO HP team believes that the added investment was warranted since offering social and private connections is fundamental to the long-term success of the private sector driven management approach. These levels of services effectively respond to the demands of households, most notably women who bear the burden of water collection, who are unsatisfied with the restrictions and inconveniences of public water points.

Water meters were used determine the amount of water obtained by the beneficiaries which was then used to assess the monthly fees to users. Contributions for social connections were fixed at half the cost of the water meter, or \$17.50 (Ar 35,000) per connection. This cost was borne



Water meter for connections

by the families who share the connection, typically between 3-10 households.

The contributions for private connections were more costly. Beginning in FY 12 in order to increase the number of connections in the smaller, poorer communities, the project lessened the cost of installing a private connection to include only the full price of a water meter, or \$35 (Ar70,000). The rest of the connection cost, e.g. materials and labor, are absorbed directly by the project. Regardless of connection type, payment in cash was required in full before the connection was put into service. Beneficiaries for each system provided a community contribution (such as local materials or labor) which varied by site.

Improved Sources - Final Results vs. Performance Indicators - The use of improved drinking water supply by households in target areas has increased from 3% at baseline to 25%, exceeding the project goal of 14%. In addition, the number of people in target areas with first-time access to improved drinking water supply as a result of USG assistance is 62,325, exceeding the project goal of 55,000. As part of the RANO HP project, a total of 1,001 private and “social” connections were constructed, exceeding the project goal of 800 connections.

The RANO HP Public-Private Partnership Approach

To increase the sustainability of water supply infrastructure in rural Madagascar and to protect project investments, the RANO HP project worked with the communes, communities and private sector partners to establish and scale up Public-Private Partnership (PPP) business models. These models included financially viable approaches to achieve objectives set forth in the CWSBPs, and resulted in infrastructure that will be managed in a sustainable manner.

One of the PPP approaches used was to support existing private sector operators to manage Gravity Flow Water Supply Systems (GFWSS). Typically, households were given three service options to connect to the system. A variety of service options encourages an increase in the quantity of water used daily, a practice that has been proven to significantly improve health.

The three connection types that were used included:

- A private household connection to the water system.
- A “social” connection is the system in which a group of 3-10 households agree to share a semi-private connection situated close to their homes.

Installation of Monoblocks. Monoblocks are a single structure that access to drinking water, toilets and showers for men and women, and laundry facilities. One has to pay a fee to access the facilities. The Monoblock is designed to guarantee safe and easy access and sufficient privacy for all, but in particular for women and girls.



Laundry portion of Monoblock

Monoblock construction was cost-shared with private entrepreneurs managing the service as part of the GFWSS activities

Preparing the community for infrastructure construction entailed a series of community meetings to sensitize interested households about the benefits of the private sector service delivery model. Community meeting topics included: the rights and responsibilities of households when using the system, the different levels of service options offered by the system and user water bills to be based on amount of water used as determined by metering.

RANO HP published a national call for bids to manage the water supply system that the project rehabilitated in the commune of Anivorano Est, as well as national calls for

expression of interest in four regions to identify companies interested in managing and operating water supply systems. The responses allowed RANO HP to form a short list of candidates to whom the project could then issue a limited call for bids to manage and operate the systems.

The process RANO HP followed to establish lease contracts between communes and private sector service providers for delegated management of water supply systems is shown in Figure 1.



Figure 1

In addition to promoting the lease model described above, RANO HP also introduced an alternative invest-operate model to attract private investment in the rehabilitation of the water supply systems in the district centers of Ikongo and Vondrozo in Vatovavy Fitovinany and Atsimo Atsinana regions, respectively. In both cases, the project supported the communes to launch a public call for bids that invited companies from across the country to invest in modernization of the existing piped water systems in return for a 20-year contract to manage and operate the water supply service for a fee. The recruitment process for this model followed the identical steps to those described above for the standard leasing contracts. A longer management period, in this case 20 years rather than 10 years, was attractive to private investors who would not likely be interested in investing private funding in a shorter ten-year lease. In June 2012, both communes chose an Antananarivo-based company named SERT RANO as the winning bidder for the

20-year invest-operate contract.

In addition, RANO HP engaged a Malagasy company named A?R to enhance an automated billing and accounts receivable software application geared toward small-scale water service providers. In 2008, in the context of a World Bank-funded initiative to promote PPP, A?R had developed a basic software application to accurately track water consumption at each connection and print accurate bills. Seeking to capitalize on this experience, RANO HP recruited A?R to update and enhance the existing software by adding new variables aimed at tracking the impact the water supply is having on the community. Modifications initiated by RANO HP included listing the number of water users for each connection (including the sex and age of each member), an automated calculation for the number of liters per capita per day for each connection, GPS coordinates of each connection and an improvement to the accounts receivable function to include the situation when customers pay their water bills in multiple installments (likely a common scenario in RANO HP zones). A?R trained two representatives from each of the service providers to use the software.

Project Final Results vs. PPP Performance Indicator – 12 communes established management contracts with private sector service providers - Public-Private Partnerships (100% of the project goal).

Public/Private Partnership Example - a Gravity Flow Water System

The commune of Anivorano East, a rural community of 5,200 people, provided the first opportunity for RANO HP to pilot its PPP approach to operate and manage piped water supply schemes. The community's water supply system had broken down long before RANO HP, to the point that one water tap served the entire town. A resident noted that in the past the water was dirty, that there were frequent break downs and that the pressure was low. In 2011, RANO HP financed \$95,000 to rehabilitate the system and expand the distribution system to include private and social connections. A Monoblock provides public access points for toilets and showers, laundry facilities and drinking water on a fee basis to visitors and households not choosing to use the two higher service options.

RANO-HP trained the community's bid committee in transparent public tendering processes. Several bidders submitted proposals in March 2011 and the committee chose Velo Enterprise to run the newly rehabilitated and greatly expanded water system. The project used a contracting template that included a six-month trial period. Anivorano Est uses a progressive pricing structure to differentiate the three service levels offered by the system. Water distributed via private household connections is priced at 0.50 USD (1,000Ar) per 1,000 liters, social connections are 0.40 USD (800Ar) per 1,000 liters and public connections are 0.35 USD (700Ar) per 1,000 liters. In an attempt to extend access to more vulnerable

families, households sharing social connections were required to contribute only 50 percent of the cost of the water meter. The project initially required private connections to pay 50 percent of the cost of the water meter as well as 100 percent of the materials and installation costs of the piping beginning at the closest mainline branch. Beginning in FY 12 in order to increase the number of connections in the smaller, poorer communities, the project lessened the cost of installing a private connection to include only the full price of a water meter, or \$35 (Ar70,000). The rest of the connection cost, e.g. other materials and labor, were absorbed directly by the project.

