ENVIRONMENTAL HEALTH PROJECT

Activity Report 120

Combining Hygiene Behavior Change with Water and Sanitation: Monitoring Progress in Hato Mayor, Dominican Republic

by

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July 2003

Prepared for the Office of Health, Infectious Diseases and Nutrition,
Bureau for Global Health, U.S. Agency for International Development,
under EHP Project 26568/CESH.DOC.DR.Y4

Environmental Health Project
Contract HRN-I-00-99-00011-00
is sponsored by the
Office of Health, Infectious Diseases and Nutrition
Bureau for Global Health
U.S. Agency for International Development
Washington, DC 20523

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Acronyms

CHP	Community Hygiene Promoter
CRS	Catholic Relief Services
DHS	Demographic and Health Surveys
DIGPRES	Ministry of Health's Department of Health Promotion
EHP	Environmental Health Project
INAPA	National Water Authority's Department of Rural Aqueducts
MOH	Ministry of Health
MUDE	Dominican Women in Development
NGO	Non-governmental Organization
PAHO	Pan American Health Organization
PAHO	Pan-American Health Organization
SSID	Social Services of Dominican Churches
STI	Sexually Transmitted Infection
TCP	Total Community Participation
USAID	United States Agency for International Development
WHO	World Health Organization

Acknowledgements

The authors thank everyone in the Dominican Republic who assisted in the implementation of the survey and ensured that the data were of the highest quality possible. We are especially grateful to the institutions that supported this effort by providing high-quality counterpart staff, technical expertise and vision in order to make this survey and its corresponding formative research and community-level interventions possible. These institutions are the Ministry of Health's Department of Health Promotion (DIGPRES), National Water Authority's Department of Rural Aqueducts (INAPA), Catholic Relief Services (CRS), Dominican Women in Development (MUDE) and Social Services of Dominican Churches (SSID) (both local NGOs), Peace Corps, Pan-American Health Organization (PAHO) and the United States Agency for International Development (USAID).

The authors also acknowledge the efforts of Sandra Callier for reviewing the various drafts of this report. Her suggestions contributed to the overall quality of this document.

Finally, it is important to recognize that the behavior changes and health effects that this survey attempts to measure are the results of the tireless work of a team of 23 volunteer community health promoters committed to improving the health of their children, families and communities.

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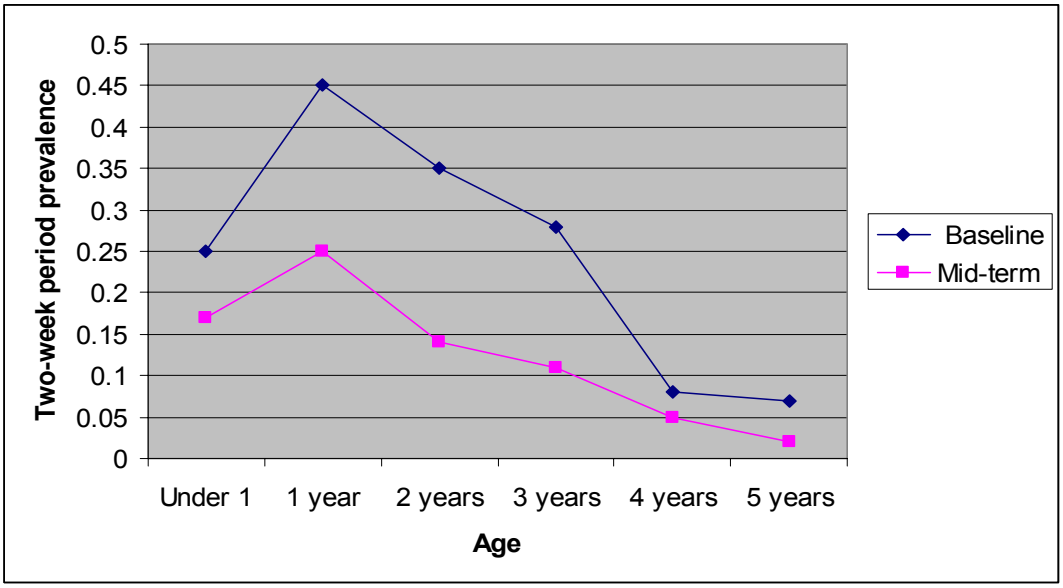
Executive Summary

In December 2001 and May 2002, two surveys were conducted as part of a hygiene behavior change programming process in nine communities of the municipality of Hato Mayor in the Dominican Republic. The purpose of these surveys was to provide NGO program managers and communities with timely information about changes in diarrhea prevalence and hygiene behaviors before and after water and hygiene interventions were introduced. The surveys were part of the process and could be characterized as "participatory monitoring." They were not intended as a scientifically rigorous program evaluation; 109 households at baseline and 125 households at mid-term were consecutively selected. Two additional surveys are planned for 2003 and 2004 to monitor trends and sustainability of the observed changes after one and two years of program interventions.

Of the 165 children under five years of age included in the baseline sample, 27% were reported to have had diarrhea within the previous two weeks. Five months later, this fell to 11% for the 209 children included in the mid-term survey. The overall reduction was found to be highly statistically significant (P-value=.0001). While this decrease may be attributable to the program interventions, it may also reflect seasonal variations.

Graph 1 below illustrates the differences in period prevalence of diarrhea by age at baseline and mid-term. The largest changes were recorded among children between the ages of one and three. A spike in illness can be seen for children at age one. Such an increase is frequently observed because one year olds are exposed to a higher pathogen load due to greater mobility and weaning food that is not prepared hygienically.



Graph 1. Two week period prevalence of diarrhea by age

Most of the hygiene behaviors promoted as part of the intervention showed statistically significant improvements from the time of baseline to mid-term. Increases in handwashing after going to the bathroom were reported by the primary caregiver (a 12% improvement) for herself and the youngest child (a 16% improvement). An increase from 15% to 31% was recorded for reported handwashing of the youngest child before eating. Use of soap improved from 59% to 79%. Also, there appears to be a trend for improved handwashing technique. Handwashing demonstrations showed an increase in the proportion of respondents who rubbed their hands together three or more times from 47% (at baseline) to 77% (at mid-term).

Interestingly, no significant changes were detected over the study period for caregivers reporting handwashing before food preparation, before eating, after cleaning a child who had defecated or before breastfeeding. This may be demonstrative of the emphasis given to handwashing after going to the bathroom by the Community Hygiene Promoters (CHPs).

The main objective of the surveys was to reinforce the work of the CHPs by quantifying the changes that are plausibly associated with their efforts. The "witnessing of visible changes" and a sense of accomplishment have been cited as effective incentives to motivate Community Health Workers (Bhattacharyya et al., 2001). At the community level, the success and sustainability of the project rests with the continued promotion and negotiation of improved hygiene practices by CHPs. CHP participation and motivation strategies were central considerations at every stage of the project. Participatory monitoring using repeated household surveys was an authentic effort to empower local implementing NGOs. This has to be taken into account when interpreting the findings presented in this report.

Finally, this study and its corresponding hygiene behavior change intervention are the results of an impressive inter-institutional effort. Nine institutions, including two Dominican Government agencies, three NGOs, one multi-lateral and three bi-lateral organizations, came together to make it possible. This collaborative enterprise has created a sense of ownership on the part of all stakeholders and is demonstrated by continued commitment and work to scale up to the national level. Such participatory approaches to project implementation can serve as a model to achieve impact, scale and sustainability.

1. Introduction

Hygiene behavior change was introduced to the Dominican Republic in 2000 through USAID funded technical assistance as part of the Hurricane Georges Reconstruction Initiative. Sixteen NGOs, the Ministry of Health and the National Water Authority participated in an intensive EHP training course that included behavior change theory and methodology as well as experiential field application. Following this training, a core team was formed to carry out the completion of a rigorous formative research project in hygiene behavior change. The team's work culminated with the development, field testing and implementation of a community-based hygiene behavior change strategy in nine communities in the municipality of Hato Mayor.

Hato Mayor is located in the central-eastern section of the Dominican Republic, approximately three hours from the capital city of Santo Domingo. The nine communities included in this study are characterized as rural and poor. The communities are Libonao, La Mora, Vasquez, El Coco, El Mamón, Jaqueta, Bambu, Mango Limpio and Kilometro 15. They are dispersed geographically, but culturally homogeneous. Prior to the project, Hato Mayor's sanitation coverage was abysmally low as less than 10% of the households in the target communities had access to adequate sanitation. Likewise, water supply in these communities was not safe or adequate. Residents collected water in buckets and cans from nearby rivers and surface springs or from the more distant sugar processing plants.

The nine communities of Hato Mayor were targeted for the hygiene behavior change intervention as they were just beginning work on water and sanitation pilot projects. These jointly funded USAID/National Water Authority projects were designed to demonstrate the Total Community Participation (TCP) model. This model focuses on mobilizing community involvement to achieve sustainability for rural water and sanitation programs. The hygiene behavior change intervention was added to maximize the potential health effect. To date, participatory monitoring using two consecutive household surveys was part of an inter-institutional effort to incorporate hygiene behavior change into these pilot projects.

The objective of the baseline and mid-term monitoring surveys was to measure the intermediate outcomes resulting from the implementation of integrated hygiene, water and sanitation interventions among selected households in nine communities of Hato Mayor. Two additional surveys are planned for 2003 and 2004 to monitor trends and sustainability of the observed changes after one and two years of program interventions.

The hygiene intervention was implemented by Community Hygiene Promoters trained in hygiene behavior change. They used didactic materials that were developed as part of the formative research component of the overall project. The community-

level hygiene intervention focused on the promotion of six macro-behaviors, encompassing 42 micro-behaviors. The macro-behaviors included:

1. maintenance of uncontaminated drinking water supply

2. latrine use for children over three years of age

3. latrine use by all family members

4. use of potties for children under three followed by the appropriate disposal of feces in the latrine

5. handwashing at critical moments (after using the latrine, before eating, after changing diapers, before food preparation and before serving food)

6. promotion of a permanent place for handwashing.