Water is treated at the source by sand filters which are regularly scraped and cleaned. Water then flows by gravity to an elevated ferrocement reservoir tank where it is batch chlorinated. Both private and social connections have water meters for billing purposes. An office is maintained and spare parts are kept readily available. System repairs were completed quickly by the operator after the 2012 cyclone.

Anivorano East Gravity Flow Water System



Billing office



Sand filters at water source



Chlorination at water tank

Pumped Flow Pipe Network Systems

Solar-powered pumped flow water supply systems (PFWSS) were installed in two communes of Atsimo Atsinanana Region. A summary of these systems is in Table 3 . Drilling of the three boreholes was done by a PAT-Drill 201 rig and solar-PV power is used to pump water from the borehole. The project provided training and formative follow-up with Enterprise SEROM relating to maintaining the scheme's electrical components. The project developed a mixed Malagasy/French language manual explaining the steps of diagnosing problems and preventive maintenance for solar pumping systems. Support

continued to be made available from BushProof and their local solar equipment supplier, Solar & Wind Factory, on an as-needed basis.

Commune	Water Source	Type of System	Energy Source	Treatment	Elevated Storage Tank Volume (m3)	Number of Water Connections	
						Social	Private
Ivandrika	Borehole	Pumped	Photovoltaic	Disinfection by Electrochlorinator	12	16	7
Matanga	Borehole	Pumped	Photovoltaic	Disinfection by Electrochlorinator	16	47	17
Soamanov	Borehole	Pumped	Photovoltaic	Iron removal by biological filter	12	21	8
Total						84	32

Soamanaova- Solar Pumping Station



Batteries at Matanga Solar Pump Station



Photos by BushProof

Manually Drilled Wells Fitted with Handpumps

Fourteen manually drilled wells were installed in Antsiatsiaka commune, Fenerive Est district, Analanjirofo region. Manual well drilling technologies can be used in most soil types when the water table is above 30 meters. The drilling equipment is portable, allowing boreholes to be installed in even the most inaccessible villages. The wells were fitted with village-level operation and maintenance (VLOM) Canzee handpumps manufactured in Madagascar. There is a private service provider who manages the wells and hand pumps.

Manual drilling of wells to be fitted with handpumps



Canzee handpump at manually drilled well



Photos by BushProof

Result 2.2: Local associations in remote buffer communities participate in the management of watersheds, water supply and sanitation systems

RANO HP increased local understanding of the environmental risks that come with the construction and operation of an improved water supply system. This empowered local WASH stakeholders to participate in the monitoring of environmental mitigation measures during and after infrastructure construction.

The project collaborated with the USAID-funded SALOHI and RANOn'ALA projects to produce a series of Information Education, and Communication (IEC) and Behavior Change Communication (BCC) counseling cards and posters demonstrating environmentally safe and unsafe situations. These tools have colorful sketches depicting a variety of messages appropriate for each component of the system.

In each commune targeted for infrastructure construction, the tools were used to train WASH stakeholder groups in the mitigation measures outlined in the Environmental Screening Form (ESF) approved by USAID for each commune. As part of the training, the project's field-based engineers lead stakeholders on a tour of each system component to discuss the practical measures that contractors will take to mitigate excessive environmental disturbance at each location. Community health workers (CHW) and field agents also used these tools to sensitize households using the water supply systems.

Strategic Objective 3: Improved access to sanitation services & hygiene education

The primary activities supporting this strategic objective included:

- Implementing the Community Led Total Sanitation (CLTS) methodology
- Promoting the three WASH messages through training and equipping community health workers (CHW)
- Training local masons to fabricate and sell “Sanplat” hygienic latrine slabs
- Assisting households to construct latrines using local materials, and
- Constructing Monoblock facilities.

Result 3.1: Households have adopted improved sanitation, healthy hygiene (e.g. hand washing) and water storage behaviors

The project included implementing the Community Led Total Sanitation (CLTS) methodology. 418 villages out of 744 triggered were declared open Defecation Free (ODF) and 241 of these villages were certified as ODF. CLTS was effective in RANO-HP as a community-owned cost-effective and sustainable (without subsidies) approach that triggered self-motivated behavior change to end open defecation.

The project used CLTS to trigger public disgust in the practice of open defecation and end that practice by building and using latrines constructed with locally available materials. Informal networks of masons operating in each target commune and trained by RANO HP offered technical services to households interested in building latrines as a response to CLTS. RANO HP trained 78 local masons and/or carpenters to fabricate and sell “SanPlat” hygienic latrine slabs and assisted households in constructing latrines using local materials. 205 facilitators of CLTS were trained at the district level.

RANO HP’s approach to behavior change promotion engaged one Community Health Worker (CHW) on 18 households over a period of six months. The behaviors of each woman head-of-household were inventoried at the beginning of the six-month cycle, and documented by the CHW during each subsequent visit on an illustrative poster that hung on the wall of each household targeted. The frequency of visits varied from weekly to monthly according to a calendar established for each household at the beginning of the cycle. The CHW relates messages for each of the three key WASH behaviors during the cycle. A visit-by-visit analysis of the mother’s behavior determines which messages are stressed during each visit.

A novel toolkit was developed to disseminate messages about individual rights and responsibilities related to having access to a potable water service using latrines and using point of use (POU) water treatment. RANO HP developed a set of tools such as posters, short films, radio spots, a theme song and children's board game with the support of a local consultant. Each of the tools was pre-tested in three local dialects Betsimisaraka, Antandroy and Antemoro. One of the questions applied in each region during the pretest was "Which Malagasy pop stars and TV personalities are most popular?" Based on the responses the project contacted Samoela, Hazolahy, Mika sy Davis, and Rajao from the popular series *Malok'ila* to participate in the project.

The BCC toolkits contained three 30-minute movies, filmed on location in three separate RANO HP target communes, starring nationally popular actors Rajao and Tsarafara, but also using project beneficiaries and staff as actors. The two films were developed and shown in the east and southeast and conveyed the following messages: the role of the private sector service provider, the importance of paying for water fees, and transparent governance of the water supply systems. Messages promoting and demonstrating latrine use and hand washing

with soap were interconnected throughout the film. The film in the south focused on water treatment options because RANO HP did not build water supply infrastructure in this area.



Results vs. Performance Indicators

- 241 villages certified as ODF exceeding the project goal of 200.
- 205 trainers were trained in CLTS at the district level (92% of the project goal).
- As noted in the final survey of households, 70.8% of households in the target areas are using latrines exceeding the goal of 45% (usage at baseline was 34.3%).
- 54,785 people now have first-time access to improved sanitation exceeding the project goal of 49,500.
- 51% of households were practicing safe water storage (exceeding the goal of 35% and showing significant improvement from the baseline survey level of 29%).
- The percentage of households with children under 5 practicing hand washing at critical times at final survey was 11.2% exceeding the project goal of 5% (baseline was 1.2%).
- 405 community health workers were trained in delivering the three key WASH messages exceeding the goal of training 390 CHWs.
- 19,932 households were visited by community health workers less than the project goal of 28,080.

Result 3.2: Communities are adopting appropriate sanitation practices

Six Monoblocks were constructed through RANO HP. Monoblock construction was cost shared with private entrepreneurs who manage the service as part of the gravity flow water systems.

Results vs. Performance Indicators - Six hygienic public health toilets (Monoblocks) with separate female and male facilities were built exceeding the project target of three.

Strategic Objective 4: The consortium develops and implements strategies to improve the quality, impact, and equity of water and sanitation interventions in Madagascar

Key activities included collaborating with local stakeholders to incorporate gender considerations to WASH plans and activities, collaborating with the University of South Florida (USF) to conduct operational research studies, and supporting WASH platforms in the regions where the project is operating by contributing technically and financially to the regional WASH committees.

Result 4.1: Communes are implementing strategies that increase gender equity in water resource management, water supply, hygiene and sanitation services

Gender inclusiveness was addressed in part by ensuring women have a minimum 50% representation in CLTS community activities. Increased water supply coverage is now reducing time women spend collecting water. The project also had a gender strategy and did gender trainings in the first year.

Results vs. Performance Indicators

- The percentage of women participating in the project activities was 51% by the final survey exceeding the project goal of 30%.
- All 26 CWSBPs included gender specific activities (100% of goal).
- The percentage of mothers capable of citing three WASH messages increased from 3.5% at baseline to 54.7% at the final survey exceeding the goal of 30%.
- The percentage of women caregivers of children under 5 capable of citing the three key WASH messages during the final survey was 20.8% versus 0.69% at baseline and exceeding the project goal of 15%.
- The proportion of mothers with children under 5 who wash their hands with soap during the three critical times has substantially increased from 1.2% at baseline to 11.2% at the end of the project exceeding the project goal of 5%. This is likely a result of the efforts in sensitization and in the implementation of improved access to water.
- Monoblocks have separate toilets for women.
- The time spent to fetch water decreased from 27 minutes to 18 minutes meeting the project goal of 20 minutes or less. This difference is quite significant given the number of trips to collect water each day.

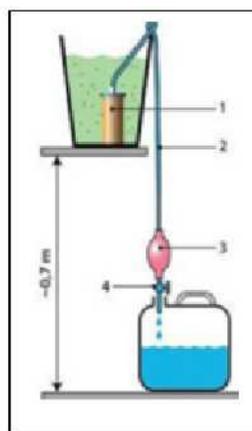
Result 4.2: The consortium is implementing a learning agenda based on M&E, lessons learned and operations research results

POU Water Treatment and Related Studies

The availability of safe drinking water is a major problem in the extreme south of Madagascar. Many households in the three RANO HP target communes in the Amboasary District use water from the Mandrare River and spend about 3 hours per day to fetch water.

The RANO HP project stimulated demand for POU household treatments and other water and sanitation services through social marketing campaigns using Information Education, and Communication (IEC) and Behavior Change Communication (BCC) approaches. In addition, RANO HP conducted two studies on POU filters in southern Madagascar because of the challenge in providing community water systems in some areas. An investigation was conducted in October 2011 in collaboration with the University of South Florida on the *LifeStraw* family model filter that is commercially available in Madagascar. Results from the *LifeStraw* study concluded that “the *LifeStraw* filters performed well in terms of water quality and are a useful technology for removing pathogens in a developing world setting. However, there are some aspects of the operation and maintenance, specifically the flow rate, of these filters that users may or may not be willing to accept.”

In addition, the project also conducted a second household level research assessment over March 17th – 29th 2013 in the towns of Sampona, South Behara, and Tanandava in Anosy district. The objective of the research was to determine the effectiveness of the Tulip Filter and evaluate its use as well as problems. The Tulip Filter is a commercially available filter produced in India that is marketed by RANO HP Technical Partner BushProof. During the follow-up survey, some households stated that they use the filter only once or twice a week as they have difficulty cleaning the ceramic part of the filter.



Tulip filters

Respondents indicated that the flow of the filter is very low, 3-4 liters/hour and that the amount of treated water for a day does not cover the daily needs of the household. The survey determined that some beneficiary households had not mastered the use and maintenance of the Tulip filter. RANO HP also promoted other household water treatment options (e.g. chlorine and boiling). Community health agents sold bottles of Sur'Eau to households in the targeted area.

POU Final Results vs. Performance Indicators – One new POU filter product was studied (100% of goal). 62,382,500 L of drinking water treated by POU devices (350 Tulip filters were distributed (each can treat up to 7,000 liters) and 39,955 bottles of Sur'Eau were sold (each bottle can treat 1,500 liters of water)) exceeding the project goal of having 6,300,000 L of drinking water treated by POU devices.

Learning Agenda Final Results vs. Performance Indicator – 12 publications were produced exceeding the goal of 10, including:

- A research poster on the history of the pitcher pump systems in eastern Madagascar was presented at the 6th International Rural Water Supply Network (RWSN) Forum in Kampala, Uganda, in November 2011.
- A paper documenting the PPP service delivery model in Madagascar was presented at the same 2011 RWSN Forum.
- The results of an investigation on the effectiveness of different models of ceramic water filters were published in a MSc thesis at the University of South Florida (USF-Tampa) and presented at the University of Oklahoma WaTER (Water Technologies for Emerging Regions) conference in 2011.
- Presented a research poster documenting preliminary results from the self-supply component of the USF/RANO HP research agenda at the 6th International Forum of the RWSN in 2011.
- Discussed the emergence of Public Private Partnerships in Madagascar during an online Webinar Series hosted by the World Bank in May 2012.
- Published an article entitled “Public Private Partnerships in Madagascar: Increasing the sustainability of piped-water supply systems in rural towns” in the July 2012 edition of the academic journal *Waterline*.
- Published an article titled “Unsubsidised self-supply in eastern Madagascar” in the October 2013 issue of the journal *Water Alternatives*.