The details of the formative research and hardware components of the overall project are beyond the scope of this report. The formative research piece is documented in another EHP Activity Report (forthcoming), and the water and sanitation interventions are recorded in the Final Program Reports of Catholic Relief Services and Women in Development (MUDE).

The data that is presented in this report is considered to be participatory monitoring in that the inter-institutional team that initiated the water, sanitation and hygiene activities is participating in the systematic process of the ongoing community level data collection. Such organizational participation is essential to build and maintain stakeholder buy-in.

The results of participatory monitoring have three intended uses:

1. as a monitoring tool for program managers and communities to identify accomplishments and challenges of the hygiene behavior change intervention to fine tune future field work

2. as feedback for the community-level volunteer Hygiene Promoters to motivate their continued work by demonstrating their accomplishments and quantifying their results

3. as confirmation of the importance and potential of hygiene behavior change for local stakeholders to continue efforts to scale up this activity to the national level.

The baseline survey data collection was conducted the first week of December 2001. The mid-term evaluation survey was completed the second week of May 2002. It is important to recognize that the hardware interventions were at different stages of completion and operation throughout the nine communities at the time of the baseline survey. Therefore, all comparisons of data between the baseline and mid-term

evaluations reflect to some degree the combined effect of improved access to water as well as hygiene education.

2. Background

About 1.3 million children die from diarrheal diseases each year in developing countries, making it the second leading cause of worldwide mortality for children under five (WHO, 2003). In 2000, diarrhea claimed more than 37,000 lives in Latin America and the Caribbean (PAHO, 2001).

Diarrhea prevalence in the rural areas of the Dominican Republic remained constant at 16% according to the 1996 and 1999 Demographic and Health Surveys (DHS). The Dominican Ministry of Health has reported that diarrhea is the leading cause of death nationwide (2002). Children who survive may contend with other health effects. Diarrhea significantly contributes to protein-energy malnutrition, which in turn can seriously effect childhood growth and development (Berger and Esrey, 1995).

Diarrheal disease prevention requires a comprehensive, integrated approach. EHP's diarrhea prevention strategy, known as the Hygiene Improvement Framework has three core components: access to hardware, hygiene promotion and promoting enabling environments (Figure 1). By blocking the pathways to contamination (the first two components) and promoting sustainability (the third), this model offers a comprehensive framework for designing, implementing, and evaluating programs to fight diarrhea.

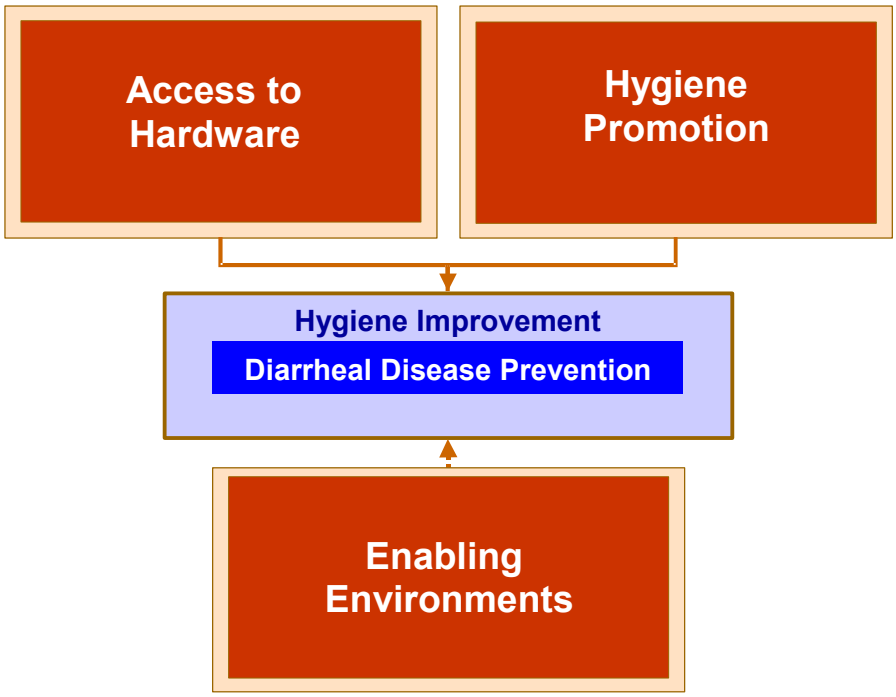


Figure 1. Hygiene Improvement Framework

An important component of the Hygiene Improvement Framework is hygiene promotion. Cost-effectiveness estimates of hygiene promotion range from $.20 to $11.20 per diarrhea case averted (Varley, 1998). This low-tech intervention consistently demonstrates significant reductions in diarrhea prevalence; the landmark 1991 meta-analysis completed by Esrey et al. demonstrated an average 33% reduction in diarrhea from handwashing alone.

Hygiene promotion also reinforces the third component of the Hygiene Improvement Framework by empowering communities through participation. This is a critical approach to creating an enabling environment and achieving sustainability. "Participation and influence are considered essential for developing effective [health] programs and more importantly are considered health promoting in and of themselves" (Baker and Brownson, 1999).

The World Health Organization defines health promotion as "the process of enabling people to increase control over and to improve their health" (WHO, 1986). Through the negotiation of improved hygiene practices at the household level, families are empowered with knowledge and skills. Community elected volunteer Hygiene Promoters are the change agents responsible to their communities for facilitating improved health. Monitoring of those improvements can reinforce positive behavior changes and motivate CHPs to continue their work. "For health professionals concerned with community organizing and community building for health, there are two reasons for the imperative placed on effective … health assessment: information

is needed for change, and it is needed for empowerment" (Hancock and Minkler, 1997).

The first two components of the Hygiene Improvement Framework work together to disrupt the transmission of micro-organisms that cause diarrheal disease. Hygiene promotion leading to improved hygiene practices (e.g., handwashing) and access to hardware (e.g., water and sanitation) succeed in blocking different fecal transmission routes. The F-diagram presented by Kawata, illustrates the pathways of fecal exposure and corresponding opportunities to interrupt transmission. Pathogen exposure is reduced, which leads to a decrease in diarrheal disease and improved nutrition absorption. These intermediate outcomes mutually support a decrease in mortality and morbidity.

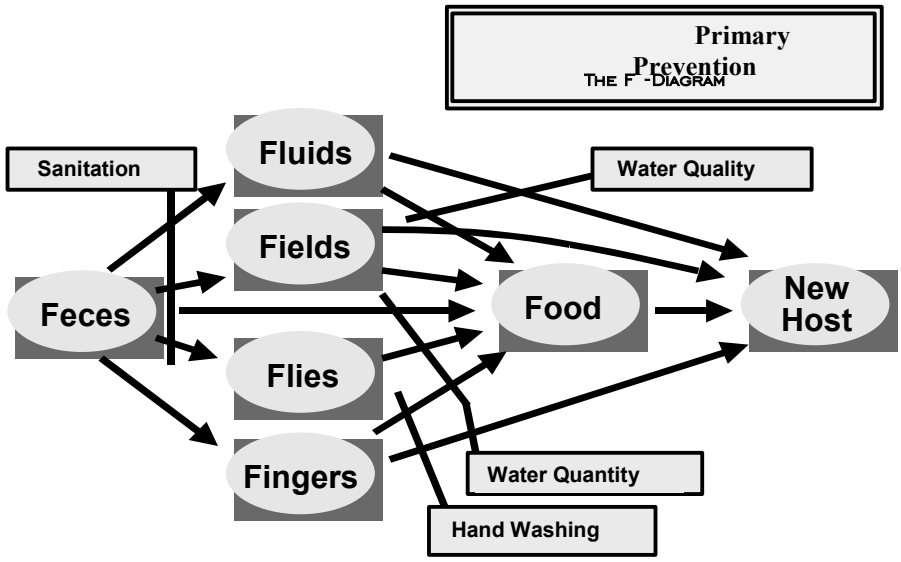


Figure 2. Primary prevention and routes of possible transmission of disease from feces

Source: modified from Kawata, 1978

While research supports this transmission/prevention framework (Esrey et al. 1991, Kolsky, 1993, Han et al. 1989, Haggerty et al. 1994), there is still considerable debate concerning the best hygiene promotion strategy. Some studies suggest that targeting a single behavior such as handwashing is likely to produce the largest impact on health status (Huttly et al. 1997). In contrast, a case-control study in rural Bangladesh demonstrated interaction between water supply (hand pumps) and hygiene education. These interventions were shown to produce significant drops in children's diarrhea after three to four hygiene activities were practiced together (Alam et al. 1989).

While this issue remains unresolved, there is consensus that high levels of fecal exposure, often present in heavily contaminated environments, may limit the effectiveness of controlling only one or two routes (Briscoe, 1984; Kolsky, 1993). This has been attributed to the "threshold-saturation theory," which suggests that "at the lower end of the spectrum, there is a threshold below which investments in

community water and/or excreta disposal facilities alone result in little detectable improvement in health status" (Shuval et al., 1981).

Despite the increase in knowledge of how to improve health, the solution requires political will and economic capital in order to expand access. Currently, rural access to potable water and sanitation is disconcertingly low in the Dominican Republic.

Table 1. Water, sanitation and diarrhea in the Dominican Republic by urban and rural residence

Region	Percentage of population without access to potable water services	Percentage of population without access to sanitation	Percentage of children under five with reported diarrhea in the previous two weeks
Urban	16.9	4.4	15.4
Rural	49.3	21.3	17.9

Sources: PAHO 2000; DHS 1999

Table 1 shows the dramatic difference in access to water and sanitation between the urban and rural areas. This difference, however, is not reflected in the diarrhea prevalence rate between the areas. This could be explained by the threshold saturation theory discussed previously. That is, although the urban areas have better access to water and sanitation, high levels of environmental fecal exposure may increase transmission. Hand-to-mouth transmission is generally not interrupted by water and sanitation alone—handwashing is required.

These data highlight the need for expansion of hygiene education in order to maximize the health benefits to those with access to water and sanitation and to mitigate the negative health consequences of those without access. This study provides support to the concept that integrated water, sanitation and hygiene education programs can be successfully implemented in the Dominican Republic and can produce a significant reduction in diarrhea prevalence.

As part of the participatory monitoring process, data were collected to allow communities, CHPs and other stakeholders to examine changes in diarrhea prevalence as well as reported and observed behaviors relating to drinking water storage, handwashing and latrine use. The surveys also collected some basic demographic data of the selected households.

3. Methodology

3.1. Participatory Monitoring Approach

Participatory monitoring as implemented in the nine pilot communities in the Dominican Republic consisted of two household surveys that were administered approximately five months apart. The baseline survey was implemented before hygiene promotion intervention began, and the mid-term survey was implemented five months post-intervention to quantify initial changes that may be attributable to the program.

3.2. Target Population

The target population consisted of selected households with children under five at the time of the baseline survey in nine rural communities of the municipality of Hato Mayor, Dominican Republic. The communities are Libonao, La Mora, Vasquez, El Coco, El Mamón, Jaqueta, Bambu, Mango Limpio and Kilometro 15. This universe was selected in order to measure outcomes of integrated hygiene, water and sanitation interventions among selected households of communities participating in the pilot projects managed by Catholic Relief Services (the first five communities) and Women in Development (the last four communities).

3.3. Sample Design

The sample was designed using a weighted-quota to ensure participation from all project communities. The total sample size was calculated using a simple random sample calculation multiplied by the design effect. However, households were not selected at random but included consecutively until the quota was met. The total number of children under five to be included in the survey was calculated at 135.

The total proportion of children under five needed for the sample was 35% of the total population under five years of age. This proportion was applied to each community in order to establish a proportional representation. The number of households interviewed in each community is detailed below.

Table 2. Children under the age of five years and quotas by community

Community	Under 5 Census	Rounded Quota
Libonao	23	8
La Mora	24	8
Vasquez	19	7
El Coco	39	14
El Mamon	36	13
Jaqueta	33	12
Bambu	49	17
Mango Largo	42	15
Kilometro 15	120	42
Totals	**385**	**135**

There were 109 households interviewed at the baseline, 13 of which were households with elevated-composting latrines. There were 125 households included in the mid-term survey, 16 of which were additional households to capture the particular behaviors that were promoted for households that constructed elevated-composting latrines in communities where none existed at baseline. To the greatest degree possible, the same households were visited during the baseline and mid-term surveys, with the exception of the 16 additional households with composting latrines in the latter.

3.4. Questionnaires

Both the baseline and mid-term questionnaires consisted of 60 questions and 18 structured observations. A supplemental questionnaire was developed and applied to households with an elevated-composting latrine. The supplemental consisted of 11 questions (ten for the mid-term) relating exclusively to elevated-composting latrines.

Both instruments were field tested in two rural communities that had similar characteristics to the nine communities of Hato Mayor.

Several changes were made to the mid-term evaluation survey in order to improve the instrument's validity and collect additional information, while eliminating questions that were not considered useful (e.g., in cases when several interviewees reported that they questioned the respondents truthfulness). A section on contact and interaction with the community health promoter was added to the mid-term survey. This was not included in the baseline as the promoters did not become active until after the baseline was completed.

Both questionnaires are annexed. Those questions that were substantially modified have not been used in the analysis of this report. However, these questions may be useful for measuring changes between the mid-term and future monitoring surveys.

A structured observation using a checklist was completed for each interviewee. She was asked to demonstrate washing her hands. Water manipulation, use of soap, number of times hands were rubbed together and drying technique were recorded. Additionally, water storage and latrine structure and cleanliness were also observed by the interviewer.

Both questionnaires collected information on the following:

1. Socio-demographic/Diarrhea prevalence

   Household composition

   School facilities

   Presence and type of community organizations

   Diarrhea prevalence within the last two weeks

2. Drinking Water Storage

   Observed storage

   Drinking vessel

   Washing practices

3. Hand Washing

   Critical moments—primary care taker

   Critical moments—child

   Facilities

   Peripherals (soap, towel and water)

   Observed skills (use of soap, rubbing hands together and use of towel)

4. Sanitation and Feces Disposal

   Time of ownership of a sanitation facility

   Sharing of latrine

   Observed structure and cleanliness

   Elevated- composting latrine only:

   Latrine use

Knowledge of proper maintenance

Acceptability

Related practices

Observed cleanliness

5. Water Supply Sustainability

   Access

   Participation

   Payment

Mid-term evaluation only:

6. Contact with health promoter

   Themes discussed

   Number of visits

   Commitment to make a behavior change

   Receptivity to visits.

3.5. Organization and Logistics

The organization and logistics of the field level data collection were the same for both the baseline and mid-term surveys. Two inter-institutional teams were formed to complete the field level data collection. Each team consisted of eight interviewers and one supervisor. The teams were comprised of NGO staff and representatives from the Ministry of Health as well as the Rural Aqueduct Department of the National Water Authority. Community Hygiene Promoters collaborated in the identification of households with children under five. Each questionnaire required approximately 25 minutes to complete.

Supervisors randomly monitored interviewers for quality assurance, and feedback was provided when appropriate.

Both field teams participated in coordination and debriefing meetings, which were held each night following the first two days of data collection. Both teams returned to the capital upon completion of the data collection on the third day.

3.6. Personnel Training

All interviewers had previous experience with community level data collection and survey interviewing. They received eight hours of training in the use of the questionnaire. The training was carried out by the field supervisors. A field manual was elaborated by the primary researcher and the field supervisors. This manual defined and standardized interviewing procedures.

3.7. Data Tabulation and Entry

Data was entered, processed and summarized using EPI-INFO Version 6.4. The results of this analysis are presented in Chapter 5 Results.

4. Limitations of Study

There are five limitations to the study design. First, no pre-hardware baseline was established due to time constraints resulting from funding restrictions. Therefore, analysis and measurement of the impact of water and sanitation interventions independent from the hygiene behavior change activity is not possible.

Second, because the sample of households was not selected at random, but used a quota approach, statistical tests are biased (of unknown magnitude). This also limits the ability to generalize beyond households included in the sample to the entire population in pilot communities. Households that were selected for inclusion in the surveys may have somehow been systematically different from households that were not included.

Third, the participatory monitoring process did not include a control group for practical and economic reasons. Because all of the interviewed households were in project communities, there is no non-intervention group with which to compare observed changes. In the absence of a control group, conclusions about the extent to which changes are attributable to interventions are tenuous.

Fourth, although the majority of the interviewed households at baseline were included in the mid-term evaluation (with the exception of the 16 additions discussed above), no coding system was used to be able to link the baseline and mid-term survey by household. Such a coding system would have permitted a more rigorous data analysis (using paired sampling tools) in addition to allowing a comparison of changes in diarrhea prevalence by household with and without water at baseline. Moreover, repeat visits to households increase the Hawthorn effect—people may change their responses and behavior according to what they perceive as desirable when they are observed and interviewed.

Finally, changes to the questionnaire could compromise the validity and reliability of the modified questions. Such questions may not be measuring the same information from the baseline to the mid-term survey and, therefore, have been excluded from this report. Some of these changes are discussed above.

5. Result

This chapter presents the summary data collected from the baseline and mid-term surveys. Unless indicated otherwise, chi-squares were calculated on the summary data for baseline and mid-term surveys to test for statistical significance. This was done for a better interpretation of observed differences between the baseline and mid-term surveys. However, because of the limitations of the participatory monitoring process explained in the previous section, the results from these statistical tests have to be interpreted with caution. Even so, P-values less than .05 are generally considered statistically significant. What this means is that if we were to re-survey the households in the nine communities 100 times, the true population proportion would be included in approximately 95 of the sample-based confidence intervals. About five of the 100 surveys would be expected to yield erroneous interval estimates outside the true population proportion.

5.1. General Demographic Characteristics

The mean household size at baseline was 5.9. The primary caregiver of children under five was most often the mother (73%). However, 24% of the households reported that the grandmother was the primary caregiver. Sisters and other family members were also cited as primary caregivers for the remaining households. All respondents reported that their community had a school. Fifty-four percent of households reported to belong to a community organization by the mid-term survey. Of those reporting such membership, over half cited belonging to a neighborhood association, 20% stated they were part of a women's committee, and 18% reported to belong to the water committee (see Chart 1).

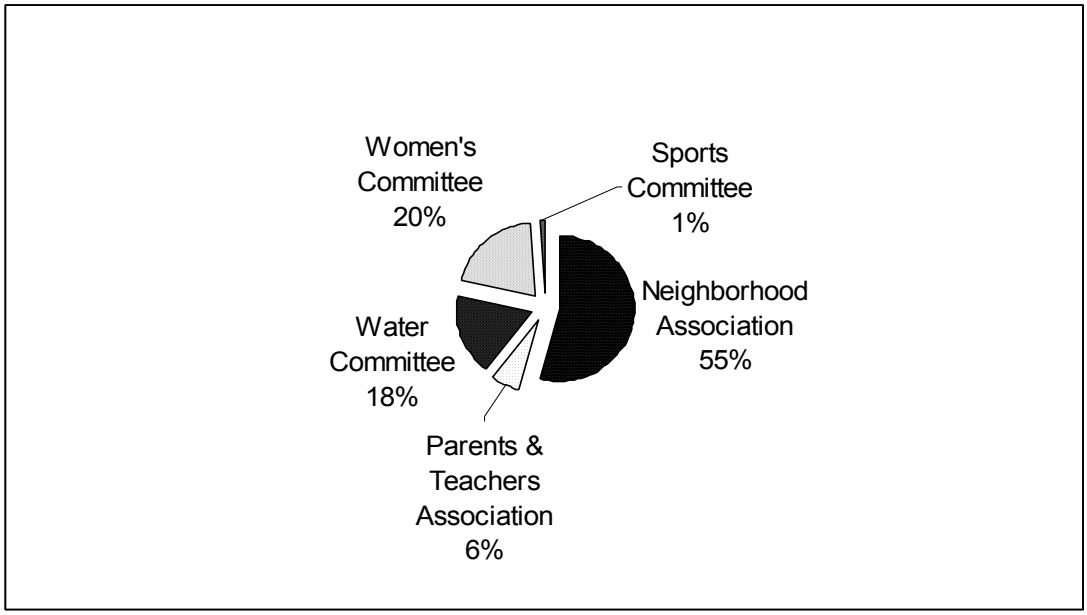


Chart 1. Membership in community organizations reported by those belonging to an organization

5.2. Diarrhea Prevalence

The desired health effect from water, sanitation and hygiene behavior change interventions is a reduction in diarrhea prevalence. At baseline, households were asked about diarrhea prevalence within the past two weeks for all children under five living in the household; this question was repeated in the mid-term survey. Information on children who turned five after the baseline, but before the mid-term survey, was collected in order to include the same cohort in both surveys.