Public Health Impacts of the RANO-HP Project

The RANO HP project has resulted in a significant reduction in the number of households using untreated surface water. Untreated surface water represents a very high risk of *Cryptosporidium* infection that causes increased diarrhea rates in Madagascar (Areeshi et al.2008), increased infant mortality rates and increased malnutrition/stunting. 48% of Malagasy children are chronically malnourished; 13 per cent suffer from acute malnutrition (http://www.unicef.org/infobycountry/madagascar_2436.html) and 50% have moderate or severe stunting (from The State of the World's Children 2013).

The improved water sources and water treatment associated with the RANO-HP project will also result in significantly reduced risk of cholera infection should a cholera outbreak occur again as happened in 1999-2000 (Ahmad 2000).

LESSONS LEARNED

- The installation of water meters to measure consumption at each distribution point is an essential component of the public-private partnership approach. Water meters allow service providers to offer a tariff structure of varying rates depending on the level of water services, while at the same time effectively limiting water wastage through the rational management of water by each consumer.
- In general, rural communities have the capacity and willingness to pay for water services. However, it is important to find a pricing strategy appropriate to the recipient's ability to pay and the profitability of managing the system.
- The payment of the water service connection could be facilitated by paying in installments or prepayment, particularly at the time of harvest when household income is greatest.
- The Ministry of Water at the national and decentralized levels plays a key role in the effectiveness of the Public-Private Partnerships. Given the USG restrictions, it was difficult for the project to engage stakeholders from the Ministry, though RANO HP recognizes that the continued engagement of the Ministry to monitor the PPP agreements is vital to their long-term success.
- The high level of iron in groundwater along the east coast poses an obstacle to exploiting the shallow aquifer. Treatment technologies exist, but continued operations and maintenance needs are high and may challenge the viability of the systems in the long term.
- Under PPP contracts, the responsibilities of the water system construction contractors and the system manager for the care and maintenance of the system during the 12-month warranty period was poorly defined. The divisions of risk and responsibilities should be made clearer in future PPP arrangements.

- Recruitment of traditional local leaders, such as the *Mpanjaka* in the south east, was a key to the success of the CLTS approach in communities.
- The emergence and activities of village savings and loans associations (VSLA) contributed significantly to the success of CLTS. Indeed, the VSLA is a social capital program that contributes to creating ODF villages by allowing households to have a means of financing the construction of latrines thus contributing to opportunities for the poorest village members that would otherwise be unable to participate. Engaging VSLAs in the project was a successful option that also assisted in the expansion of water connections.
- The contribution of local masons in the implementation of CLTS was very important. Nearly 15% of latrines by households were made directly by the masons. So, on average, each mason could make at least 16 latrines and advise at least 48 households during the project. There was a gradual increase in private sector engagement in rural sanitation. Moreover, despite the allocation of material by RANO HP, local masons were free to practice their trade in the local market. The availability of three masons for each commune helped maintain service availability at the village level.
- Wherever possible, having local masons producing slabs in the early stages of facilitating CLTS is very important for supporting households immediately after they decide to terminate the practice of open defecation. Indeed, targeting local masons should be parallel with the start of CLTS. If local masons are not ready to start providing support as mobilization work starts, they should be ready to provide advice to households when they begin to build latrines. Thus, a return to open defecation practices of households due to the lack of quality control of latrine construction should be avoided.
- Promoting the use of latrines in communities usually requires consideration of the scale of the sanitation intervention, the number of households using the different types of latrine options, the number of shared latrines and other factors. Thus, it is important to implement early in the project a system that is appropriate for communities to be able to monitor achievements in a participatory manner. However, the question that arises is what are the key indicators to remember in promoting sanitation to ensure the relevance and effectiveness of a participatory monitoring system?
- The selection of Community Health Workers is a crucial step. These are volunteers wanting to bring change to their communities. The effective participation of local authorities, and the targeted communities, in establishing selection criteria for choosing Community Health Workers is essential.

RECOMMENDATIONS

- New private sector entrepreneurs should be encouraged to join the sector and efforts should be made to increase demand for professional water services in large rural towns where the model has proven to succeed. However, all private sector engagement in the sector should be facilitated through local government and a clear standardization policy outlining technical standards and acceptable rates should be developed and endorsed by central government
- Efforts should be made to increase the demand for improved water services more broadly in Madagascar. Information, Education, and Communication campaigns targeting district and communal level authorities aimed at increasing demand for modern water services should be an integral part of any future bilaterally funded rural water projects. Campaigns should include outreach to communities to inform them of their rights and responsibilities in terms of accessing a potable water supply. The principles outlined in the Water Code, the benefits of potable water, the differences in service levels, as well as the rewards of working with the private sector should be clearly articulated to rural communities in innovative ways such as short films, radio dramas, and SMS telephone messages. Where appropriate, the Ministry of Water and donors should arrange study tours for local authorities to visit a town with an established PPP to see firsthand the levels of service and coverage that are achievable (Annis and Rajinjato, Waterlines, 2012).
- Large rural centers require water systems that offer multiple service options and pricing structures. Like their counterparts in urban areas, households in these communities have a high demand for private connections, or prefer to share a tap with their neighbors rather than fetch water from a communal water point. Most defunct piped water supply networks in rural Madagascar do not include private or semi-private connections, and thus do not match the demands of the rapidly growing and ever more demanding population. Going forward, all piped water systems constructed in towns with a population of more than 2,000 people should have multiple service options that include private and semi-private options. These types of services encourage water use, which leads to healthier populations as well as increase profitability for the system manager. Reducing the time spent walking to and from a public tap stand will improve livelihoods, especially for women and girls (Annis and Rajinjato, Waterlines, 2012).
- The public-private partnership model was well executed and more work is necessary in-country to further develop and expand the model through the Government-led sector programs. Developing models for providing modern water services should be given high priority. Focusing future investments in emerging rural centers offer a genuine opportunity for the country to significantly increase rural water coverage rates over the next decade. Donors and the Ministry of Water should support the expansion of the Association of Private Sector Water

Distributers (Annis and Rajinjato, Waterlines, 2012).