Table 3. Percentage of children with diarrhea by age

	Baseline			Mid-term			
Age	**N**	**Diarrhea cases**	**%**	**N**	**Diarrhea cases**	**%**	**P-value for difference between percentages**
Under 1	8	2	25	36	6	17	0.62*
1 year	42	19	45	24	6	25	0.1
2 years	31	11	35	42	6	14	0.03
3 years	32	9	28	27	3	11	0.19
4 years	24	2	8	38	2	5	0.64*
5 years	28	2	7	42	1	2	0.56*
Total	**165**	**45**	**27**	**207**	**24**	**11**	**0.0001**

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

A decrease in diarrhea prevalence occurred between the baseline and mid-term surveys for all age groups. The difference was statistically significant for one and two year olds. Stratification by age reduced the overall power of the findings, which may explain the lack of statistical significance. Overall, the largest decreases in diarrhea prevalence occurred for children between the ages of one and three (see Table 3).

Mean diarrhea prevalence for children under five at baseline was 27%. This measurement significantly decreased to 11% (a 16% decrease) at the mid-term survey (P-value=.0001). One important consideration is the possibility of seasonal diarrhea fluctuations from the time of the baseline (December) to the time of the mid-term (May). Although seasonal epidemiological data is not available to empirically reject this possibility, anecdotal reports from key informants suggests that diarrhea rates are highest in the Dominican Republic during the April/May rainy season.

5.3. Drinking Water

5.3.1. Primary water source

At baseline, 34% (not shown) of the households reported having access to a community water system. All of theses households were located in the two communities where the water systems had been completed by the hardware component of the project. By the mid-term survey, all nine communities had new water systems (including rain water catchment), and all households reported access. Chart 1 illustrates the primary drinking water source at the mid-term survey.

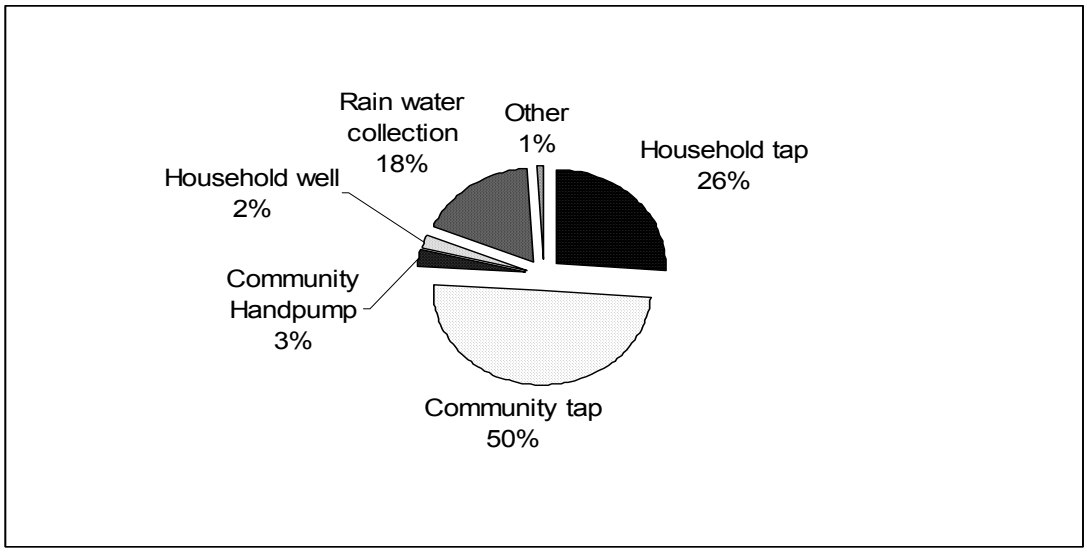


Chart 1. Primary water source at mid-term survey

5.3.2. Presence and type of water storage vessel

Interviewers observed the presence and type of a water storage vessel. The proportion of households with such a vessel remained statistically constant (see Table 4). Likewise, there was no change in type of supplies (detergent, chlorine, soap, etc.) used to clean the water storage vessel. Of those interviewees that agreed to show their water storage vessel during the survey visit, there appeared to be an increase of households with a large container or a large container with a spigot. There was no separate category for large container with spigot in the baseline questionnaire. However, the project included a small-business component, which established a revolving fund to offer families large (five gallon) containers with covers and spigots. The purpose of the revolving fund was to facilitate the acquisition of improved water storage containers beyond early adopters. Currently, the fund is exhausted. Thirteen percent of those willing to show their water storage vessel had such a container at mid-term.

Table 4. Presence and type of water storage vessel

	Baseline N=109		Mid-term N=125		P-value for difference in percentages
Presence of water storage vessel	**N**	**%**	**N**	**%**	
Yes	100	92	117	94	.59
No	9	8	8	6	
Type of vessel	**N=100**		**N=116**		
Container	47	47	69	59	0.06
Large container with spigot	Unknown	Unknown	15	13	
Water vase	17	17	12	10	0.15
Gallon jug	10	10	12	10	0.93
Glass bottle	1	1	3	3	0.39
Other	21	21	5	4	0.0002
Unknown	4	4	0	0	

5.3.3. Household treatment of drinking water

At midterm respondents were asked if they treat their water. Fifty-three percent reported that they drink their water without any home treatment. Forty-five percent stated that they were treating their drinking water. Of those reporting that they treat their drinking water, over three-fourths cited using chlorine (see Chart 2).

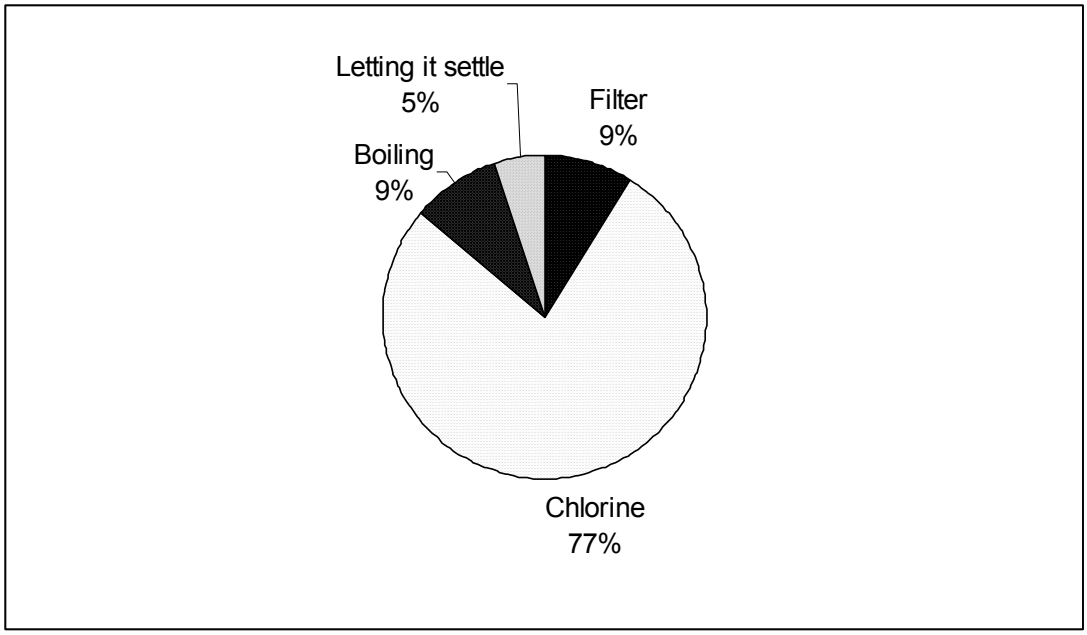


Chart 2. Household treatment of drinking water among those who reported household drinking water treatment

5.4. Handwashing

Undoubtedly, the best way to record household behaviors is by extended observation. For example, watching behaviors of interest as they occur in a household's normal daily routine is the gold standard. Unfortunately, this methodology is labor and resource intensive. Self-reporting of behaviors and observation of prompted behaviors such as handwashing, may overestimate the desired behavior as interviewees may report and demonstrate behaviors they consider to be favorable or ideal (Hawthorn effect). Although these are practical surrogate measures, they may be better indicators of knowledge than actual behavior.

5.4.1. Handwashing behavior of primary caregiver

The primary adult caregivers of children under five were asked when they wash their hands. Interviewees were not prompted. All responses corresponding to one of the five critical handwashing moments were noted (i.e., each interviewee could have multiple responses). Four of the responses (e.g., before food preparation, before eating, after cleaning child and before child feeding) failed to demonstrate a statistically different change from the baseline to mid-term survey. However, a (borderline) statistically significant 12% increase occurred over the study period of caregivers citing "after going to the bathroom."

Table 5. Reported handwashing behaviors for primary caregiver

Critical moments	Baseline N=109		Mid-term N=125		P-value for difference in percentages
	N	%	N	%	
After going to bathroom	59	54	83	66	0.0552
Before food preparation	52	48	59	47	0.9383
Before eating	36	33	44	35	0.7267
After cleaning child (following defecation)	15	14	21	17	0.5205
Before child feeding (including breastfeeding)	13	12	15	12	0.9862

5.4.2. Handwashing of youngest child

Interviewees were also asked about when they wash the hands of the youngest child in the house. Again, there was no prompting. Reporting for handwashing after going to the bathroom doubled: increasing from 15% to 31% (P-value= <.003). Likewise, handwashing for the youngest child before eating increased from 33% to 55% (P-value=.0007).