- The long-term viability of these public-private partnerships in rural areas will be a challenge. Therefore, it is better to prioritize PPP intervention in areas where the population is denser and the local economy is more attractive to private operators. Assessing the degree of transparency in management and social accountability actors including PPP Client and the Manager is still a challenge. To this end, it is recommended to strengthen the relationships between the local authorities, the Manager and the subscribers. Conducting periodic evaluations and the use of the "Community Score Card" tool is also recommended.
- More than 40 companies from across the country have manifested their interest in competing in a series of upcoming calls for proposals sponsored by the project. Companies new to the sector will require specialized training and ongoing support to assure professionalism. Capacity building for the next generation of entrepreneurs should be included within future bilaterally funded water projects targeting rural areas (Annis and Rajinjato, Waterlines, 2012).
- The RANO HP project demonstrated that a public-private partnership approach that includes a 10-year service contract can be successfully negotiated. Follow-up evaluations should be conducted during the 10-year service contract period to assess: (1) the potential impacts to the projects of any disagreement between service providers and communes (2) water usage rate/revenue issues and (3) water customer satisfaction trends.
- The sector would benefit from the development of a comprehensive credit system for poor families to access loans for water supply and sanitation services. Such a system should be developed at the national level with access in the poorest and most inaccessible regions.
- The self-supply industry that has developed in eastern Madagascar should be encouraged and supported where possible since it allows the opportunity for families to upgrade their services when they can afford to do so. The development or improvement of water supplies by households largely or wholly at their own cost is an approach that can help increase coverage in areas where it is not feasible or cost-effective to develop communal supplies.

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Annex 1

LIST OF ACRONYMS AND ABBREVIATIONS

AIP	Annual Implementation Plan
BCC	Behavior Change Communication
CARE	Cooperative For Assistance And Relief Everywhere, Inc.
CAO	Comité d'Appels d'Offre
CHW	Community Health Worker
Caritas	Caritas Nationale Madagascar
CLTS	Community-Led Total Sanitation
Co Ag	Cooperative Agreement
CRS	Catholic Relief Services
CWSBP	Commune Water and Sanitation Business Plan
EMMP	Environmental Monitoring and Mitigation Plan
ERR	Environmental Review Report
FAO	U.N. Food and Agriculture Organization
FFL	Fampisamborana ho Fanamboarana Lavapiringa (Loan for latrine construction)
FY	Fiscal Year
GOM	Government of Madagascar
GPS	Global Positioning System
HH	Household
IEC	Information, Education & Communication
INSCAE	Institut National des Sciences Comptables et de l'Administration des Entreprises
IP	Implementing Partner
IPTT	Indicator Performance Tracking Table
LoP	Life of Project
MEO	Mission Environmental Officer
MELC	Monitoring Evaluation and Learning Coordination
MFI	Microfinance Institution
NGOs	Non Governmental Organization
MPAGA	MPAnamboatra GAbone "Latrine builders"
ODF	Open Defecation-Free
OSG	ONG Saint Gabriel
OTIV ZL	Ombona Tahiry Ifampisamborana Vola "Zone Litoralle"
PCD	Commune Development Plan
PCU	Project Coordination Unit
PMP	Performance Management Plan

POU	Point of Use
PPR	Program Performance Report
PPP	Public-Private Partnership
PSA	Private Sector Advisor
RANO HP	Rural Access to New Opportunities for Health and Prosperity
OR	Operations Research
SN2	USAID/Santénet2
SALOHI	Strengthening Access to Livelihood Opportunities for Health and Income
SARO	Southern Africa Regional Office
SME	Small to Medium Enterprise
TC	Technical Coordinator
TP	Technical Partner
ToT	Training of Trainers
TIAVO	Tahiry Ifamonjena Amin'ny VOla
USAID	United States Agency for International Development
USAID/OFDA	USAID/ Office of Foreign Disaster Assistance
USF	University of South Florida
USG	U.S. Government
VS	Voahary Salama
VSLA	Village Savings and Loan Associations
WASH	Water, Sanitation and Hygiene
WWD	World Water Day

Annex 2 - Highlights of Results from the Final (“Endline”) Survey

A final or “endline” survey of households was conducted during 2013. The survey included 1,210 households and 7,203 individuals. The results of the survey included the following:

Availability of Improved Drinking Water Sources

Coverage of improved access to water infrastructure has increased in the intervention areas of Rano HP. Compared to the initial situation in the project areas, the use by households of improved drinking water sources increased dramatically from 3.0% to 25.1% exceeding the goal for the end of the project. Similarly in terms of household members (as opposed to households), 24.9% of the population use an improved source and that the situation is much improved compared to the situation pre-project which was 3%.

Use of Latrines

Between the beginning and the end of the project, the proportion of households using latrines stood at 70.8% versus 33.6% at the beginning of the project and exceeding the project goal of 50%. Similarly, the proportion of households with children under five who dispose the excreta of their children in an acceptable manner increased from 27.0% to 64.1% (indicator 3.1a) between the beginning and end of the project.

Only 6.8% of households use an improved sanitation facility (such as sanplat slabs). While still low, it is above the 3.9% target set at the beginning of the project.

Hand Washing with Soap

The proportion of mothers with children under five years old who wash their hands with soap during the three critical times has substantially increased from 1.2% to 11.2% between the beginning and the end of the project, exceeding the project goal of 5%. This is likely a result of the efforts in sensitization and in the implementation of improved access to water whether through private or social water connections.

The percentage of households seen with with soap was 91.3% at the final survey versus 56.8% at the baseline survey and exceeding the goal of 65%.

Knowledge of WASH Messaging

Because of the sensitization activities, knowledge of WASH messages has increased in the intervention zone. The proportion of women who can quote three WASH messages went from 3.5% to 54.7% between the beginning and the end of the project. However,

these messages are broad and are not focused on the key messages. Only 20.8% of the women could quote the three key messages.

Time to Fetch Water

Comparing the beginning to the end of the project, the time spent to fetch water decreased from 27 minutes to 18 minutes meeting the project goal of 20 minutes or less. This difference is quite significant especially when you consider those who seek water make several trips a day. The survey found that without infrastructure the time to fetch water was 20.6 minutes but with infrastructure it was 8.6 minutes.

Safe Storage of Drinking Water

The percentage of households that practice safe storage of drinking water increased significantly for the beginning of the project (28.9%) to the end of the project (51.7%) exceeding the project goal of 40%.

Amount of Water Used Per Capita Per Day

The final survey found that the average water usage was 18.2 liters per person per day, an increase from 10.8 liters at the beginning of the project and exceeding the project goal of 15 liters per person per day.

Household Water Treatment

Treatment of water before consumption (in the household) increased from 46.3 % at baseline to 63.5 % at the end of the project.

% of Women Participating in the Project Activities

The percentage of women participating in the project activities was 51% by the final survey exceeding the project goal of 30%.