Reported handwashing during bathing slightly decreased from baseline to mid-term data collection (although not statistically significant). This may indicate a change in the way caregivers perceive handwashing. For example, before handwashing was promoted in the community, it may have been considered an adjunct to bathing. After visits from the Community Hygiene Promoter, it may have been perceived as a distinctly separate activity. Finally, there was no detectable difference in handwashing before breastfeeding due to the low number of reported cases.

Table 6. Reported handwashing of youngest child

Critical moments	Baseline N=109		Mid-term N=125		P-value for difference in percentages
	N	%	N	%	
After going to bathroom	16	15	39	31	<.003
Before eating	36	33	69	55	0.0007
When bathing	39	36	34	27	0.15
Before breastfeeding	4	4	2	2	0.3177

5.4.3. Handwashing technique and facilities

Handwashing facilities

Survey respondents were asked if they would demonstrate how they wash their hands. One hundred and four (baseline) and 109 (mid-term) survey respondents agreed. Community Hygiene Promoters have encouraged the creation of a permanent, designated handwashing location. It is assumed that people are more likely to wash their hands if they have such a location. A highly significant decrease (from 67% to 38%) in improvised handwashing locations was observed with the expected simultaneous increase in permanent locations.

Table 7. Characteristics of handwashing facilities

Location	Baseline N=104		Mid-term N=109		P-value for difference in percentages
	N	%	N	%	
Improvised	67	64	38	35	<.0001
Permanent	18	17	33	30	0.0266
Table	1	1	11	10	0.0051*
Floor	3	3	5	5	0.7219*
Other	3	3	0	0	0.1147
Unknown	12	12	22	20	

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

Presence and use of soap

Also of importance for effective reduction of micro-organisms when handwashing is the use of soap. A subsidy program was initiated as part of the project to stimulate use of hand soap to help people adopt this behavior. This subsidy ended shortly after the mid-term survey. At baseline, 44% of households did not have soap visible in the area that was reportedly designated for handwashing. At midterm survey, only 22% of households did not have soap in the handwashing facility (see Table 8). Interestingly, the percent of households with body soap increased (from 15% to 35%), but presence of detergent decreased (from 29% to 14%) over the same period. Data was missing for 27% of all households for the mid-term survey. The high proportion of households with missing data (categorized as "unknowns") may be skewing the results.

Table 8. Presence and use of soap

	Baseline N=109		Mid-term N=125		P-value for difference in percentages
	N	%	N	%	
Presence of soap					
Detergent	32	29	17	14	0.0031
Soap	16	15	44	35	0.0003
Other	2	2	2	2	0.89
None	44	40	28	22	0.003
Unknown	15	14	34	27	
Use of soap	N=104		N=109		
Yes	61	59	86	79	0.0087
No	44	42	29	27	
Unknown	4	4	10	9	

While the net number of households where soap was visible increased only slightly (5%), the *observed* use of soap during handwashing increased from 59% to 79%—a 20% improvement (P-value=.0087) (see Table 8). One possible explanation as to why only 49% of households had soap present (at mid-term) while 79% demonstrated the use of soap while washing their hands is that although it was not visible to the interviewer, the respondent may have had soap stored somewhere and located it for the handwashing demonstration. It is suspected, however, that households with soap visible in the area used for handwashing are more likely to use soap when they are not under observation.

Handwashing technique

Interviewers documented the thoroughness of the primary caregiver's handwashing behavior by observing how many times they rubbed their hands together. Of those who demonstrated handwashing, 47% rubbed their hands together three or more times at baseline, compared to 76% at the mid-term survey (see Table 9). Borderline statistically significant decreases were observed for marginal handwashing (rubbing hands together once or twice), while highly significant increases were recorded for rubbing of hands together three times. This suggests that handwashing technique has improved from baseline to mid-term.

Table 9. Observed handwashing technique

Handwashing technique	Baseline N=104		Mid-term N=109		P-value for difference in percentages
	N	%	N	%	
Rub hands together once	8	7	2	2	0.0545*
Rub hands together twice	41	38	28	26	0.0323
Rub hands together 3 times	35	32	64	59	0.0002
Rub hands together 3+	16	15	20	18	0.564
Did not rub hands together	4	4	3	3	0.6544

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

5.4.4. Hand-drying technique

Use of a hygienic hand-drying method was promoted as part of the project to reduce recontamination. Hand-drying behaviors significantly improved over the study period. The observed use of a towel increased from 13% to 30%. Air drying became the preferred method as 38% of primary caregivers demonstrated this method at mid-term, as compared to only 6% at baseline. Use of clothing to dry one's hands, reported by nearly half of the respondents at baseline, fell to a meager 5% at follow-up (P-value=<.0001).

Table 10. Observed method of hand-drying

Method	Baseline N=104		Mid-term N=115		Chi2 for difference in percentages
	N	%	N	%	
Towel	14	13	35	30	0.0026
Other cloth	1	1	24	21	<0.0001
Air dry	6	6	44	38	<0.0001
Clothes	50	48	6	5	<0.0001
Other	0	0	3	3	
Unknown	33	32	3	3	

5.5. Excreta Disposal

Sanitation coverage was near universal at baseline as 94% of households reported having a toilet with septic tank, a pit latrine or an elevated-composting latrine (see Table 11). When households with latrines (92) were asked how long they have had access to their current facilities, the median reported time was 120 days (not shown). In other words, 50% of the survey respondents with latrines had new (less than three month old) facilities. Four percent of the baseline households reported using an open field for defecation.

Table 11. Excreta disposal at baseline and mid-term

	Baseline N=109		Mid-term N=125	
	N	%	N	%
Toilet with septic tank	11	10	4	0.03
VIP	82	75	80	0.64
Elevated composting	10	9	28	0.22
Open field	4	4	0	0.00
Other/Unknown	2	2	13	0.10

5.5.1. Disposal for children

Interviewees were also asked about excreta disposal for children that were not using the latrine. There were no detectible changes from baseline to midterm in disposal for children using diapers or potties. It should be noted that the number of children included in the sample that were using diapers or potties was not sufficiently large enough to detect any change.

Table 12. Disposal of excreta for children using diapers and potties

	Baseline N=18		Mid-term N=32		P-value for difference in percentages
	N	%	N	%	
Disposal of excreta for children using diapers					
Latrine	5	28	6	19	0.4945*
Hole in the ground	1	6	2	6	1.0*
Open field	7	39	6	19	0.1797*
Rinsed out with water	5	28	8	25	0.7472*
Other	0	0	10	31	
Disposal of excreta for children using potties	**N=49**		**N=58**		
Latrine	44	90	53	91	1.0*
Hold in the ground	2	4	2	3	1.0*
Open field	1	2	2	3	1.0*
Other	2	4	1	2	

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

5.6. Sanitation Hygiene

Cleanliness of sanitation facilities is associated with use. Interviewers asked permission to look at each household's sanitation facility. They observed the presence of flies and recorded conspicuous odors in close vicinity to the sanitation facilities. A significant decrease was noted in relation to the presence of flies (from 19% to 8%) (see Table 13). A slight crude decrease (from 11% to 7%) was noted for conspicuous odors from baseline to mid-term. It is suspected that flies and odor would be likely to increase during the rainy season in May when the mid-term survey was carried out.

Table 13. Sanitation hygiene

	Baseline N=109		Mid-term N=124		P-value for difference in percentages
	N	%	N	%	
Presence of flies	21	19	10	8	0.012
Presence of odor	12	11	9	7	0.318
Used for storage	21	19	0	0	<0.0001*
Feces on floor	4	4	3	2	0.7084*
Feces on seat	19	17	21	17	0.9202
Feces on door or walls	12	11	2	2	0.004*

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

Use of sanitation facilities for storage is believed to be associated with non-use for feces disposal. At mid-term, no sanitation facilities were being used for storage, a highly significant decrease. Finally, sanitation facilities were examined for presence of excreta. Feces on the floor and seat remained constant from baseline to mid-term. There was, however, a significant decrease in observed feces on the door or walls of the facility.

Considered to be of importance to the implementing NGOs was increasing use of toilet paper. This practice was incorporated as one of the micro-behaviors that was promoted. Toilet paper use did increase by 13% from baseline to mid-term (see Table 14).

Table 14. Self-cleaning after defecation

	Baseline N=109		Mid-term N=124		P-value for difference in percentages
	N	%	N	%	
Toilet paper	85	78	113	91	0.2026
Notebook paper	7	6	2	2	0.0865*
Newspaper	8	7	3	2	0.1196*
Leaves	2	2	2	2	1.0*
Water	2	2	0	0	.2178*
Other	5	5	3	2	

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

5.7. Hygiene Training of Children

Also of importance is reported hygiene training of children under five years of age by the primary caregiver. Interviewees were asked what they have taught their children

about latrine use. Significant increases were recorded for reported teaching of self-cleaning from 16% to 27% and how to sit from 13% to 32%. Most striking was reported teaching about handwashing after latrine use by 36% of the interviewees at mid-term compared to none at baseline (see Table 15).

Table 15. Teaching children about sanitation use

	Baseline N=109		Mid-term N=124		P-value for difference in percentages
	N	%	N	%	
Self-cleaning	18	16	34	27	0.0461
How to sit	17	13	40	32	0.0032
Disposal of papers in trash can	8	6	13	10	0.403
Close the door	3	3	5	4	0.7265*
Not to go alone	3	3	3	2	1.0*
Wash hands after use	0	0	45	36	<0.0001*
Other	6	4	3	2	

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

5.8. Community Hygiene Promoters

Questions relating directly to the home visits being carried out by the Community Hygiene Promoters were included in the mid-term survey to monitor their activity. Seventy-eight percent of survey respondents reported that they had been visited by a Community Hygiene Promoter (not shown). Interviewees were asked how many times they were visited. More than half received three visits or more over the five month period.