Annex 3

Spreadsheet of Final Results vs. Performance Indicators

Performance Indicators

Performance Indicators	Baseline	Goal	Achieved	Percentage of goal (%)	Notes and/or explanation if revised target is less than 70% of original
		Revised LOP June 12			
1.0 - Number of People reached by water and sanitation programs (cumulative)	0	250,000	352,785	141%	The number of people recorded here are the commune-level WASH stakeholders, residents of "open defecation free" villages reached through CLTS, and VS & LA members and their families.
1.1 - % communes with public private partnerships in WASH	0%	46.15%	12	100%	
1.2 - % increase in the amount of municipal budget allocated to water and sanitation	0%	0%			RANO HP ceased implementing activities influencing this indicator.
1.3 - % communes implementing water and sanitation business plans	0%	61.90%	12 of 26 = 46%	74%	12 of the 26 municipalities have implemented at least one of the activities under the plan.
1.4 - # communes with CWSBP	0	26	26	100%	
# of introductory meetings completed	0	26	26	100%	
# of communes with maps created	0	26	26	100%	
# of participatory assessments completed	0	26	26	100%	
# of people trained	0	20	24	120%	
# of commune trained in all topics	0	26	26	100%	
# of communes with a CWSBP	0	26	26	100%	
1.5 - % Of households who pay for the use of water from an improved source	23.63%	80.00%	100.00%	125%	All households having access to improved water source pay the services
1.6 - % Household with increased savings	13.72%	18.69%	33.30%	178%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
1.7 - # of clients using loan WASH products promoted by HP RANO	0	125	86	69%	The willingness of various parties (MFIs, latrine builders and the RANO HP project) to support the business, technical concepts and procedures has been promising, but the reality with respect to the implementation was more complicated than what was originally planned. It took more effort to the supervision and support of latrine builders in promoting proper credits than planned. Moreover, in the case of the South East area, some agents are reluctant in pursuing credit for latrines. Given these obstacles, the team decided for the last year to reduce the level of effort and investment allocated to this activity.
1.8 # of MFIs offering WASH loan products		2	2	100%	
# of summary reports prepared		1	1	100%	
# Of MFIs expressed interest in collaboration with HP RANO		2	2	100%	
# of MFI trained		4	4	100%	See report of training / workshop of 19 and 20 April 2011
# of MFI branches offering viable credit schemes for households that promote safe water and sanitation	0	18	17	94%	
# of MFIs with communication plans for marketing WATSAN loan products	0	2	2	100%	Each of the two MFI collaborating with the project have communication strategies for marketing WASH loan products
# of households using WASH loan products		125	86	69%	
1.9 - # of VSL groups functioning (cumulative)	0	204	254	125%	
Report submitted	0	1	1	100%	
# of people trained	19	20	29	145%	3 de CARE, 13 AT de CARITAS, 13 AM de CARITAS
Number of VSLAs created	0	240	254	106%	
# of VSLA members investing in WASH products and services (ex.. latrine building, POU water treatment, payment for water)	0	545	2,974	546%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
1.10 - # of new businesses or community enterprises (man-owned and woman-owned) providing WASH products and services	0	5	11	220%	
# of entrepreneurs identified	0	99	43	43%	In retrospect it was an unrealistic goal, 43 applications were received for the 12 infrastructure projects.
# of entrepreneurs trained	0	6	6	100%	
# of managers trained	0	8	5	63%	12 municipalities have benefited from supply systems and drinking water. RANO HP has provided at least 11 managers who will manage these systems. But 4 managers manage more than one commune, which explains the small number of trained managers.
# of communes with a management contract established with private sector service providers	0	12	12	100%	
# of staff trained			22		
# of stakeholders trained			300	120%	All stakeholders of the 12 municipalities that received infrastructure were trained.
1.11 - # communes implementing innovative PPP strategies	0	12	12	100%	
# of communes piloting an pro-poor approach to increase access to water by the most vulnerable	0	12	12	100%	Study on access by vulnerable populations completed and the results disseminated to system managers working with the program
2.1 - % of water points with functioning management structures	15.00%	65.00%	100.00%		
2.2 - # of gallons of water used per capita per day	10.80L	12L	18L	150%	
2.3 - % communes with 57% water supply coverage	0%	0.00%	65.40%		

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
2.4 - # Liters of drinking water treated with POU water treatment from USAID	0l	6,300,000L			350 tulip filters distributed and 39,955 bottles of Sür'Eau sold. Tulip filters can handle up to 7000 liters and 1500 liters for a bottle of Sür'Eau
2.5 a) - % of household in target areas with access to improved drinking water supply	3.00%	14.00%	25.12%	179%	
2.5 b) - % of people in target areas with access to improved drinking water supply	3.00%	14.00%	25.00%	179%	
2.6 - # of people in target areas with access to improved drinking water supply as a result of USG assistance		55,000	62,325	113%	
2.7- <u>F indicator</u> : # of people in target areas with first-time access to improved drinking water supply as a result of USG assistance.		55,000	62,325	113%	
2.8 - <u>USAID /MG specific indicator</u> : # of people trained in rehabilitation, maintenance, and management of water and sanitation infrastructures		575	14	2%	Under the PPP approach, system managers are responsible for the maintenance of drinking water systems. That is why this activity was changed to private training managers only on the management and maintenance of water infrastructure. But communities are aware of the measures to ensure the sustainability of the system.
2.9 - # improved water points constructed or rehabilitated by the private sector	0	800	1,001	125%	
<u>Revised Indicator</u> : # of communes with Environmental Review Reports (ERR) approved by USAID	0	12	12	100%	The target was updated to reflect the number of communes having ERRs approved by USAID .
# of communes with detailed technical feasibility studies (APD)	0	15	16	107%	Technical studies are performed only in communes targeted for infrastructure construction.
# of WASH users lists established	0	19	19	100%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
# of water points constructed with a community contribution (labor, materials)	0	800	1,001	125%	
# of private water points constructed AND semi-private water points constructed	0	800	1,001	125%	
2.10 - % of households that provide evidence for household water treatment method used	46.32%	60%	63.47%	106%	
# of filters models tested	0	1	1	100%	
# of market studies completed	0	1			The market study was not carried out because of budget restrictions.
# of households receiving POU messages from community health agents	0	28,080	19,932	71%	The expected result was not achieved because a shift was made to support the community health agents to be more convincing to result in changed behaviors (e.g. adopting 3 key WASH messages), not just the number of households visited.
# of persons touched by public awareness raising campaigns relating to POU	0	78,000	111,310	143%	
2.13 - # of communes implementing watershed protection plans (Cumulative)	0	8	12	150%	Includes only communes where gravity flow water supply systems having definitive watersheds will be built.
# of trainings completed	0	12	13	108%	
3.1a - % of households using an improved sanitation facility	0.55%	3.89%	6.80%	175%	
3.1b- % of people (male and female) with access to improved sanitation facilities		3.89%	6.41%	165%	
3.2 - % of households having infants between the ages of 0-59 months eliminating their children's excreta in a hygienic manner	26.94%	30.00%	64.10%	200%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
3.3 - % Of households with children under age 5 reporting an incidence of diarrhea within the in two weeks before the survey	30.29%	20.00%	25.20%	126%	
3.4 - % Of households with children under 59 months practicing hand washing with soap at critical times	1.24%	5%	11.20%	220%	
3.5 - % of households practicing safe water storage	28.91%	35%	51.30%	147%	
3.6 - % Of households using latrines	34.30%	45%	70.80%	157%	
3.7 a) - # of people in target areas with access to improved sanitation as a result of USG assistance		49,500	54,785	111%	
3.7 b) - # of people in target areas with first-time access to improved sanitation facilities as a result of USG assistance		49,227	54,785	111%	
3.8 - % Of households using private latrines	15.67%	20%	38.10%	190%	
3.9 - % of households with sanitary facility with protected door entry	19.28%	30%	60.74%	202%	
3.10 - % of households using shared latrines	17.95%	25.00%	32.70%	131%	
3.11 - % toilets with soap and water near the toilet	0.93%	10%	15.29%	153%	
3.12 - % Of households using latrines open pit latrines (w/o walls and roof)	3.91%	10%	2.56%		
# of Strategy paper drafted	0	1	1	100%	"Stratégie sur l'assainissement et hygiène"
# of field tools and materials kit validated	0	2	2	100%	CLTS and local masons
# of trainers trained in CLTS at district level	0	223	205	92%	
# toilets built or rehabilitated	0	8,500	8,589	101%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
# villages triggered			744		
# villages declared ODF			418		
# villages certified ODF	0	200	241	121%	
# of masons and carpenters trained in latrine construction and local fabrication of "sanplat"	0	78	78	100%	
# of households constructing hygienic latrines supported by masons and carpenters.	0	1,404	1,268	90%	
3.13 - % of mothers practicing hand washing at critical moments	1.10%	7%	11.20%	160%	
3.14 - % mothers capable of citing 3 WASH messages	3.50%	30%	54.70%	182%	
3.15 - % women caregivers of children under 5 capable of citing the 3 key WASH messages	0.69%	15%	20.80%	139%	
3.16 - % of households with soap	56.80%	65%	91.30%	141%	
3.17- % of population with soap and water at a hand washing station commonly used by family members	0.69%	3%	15.29%	510%	
# of tools and materials kit produced and validated	0	1	1	100%	
# of Ip staff trained in small doable actions approach and in transmitting 3 WASH messages	0	52	75	144%	
# of CHW trained in 3 WASH messages.	0	390	405	104%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
# of households visited by CHW	0	28,080	19,932	71%	The expected result was not achieved because a shift was made to support the community health agents to be more convincing to result in changed behaviors (e.g. adopting 3 key WASH messages) , not just the number of households visited.
# Households changing behavior			7,759		
# of people attending public sensitization events		78,000	111,310	143%	
3.18 - % people using public sanitation services.	0.46%	0%			The project's overall effect on the % of people using public sanitation facilities is negligible due to the reduction in public sanitation facilities constructed, and the elimination of all activities at public schools and health centers.
3.19 - # hygienic public toilets built or rehabilitated with separate female and male facilities	0	3	6	200%	Target reduced as a result of budget cuts
# public WASH facilities built		4	6	150%	Target reduced as a result of budget cuts
3.20 - # of communes implementing plans to manage solid waste	0	0	-	0%	Output abandoned as a result of the budget cuts
# of communes having a completed assessment.	0	0	-	0%	Activity abandoned as a result of the budget cuts
4.1 - % Of women participating in the project activities	0%	30%	51.00%	170%	
4.2 - Average time to fetch water (round trip)	27 mn	20 mn	18 mn		
4.3 - # gender sensitive Wat/San facilities constructed or rehabilitated	0	800	1,003	125%	
# of people trained	0	20	75	375%	
# of CWSBP with gender specific activities	0	26	26	100%	

Performance Indicators

Performance Indicators	Baseline	Revised Goal	Achieved	% of Goal	Notes and/or explanation if revised target is less than 70% of original
4.4 - Number of Operational research publications and success stories published.	0	10	11	110%	8 Success stories and 3 publications
# SOW drafted in collaboration with the University of South Florida (USF)	0	1	1	100%	
# of visits completed (report)	0	3	3	100%	USF
# of publications	0	4	4	100%	
4.5 - # of WASH platform activities in which RANO HP contributed financial or technical assistance	0	24	37	154%	Assemblée Générale Diorano Wash
# of WASH platform activities financed	0	3	34	1133%	Assemblée Générale Diorano Wash et celebration des journées mondiales relatives à EAH
# of working sessions organized by WASH platforms attended by RANO HP partners		30	39	130%	
4.6 - # of workshops organized to attract investment from non-USAID donors	0		-		Removed because of funding cuts.

Annex 4

RANO HP Water Projects

RANO HP Water Projects

No.	DISTRICT	COMMUNE	VILLAGE	Type of Infrastructure	Rehabilitation	New construction	Number of beneficiaries
1	VONDROZO	VONDROZO	Andakazera	AEPG = gravity system	Yes	Yes	2,743
2	VONDROZO	VONDROZO	Ankadibe centre ville	AEPG	Yes	Yes	
3	VONDROZO	VONDROZO	Andranodaro passage	AEPG	Yes	Yes	
4	VONDROZO	VONDROZO	Mangarivotra Lycee	AEPG	Yes	Yes	
5	VONDROZO	VONDROZO	Tanakidy Vers Masera	AEPG	Yes	Yes	
6	VONDROZO	VONDROZO	Ambalafary WWF	AEPG	Yes	Yes	
7	VONDROZO	VONDROZO	Ambodimanga Hopital	AEPG	Yes	Yes	
8	VONDROZO	VONDROZO	Morafeno Julie	AEPG	Yes	Yes	
9	VONDROZO	VONDROZO	Matsinjokely lalasarotra	AEPG	Yes	Yes	
10	VONDROZO	VONDROZO	Anandaza	AEPG	Yes	Yes	
11	VONDROZO	VONDROZO	Saharesa	AEPG	Yes	Yes	
12	IKONGO	IKONGO	Ambatoharanana	AEPG	Yes	Yes	6,419
13	IKONGO	IKONGO	Mangarivotra	AEPG	Yes	Yes	
14	IKONGO	IKONGO	Voninkazo	AEPG		Yes	
15	FARAFANGANA	IVANDRIKA	ANDRIANDRAFIA IVANDRIKA	AEPP = well with handpump		Yes	1,304
16	FARAFANGANA	IVANDRIKA	ANDRIAMANALY IVANDRIKA	AEPP		Yes	
17	FARAFANGANA	IVANDRIKA	ANDRIAMAMORY IVANDRIKA	AEPP		Yes	
18	FARAFANGANA	IVANDRIKA	AMBATSILANA	AEPP		Yes	
19	FARAFANGANA	IVANDRIKA	MIARINARIVO	AEPP		Yes	
20	VANGAINDRANO	SOAMANOVA	MAROROKY	AEPP		Yes	2,084
21	VANGAINDRANO	SOAMANOVA	AMBOANJO	AEPP		Yes	
22	VANGAINDRANO	SOAMANOVA	SOAMANOVABE	AEPP		Yes	
23	VANGAINDRANO	SOAMANOVA	SOAMANOVAKIDY	AEPP		Yes	