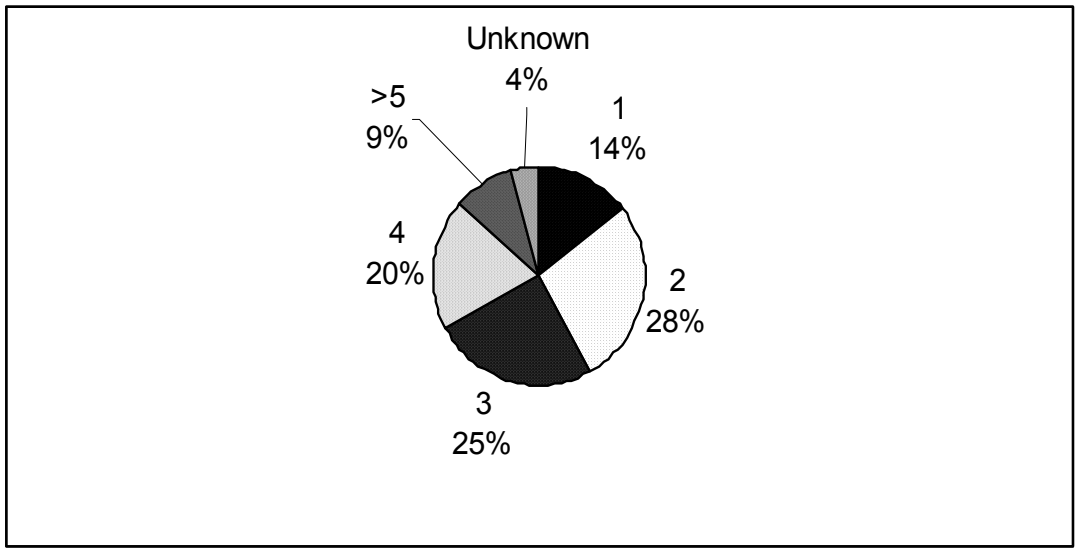
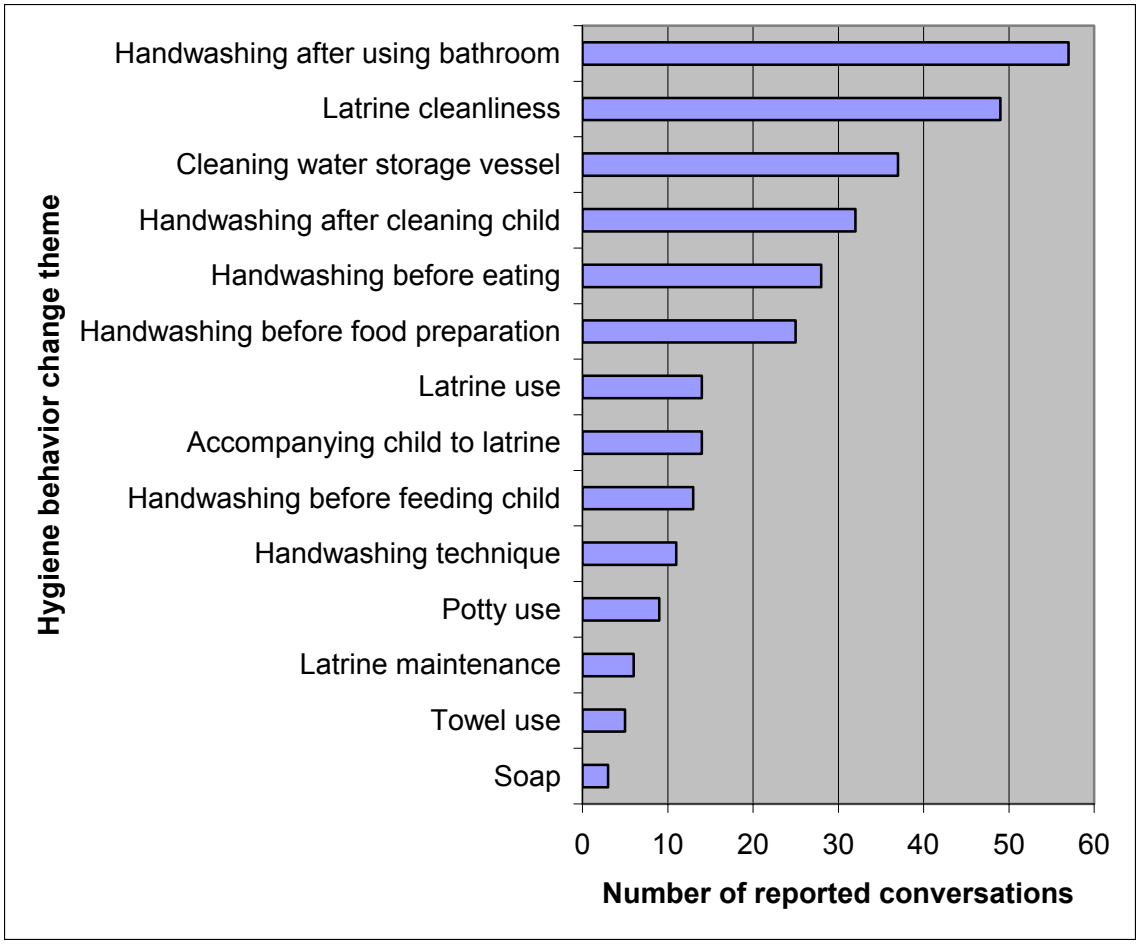


Chart 3. Number of Community Hygiene Promoter visits reported by those who were visited

Of those reporting a visit, interviewees asked what they talked about during the visit. Responses were non-prompted, and all answers were recorded. Graph 2 below illustrates responses from the highest frequency to the lowest. Handwashing after using the bathroom, latrine cleanliness and cleaning of the water storage vessel were recalled most frequently.



Graph 2. Reported conversations with Community Hygiene Promoters

Seventy-four percent of the survey respondents stated that they would like to continue being visited by the Community Hygiene Promoter (not shown).

5.9. Payment for Services

Although not included as part of the behavior change intervention, the Rural Water Authority and NGOs were interested in knowing about household payment of the water quota to the Water Committees. This system is part of the Total Community Participation methodology to improve the potential for sustainability of the project by supplying the Water Committees with funds to repair eventual breakdowns in their system. This shows a willingness to pay for services—an important component of the "enabling environment" defined in the Hygiene Improvement Framework. Forty-nine percent more households reported paying a water quota at midterm when compared to baseline. The majority reported paying on a monthly basis.

Table 16. Payment for water services and frequency of payment

	Baseline N=109		Mid-term N=124		P-value for difference in percentages
	N	%	N	%	
Paying for water services					
Yes	37	34	103	83	<0.0001
No	39	36	9	7	<0.0001
Unknown	33	30	13	10	
Frequency of payment	N=37		N=103		
Weekly	0	0	2	2	1.0*
Monthly	36	97	96	93	0.6811*
Quarterly	0	0	1	1	1.0*
Unknown	1	3	4	4	

* indicates use of two-sided Fisher's Exact Test to determine P-value as recorded cases were less than five.

6. Summary of Findings

1. The results from the baseline to the mid-term survey suggest decreases in diarrhea prevalence, with the most dramatic decreases occurring among children from one to three years of age. The overall decrease in diarrhea prevalence from 27% to 11% (P-value=.0001) over the five month study period is impressive. Because sanitation coverage was near universal at baseline (94%), the decrease in diarrhea prevalence is suggestive of the combined effect of the water and hygiene promotion interventions. Seasonal fluctuations in diarrhea rate are an unlikely explanation of this change, although this possibility cannot be ruled out.

2. Improvements (from 54% to 66%) in reported handwashing after going to the bathroom may correspond to the frequently cited conversations with Hygiene Promoters on this same theme. Likewise, reported handwashing for the youngest child after going to the bathroom and before eating significantly increased. Again, this may be associated with the work of the Hygiene Promoters.

3. Overall, there was an increase in caregiver reported teaching of appropriate and hygienic use of sanitation facilities to children. The three most common themes that were reported to be taught were self-cleaning, sitting and handwashing following sanitation use. The latter is of particular interest as no households reported teaching this practice at baseline, whereas 36% of caregivers reported this at follow up (P=<.0001). Furthermore, reported teaching may be a good indicator of their acceptance of the new behaviors as it suggests that they are attempting to incorporate such behaviors into their family norms.

4. Latrine cleanliness was the second most cited topic of conversation with the CHP; this may correspond to a decrease in the observed presence of flies, perceived odor in the vicinity of the sanitation facilities, and observed feces on the walls and door of the facilities.

5. It appears as if the micro-credit program to stimulate the use of soap may have only succeeded in replacing detergent with hand soap, instead of increasing the overall presence of body soap. The net increase in use of detergent or body soap was only 5%. However, the use of soap for handwashing did significantly increase by 20%. The apparent discrepancy between presence of soap and use of soap may be attributable to the fact that interviewers first recorded visible soap in the area used for handwashing. Many respondents may have located soap, which was initially not visible to the interviewer once they agreed to demonstrate washing their hands—one such respondent had soap stored under her bed.

6. Another important finding is that permanent handwashing areas have increased from 17% to 30% (P-value=.0266). A permanent place to wash one's hands may facilitate the transformation of new handwashing behaviors into habits.

Overall, these findings are suggestive of the effect of the hygiene behavior change intervention. Several positive changes in hygiene related behaviors and outcomes have been documented. Additional qualitative research may help to explain why only a modest (although significant) increase in reported handwashing after going to the bathroom was documented as well as no reported changes for handwashing at other critical moments.

7. Conclusions

1. This study was highly successful in mobilizing a diverse inter-institutional team to carry out the many and varied tasks necessary to complete two field surveys. Active participation from all stakeholders undoubtedly increased ownership of the project and interest in the results. However, the decentralized management of the study resulted in compromises to the study design that limit the analysis and therefore utility of the findings beyond the households included in the sample.

2. If the goal is to evaluate the effectiveness of the behavior change program in the DR and to compare the approach to other hygiene promotion efforts a more rigorous external evaluation would be necessary that would yield more reliable data. Such an evaluation could be used to advocate for hygiene behavior change interventions.

3. If possible, future evaluation research should prioritize the independent measurement of the effects of hygiene behavior change interventions. Isolating the effects of hygiene, water and sanitation can help the interpretation of the joint or synergistic interaction of integrated programs. This kind of information is essential to complete a cost-effectiveness analysis. Such an analysis estimates the monetary value per unit of health effect (e.g., $/diarrhea case adverted). Cost-effectiveness analysis can be a powerful advocacy tool that can help stakeholders make informed decisions for effective, results oriented allocation of resources.