24	VANGAINDRANO	MATANGA	VOHITRARONGA SUD	AEPP		Yes	1,354
25	VANGAINDRANO	MATANGA	ANAKAVA	AEPP		Yes	
26	VANGAINDRANO	MATANGA	AMPASIKIRA	AEPP		Yes	
27	VANGAINDRANO	MATANGA	VOHITRARONGA NORD	AEPP		Yes	
28	FENERIVE EST	SARANAMBANA	MAROGISY	AEPPG	Yes	Yes	10,366
29	FENERIVE EST	SARANAMBANA	AMPIRANAMBO	AEPPG	Yes	Yes	
30	FENERIVE EST	SARANAMBANA	MANAKAMBAHINY	AEPPG	Yes	Yes	
31	FENERIVE EST	SARANAMBANA	AMBODIAZOMAMY	AEPPG	Yes	Yes	
32	FENERIVE EST	SARANAMBANA	SARANAMBANA	AEPPG	Yes	Yes	
33	FENERIVE EST	SARANAMBANA	ANTANAMBAO	AEPPG		Yes	
34	FENERIVE EST	SARANAMBANA	AMBODIAFOMENA	AEPPG		Yes	
35	FENERIVE EST	SARANAMBANA	ANJAHAMARINA	AEPPG		Yes	
36	FENERIVE EST	SARANAMBANA	AMBODISAINA	AEPPG		Yes	
37	FENERIVE EST	SARANAMBANA	AMPASIMAZAVA	AEPPG		Yes	
38	FENERIVE EST	SARANAMBANA	ANJAHAMARINA	AEPPG		Yes	
39	FENERIVE EST	SARANAMBANA	ANTANAMBAO	AEPPG		Yes	
40	FENERIVE EST	SARANAMBANA	AMBODISAINA	AEPPG		Yes	
41	FENERIVE EST	ANTSIATSIKA	SARANINDONA	FORAGE = machine drilled		Yes	
42	FENERIVE EST	ANTSIATSIKA	AMBAKOANA	FORAGE		Yes	
43	FENERIVE EST	ANTSIATSIKA	AMPASIMPOTSY	AEPPG	Yes		
44	FENERIVE EST	ANTSIATSIKA	LADOANY A	AEPPG	Yes		
45	FENERIVE EST	ANTSIATSIKA	AMBONILAHY	AEPPG	Yes		
46	FENERIVE EST	ANTSIATSIKA	MAROVATO	AEPPG	Yes		
47	FENERIVE EST	ANTSIATSIKA	MAROSOLATRA	AEPPG	Yes		
48	FENERIVE EST	ANTSIATSIKA	AMBODIBONARA	AEPPG	Yes		

49	VAVATENINA	AMBODIMANGAV ALO	AMBODIMANGAVALO AMBONY	AEPG		Yes	9,432
50	VAVATENINA	AMBODIMANGAV ALO	MANAKAMBAHINY II	AEPG		Yes	
51	VAVATENINA	AMBODIMANGAV ALO	MANAKAMBAHINY I	AEPG		Yes	
52	VAVATENINA	AMBODIMANGAV ALO	AMBODIVOARA	AEPG		Yes	
53	VAVATENINA	AMBODIMANGAV ALO	MORAFENO	AEPG		Yes	
54	BRICKAVILLE	ANIVORANO EST	SECTION I	AEPG	Yes	Yes	5,698
55	BRICKAVILLE	ANIVORANO EST	SECTION II	AEPG	Yes	Yes	
56	BRICKAVILLE	ANIVORANO EST	AMBOHIMANDROSO	AEPG	Yes	Yes	
57	BRICKAVILLE	ANIVORANO EST	DEPOT	AEPG	Yes	Yes	
58	BRICKAVILLE	ANIVORANO EST	AMBALAFARY	AEPG	Yes	Yes	
59	BRICKAVILLE	ANIVORANO EST	SECTION IV	AEPG	Yes	Yes	
60	BRICKAVILLE	ANIVORANO EST	ANTANAMBAO	AEPG	Yes	Yes	
61	BRICKAVILLE	LOHARIANDAVA	LOHARIANDAVA TANAMBE	AEPG	Yes	Yes	3,410
62	BRICKAVILLE	LOHARIANDAVA	LOHARIANDAVA GARE	AEPG	Yes	Yes	
63	BRICKAVILLE	LOHARIANDAVA	MAHASOA	AEPG		Yes	
64	BRICKAVILLE	LOHARIANDAVA	VOHITSIVALANA	AEPG		Yes	
65	BRICKAVILLE	LOHARIANDAVA	ANTSIRAKAOMBY	AEPG		Yes	
66	VATOMANDRY	TSARASAMBO	TSARASAMBO	AEPG	Yes	Yes	4,380
67	VATOMANDRY	TSARASAMBO	MAROFODY	AEPG	Yes	Yes	
68	VATOMANDRY	TSARASAMBO	AMPAHO	AEPG	Yes	Yes	
69	VATOMANDRY	TSARASAMBO	ANTSAMPANANA	AEPG	Yes	Yes	
70	VATOMANDRY	ILAKA EST	ILAKA EST CENTRE VILLE	AEPG	Yes	Yes	9,729
71	VATOMANDRY	ILAKA EST	ANTANAMBAO	AEPG	Yes	Yes	
72	VATOMANDRY	ILAKA EST	AMBODIBAKOLY	AEPG	Yes	Yes	