4. The resources and effort involved in community level data collection in participatory monitoring cannot be underestimated. It is critical that the maximum value is extracted from the data collected. More complex statistical analysis may have shed light on significant associations between key behaviors and health outcomes. This kind of information is invaluable for program managers and health promoters alike to better understand where to focus their efforts.

5. The participatory monitoring in the nine pilot communities has provided some important insights and valuable lessons learned for future evaluation research for hygiene behavior change interventions:

    a. Participatory monitoring is a useful approach for program managers and communities when it accompanies a behavior change programming process;

    b. Participatory monitoring provides useful and timely information because it is built into the program, but it also has clear methodological limitations related to scientific rigor and generalizability beyond the population included in the survey.

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Annex A

PROYECTO MULTIAGENCIAL DE CAMBIO DE COMPORTAMIENTOS
CUESTIONARIO DE LINEA DE BASE. BASICO
HATO MAYOR DEL REY. REPUBLICA DOMINICANA

ENCUESTADOR ***CUESTIONARIO N;***

COMUNIDAD ***VIVIENDA N:*** ***FECHA:***

INTRODUCCION:(Saludar)- Mi nombre es:……y trabajo para ….
Estamos haciendo una investigacion sobre practicas de higiene en la comunidad. Es necesario hacerle algunas preguntas personales relacionadas al agua y a las letrinas. Le pedimos que por favor nos responda con sinceridad. Estos datos son muy utiles para preparar programas educativos que beneficien a la comunidad y ayuden a evitar las diarreas de los ninos. Le rogamos que nos de su colaboracion.

FILTRO: DEBE HABER EN ESTA CASA ALGUN NIÑO MENOR DE 5 ANOS. VERIFIQUE

I	**IDENTIFICACION Y SOCIO DEMOGRAFICAS**		
1.1	Quién cuida a los niños o niño menor de 5 años?	Madre del niño(1) Abuela (2) Hermano/a(4) Otro familiar (5) Otro cuidador (6)…….	
1.2	¿Cuántas personas en total viven en esta casa?		
1.3	¿Cuántas son adultas?		
1.4	Por favor dígame las edades en años cumplidos de cada uno de los niños que son menores de 5 años		

	Año 1	**Diarrea**	Año 2	**Diarrea**	Año 3	**Diarrea**	Año 4	**Diarrea**	Año 5	**Diarrea**	
Niño											
Niña											

1.5	¿Cuál de estos niños ha tenido diarrea en **las dos últimas semanas** ?Quisiera que usted recuerde todo tipo de diarrea, sea por parasitos, sea por mangos, por los dientes o cualquier otra razon, que le haya causado que haga la pupu liquida mas de 4 veces al dia en las dos ultimas semanas (**Anote en el mismo cuadro anterior donde dice diarrea si la madre menciona que la tuvo)**		
1.6	Existe una escuela con maestro en esta comunidad	SI (1) NO (2)	
1.7	Cuántos grados tiene la escuela	Indique en números:	
1.8	Qué comités u organizaciones usted conoce que hay en esta comunidad	Junta de Vecinos (1) Asociación de Padres Madres y Amigos de la Escuela (2) Comité de Agua (3) Comité de Amas de Casa (4) Comité de Mujeres (5) Comité deportivo (6) Otros(7)	
II	**ALMACENAMIENTO DE AGUA PARA BEBER**		
2.1	¿Tiene un envase para guardar solamente el agua para tomar?	SI (1) NO (2) **(Si contesta NO Pase a la seccion III)**	
2.2	¿Podría permitirme mirar este envase?. OBSERVE LOS SIGUIENTES ASPECTOS Y ANOTE	SI (1) NO (2) No tiene (3) **(Si contesta 2 ó 3 pase a la seccion III)**	
2.3	OBSERVE el Material	Plástico (1) Metal (2) Cerámica (3) Vidrio (4) Otro (5).....	
2.4	OBSERVE el Tipo	Cubeta (1) Tinaja(2) Galón (3) Botella (4) Otro (5).....	
2.5	OBSERVE la Limpieza interior del envase	Tiene muchas manchas (1) Tiene algunas manchas (2) No tiene manchas (3)	

2.6	OBSERVE el Acceso	Destapado(1) Tapa Propia (2) Tapa acomodada (3) Llave (4) Otro (5).....	
2.7	Pregunte: ¿Puede indicarme cómo saca el agua de este envase para tomar? - OBSERVE- Y Anote	Un cucharón con tallo largo(1) Un jarro sólo para sacar el agua (2).Cualquier utensilio a mano (3)Directo del envase al vaso(4) Toma en el mismo envase con el que sacó el agua(5) Otro (6)…….....	
2.8	¿Cada cuánto tiempo lava este envase donde guarda el agua para tomar? (**Anote solo una respuesta**)	Cada ..... Dia/s (1) Cuando se acaba el agua (2) Sólo cuando se ve sucio (3) Otro (4).....	
2.9	¿Con qué lava y friega el envase para almacenar el agua para beber? **(Multiples respuestas)**	Con agua (1) detergente(2) Cloro(3) Jabón (4) Paño Limpio(5) Esponja (6) Cepillo (7) Estropajo *Brillo Verde* (8) Manos(9) Otro (10)….....	
III	**LAVADO DE MANOS**		
3.1	En qué momentos usted se lava las manos? (**No repita la pregunta ni mencione la lista de momentos. Anote solo el que o los que señale la persona**)	Después de ir al baño/Letrina(1) Antes de preparar los alimentos(2) Antes de comer(3) Después de limpiar el niño(4) Antes de alimentar al nino (O darle el pecho)(5) Otra (6)	
3.2	En qué otros momentos se lava las manos, además del que acaba de indicarme? (**No repita la pregunta ni mencione la lista de momentos. Anote solo el que o los que señale la persona**)	Después de ir al baño/Letrina(1) Antes de preparar los alimentos(2) Antes de comer(3) Después de limpiar el niño(4) Antes de alimentar al nino (O darle el pecho)(5) Otra (6)	
3.3	Yen qué momentos le lavó las manos al niño(a) más pequeño(a) en el día de ayer	Después de ir al baño/Letrina(1) Antes de comer(2) Al bañar al niño/a (3) Antes de que tome el pecho(4) Otro (6).....	
3.4	¿Dónde acostumbran a lavarse las manos todos los miembros de la familia? **(Si contesta que no se lava en ningún lado salte a la pregunta 3.12)**	Cocina(1) Llave de agua de su casa (2) Llave de agua comunitaria (3) Lavadero (4) Lavamanos (5) Ningun lado (4) Otro (5) …….....	
3.5	Quisiera mirar ese Lugar por favor. Puedo?	SI (1) NO(2) No tiene (3) **(si contesta la respuesta 2 ó 3 pase a pregunta 3.12)**	
3.6	OBSERVE el agua	En una jarra (1) Vasija(2) Galon(3) Llave(4) Tinaja (5) Otro (6).....…	
3.7	OBSERVE el recipiente donde se lava y cae el agua	Una Ponchera(1) Una olla (2) Una tinaja (3) Ninguno cae al piso (4) El mismo de donde saca el agua para lavarse(4) Otro (5)…	
3.8	OBSERVE como es el lugar	Improvisado(1) Permamente (2) Lavatorio especial (3) Una mesa (4) El piso (5) Otro(6)……..	
3.9	OBSERVE presencia de jabón	De lavar ropa(1) De Cara/Cuerpo(2) No jabon(3) Ceniza(4) Otro(5)……..	
3.10	OBSERVE presencia de algo para secarse	Una toalla(1) Una tela(3) Ninguno(4) Otro (5)..... **(si contesta Ninguno pase a pregunta 3.12)**	
3.11	OBSERVE el estado de la tela/toalla	Limpia(1) Algo sucia (2) Muy sucia (3) Otro(4)……...	
3.12	Por favor, me puede hacer una demostración de cómo se lava las manos? **(si contesta que no desea o no puede pase a seccion IV)**	SI (1) NO(2) No puede porque no tiene agua (3)	
3.13	OBSERVE el uso del agua	Ella misma se chorrea(1) Chorro de llave (2) Otra persona le chorrea(3) Pone en el recipiente una vez(4)Pone dos veces (5)	

3.14	OBSERVE el uso del Jabón	Usa (1) No usa(2)	
3.15	OBSERVE el frotamiento	Se frota 1vez (1)-2veces(2)-3 veces(3) No se frota (4) Se frota mas de 3 veces(5)	
3.16	OBSERVE el secado	Se seca en toalla(1) Se seca en tela (2) se seca al aire(3) En ropa/delantal(4) Otro(5).....	
IV	**DISPOSICION DE EXCRETAS**		
4.1	¿Dónde hacen sus necesidades LAS PERSONAS DE ESTA CASA?	Sanitario con séptico(1) Letrina tradicional (2) Abonera (3) Bacinilla(4) Monte (5) Un lugar específico en su terreno(6) Otro(7).....	
4.2	¿Hay alguna persona que no usa la..... (use el nombre que dieron antes: letrina, baño etc) por estar impedida o por ser muy pequeño/a o porque no le gusta o aun no sabe hacerlo?	SI(1) NO(2) (**Si dice NO, salte a la pregunta 4.4)**	
4.3	¿Quién es?	La mamá(1) Papa(2) Abuela (3) Abuelo (4) Niño/a de … años (5) Otro niño/a de… años(6) Otro (7)	
4.4	¿Qué hacen cuándo alguien tiene necesidad de hacer la Pupú en la noche?	Van a la letrina (1) Hacen en una basinilla (2) Hacen junto a la casa(3) Se esperan hasta el dia (4) Otro(5)…	
4.5	Para ir a la noche a la letrina...que tienen para alumbrarse**(Pueden haber múltiples respuestas)**	Nada(1) Una vela(2) Una Linterna (3) Foco (4) Bombilla (5)Lámpara (6) Otro (7)……	
4.6	Con que se limpian luego de hacer la Pupu	Con papel higienico(1) Con papel de mascota (2) papel periodico(3) Hojas (4) Agua (5) Otro (6)……	
4.7	¿Dónde hace la pupu el/la niño/a más pequeño/a?	Pañal(1) Pamper(2) Basinilla (3) En el piso (4) En la letrina (5) Otro (6)..... (**Si contesta letrina continúe) (Si pañales salte a la 4.12) (Si contesta Basinilla salte a la 4.13)**	
4.8	¿A qué edad empezo su niño/a a usar la letrina?	A los …. Años	
4.9	¿Qué cosas le ha enseñado sobre como usar la letrina?	A limpiarse bien (1) Como sentarse(2) Que no debe tirar objetos en la letrina (3) Poner los papeles en el zafacón(4) Cerrar siempre la puerta(5) No venir solo/a(6) Lavarse las manos después de usar (7) Otro(8)…….....	
4.10	**¿**Quién acompaña a la letrina al niño/a?	Mama(1) Cuidador del niño(2) Papa (3) Hermana/o (4) Nadie (5) Cualquiera (6) Otro (7)	
4.11	¿Quién le limpia al niño/a después que hace la Pupú?.	Mama(1) Cuidador del niño/a(2) Papa (3) Hermana/o (4) Nadie (5) El mismo (6) Cualquiera (7) Otro (8)	
4.12	**SI HACE EN PAñALES:** ¿Dónde arroja la pupú de los pañales?	En la letrina(1) En un hueco (2) En el monte/campo(4) Los enjuaga (5) Otro (6)	
4.13	**SI HACE EN PAMPER:** ¿Dónde arroja los pamper?	En la letrina(1) En un hueco (2) En el monte/campo(4) Los lava y enjuaga(5) Otro (6)	
4.13	**SI HACE EN BASINILLA:** ¿Dónde arroja la pupú de La basinilla?	En la letrina(1) En un hueco (2) En el monte/campo(4) Otro (5)….	
4.14	Ahora me podria permitir mirar la letrina y los alrededores de la casa	SI(1) NO(2) **(Si dice NO, salte a la pregunta 4.18)**	

4.15	OBSERVE la estructura y accesorios de la letrina. (**Anote solo si su estado es bueno o usable)**	Tiene techo (1) Puerta(2) Bacinete (3) Tapa de bacinete(4) Zafacon (5) tapa de Zafacon(6) Ventilacion (8)Camino de acceso(9) Otro/a(10).....	
4.16	OBSERVE la higiene de la letrina. (**Anote solo si su estado es negativo)**	Excretas en piso (1) En el bacinete(2) En la tapa del bacinete(3) En el Zafacon (4) En las paredes o puerta (5) Hay moscas (6) Hay mal olor (7) Papeles sucios en el piso (8) Objetos que no son propios de la letrina(9) Otro (10)	
4.17	OBSERVE Los alrededores de la casa. **(Anote solo lo negativo que observa)**	Excretas alrededor de la letrina (1)Alrededor de la casa(2) Varias en un lugar (3) Pañales desechables (4) Papeles o bolsas con excretas (5) Otro relacionado (6)…….	
4.18	Tiene usted basinillas	SI(1) NO(2) **(si contesta NO pasar a 5.1)**	
4.19	Puede enseñarmelas	SI(1) NO(2)	
4.20	OBSERVE Lo siguiente y anote	Hay basinilla de niños (1) Hay basinillas de adultos(2) Tienen excretas (3) Tiene mal olor (4) Se ven limpias Otro(5).....	
V	**SOSTENIBILIDAD DE AGUA**		
5.1	¿Hay en la comunidad un acueducto o agua por tubería funcionando?	SI(1) NO(2)No sabe (3) **(si contesta NO, salte a la pregunta 5.7)**	
5.2	¿Desde cuándo recuerda que disponen de este acueducto?	Convierta en dias cualquier unidad que le den:	
5.3	¿Hay en la comunidad un acueducto o agua por tubería en construcción?	SI(1) NO(2) No sabe (3)	
5.4	¿Contribuyó usted o alguien de su familia o está contribuyendo ahora a la construcción de este acueducto?	SI contrubuyó (1) NO(2) Está contribuyendo (3)No sabe (4) **(si contesta que no o no sabe pase a pregunta 5.6)**	
5.5	¿Contribuyó o está contribuyendo con trabajo, con dinero o de alguna otra forma?	Trabajo (1) Dinero (2) Ambos (3) Ninguno (4) NS(5) Otro(6)…….	
5.6	Paga usted al momento alguna cuota por el acueducto o le han indicado que pagará cuotas después	SI(1) NO(2) No sabe (3) **(si contesta 2 ó 3 pase a pregunta 5.7)**	
5.7	¿Cada qué tiempo paga o va a pagar y cuánto es la cuota?	**Cantidad $RD**:…….. **Cada:**Semana(1) mes(2) bimensual (3) Trimestral (4) Semestral (5) Annual (6) Otro (7)…….	
VI	**PROVISION DE SANEAMIENTO**		
6.1	**(Esta pregunta se aplica si la persona tiene letrina) ¿**Qué tiempo, en meses, tiene usted la letrina que observamos?	**Convierta en dias** cualquier unidad que le den:	
6.2	¿La construyeron ustedes o recibieron alguna ayuda de alguna organización?	Ellos(1) Recibieron ayuda(2) No sabe (3) Otro(4)…	
6.3	**(Si recibieron esta ayuda)** ¿En qué les ayudaron?	Diseño (1) Definir el lugar (2) Materiales para la caseta(3)materiales para la fosa(4) materiales para la Plancha/piso(5) El bacinete (6) Mano de obra (7) Otro (8).....	
6.4	¿Esta letrina solo la usan ustedes o comparten con otros hogares?	Solo esta familia (1) Comparten con otra famimlia(2) Comparten con varias otras familias(3)	

AGRADEZCA Y PASE A LA INTRODUCCION DE LA VALIDACION DE MATERIALES

OBSERVACIONES:

Annex B

PROYECTO MULTIAGENCIAL DE CAMBIO DE COMPORTAMIENTOS
CUESTIONARIO DE LINEA DE BASE.ABONERAS
HATO MAYOR DEL REY. REPUBLICA DOMINICANA

ENCUESTADOR ***CUESTIONARIO N;***
COMUNIDAD ***VIVIENDA N:*** ***FECHA:***

INTRODUCCION:(Saludar)- Mi nombre es:……y trabajo para ….
Estamos haciendo una investigacion sobre practicas de higiene en la comunidad. Es necesario hacerle algunas preguntas personales relacionadas al agua y a las letrinas. Le pedimos que por favor nos responda con sinceridad. Estos datos son muy utiles para preparar programas educativos que beneficien a la comunidad y ayuden a evitar las diarreas de los ninos. Le rogamos que nos de su colaboracion.

FILTRO: DEBE HABER EN ESTA CASA ALGUN NIÑO MENOR DE 5 ANOS. VERIFIQUE

I	**IDENTIFICACION Y SOCIO DEMOGRAFICAS**										
1.1	Quién cuida a los niños o niño menor de 5 años?						Madre del niño(1) Abuela (2) Hermano/a(4) Otro familiar (5) Otro cuidador (6)…….				
1.2	¿Cuántas personas en total viven en esta casa?										
1.3	¿Cuántas son adultas?										
1.4	Por favor dígame las edades en años cumplidos de cada uno de los niños que son menores de 5 años										
	Año 1	**Diarrea**	Año 2	**Diarrea**	Año 3	**Diarrea**	Año 4	**Diarrea**	Año 5	**Diarrea**	
Niño											
Niña											
1.5	¿Cuál de estos niños ha tenido diarrea en **las dos últimas semanas**?Quisiera que usted recuerde todo tipo de diarrea, sea por parasitos, sea por mangos, por los dientes o cualquier otra razon, que le haya causado que haga la pupu liquida mas de 4 veces al dia										
1.6	Existe una escuela con maestro en esta comunidad						SI (1) NO (2)				
1.7	Cuántos grados tiene la escuela						Indique en números:				
1.8	Qué comités u organizaciones usted conoce que hay en esta comunidad						Junta de Vecinos (1) Asociación de Padres Madres y Amigos de la Escuela (2) Comité de Agua (3) Comité de Amas de Casa (4) Comité de Mujeres (5) Comité deportivo (6) Otros(7)				
II	**ALMACENAMIENTO DE AGUA PARA BEBER**										
2.1	¿Tiene un envase para guardar solamente el agua para tomar?						SI (1) NO (2) **(Si contesta NO Pase a la seccion III)**				
2.2	¿Podría permitirme mirar este envase?. OBSERVE LOS SIGUIENTES ASPECTOS Y ANOTE						SI (1) NO (2) No tiene (3) **(Si contesta 2 ó 3 pase a la seccion III)**				
2.3	OBSERVE el Material						Plástico (1) Metal (2) Cerámica (3) Vidrio (4) Otro (5).....				
2.4	OBSERVE el Tipo						Cubeta (1) Tinaja(2) Galón (3) Botella (4) Otro (5).....				
2.5	OBSERVE la Limpieza interior del envase						Tiene muchas manchas (1) Tiene algunas manchas (2) No tiene manchas (3)				
2.6	OBSERVE el Acceso						Destapado(1) Tapa Propia (2) Tapa acomodada (3) Llave (4) Otro (5).....				

2.7	Pregunte: ¿Puede indicarme cómo saca el agua de este envase para tomar? - OBSERVE- Y Anote	Un cucharón con tallo largo(1) Un jarro sólo para sacar el agua (2).Cualquier utensilio a mano (3)Directo del envase al vaso(4) Toma en el mismo envase con el que sacó el agua(5) Otro (6)…….....	
2.8	¿Cada cuánto tiempo lava este envase donde guarda el agua para tomar? (**Anote solo una respuesta**)	Cada ..... Dia/s (1) Cuando se acaba el agua (2) Sólo cuando se ve sucio (3) Otro (4).....	
2.9	¿Con qué lava y friega el envase para almacenar el agua para beber? **(Multiples respuestas)**	Con agua (1) detergente(2) Cloro(3) Jabón (4) Paño Limpio(5) Esponja (6) Cepillo (7) Estropajo *Brillo Verde* (8) Manos(9) Otro (10)…….....	
III	**LAVADO DE MANOS**		
3.1	En qué momentos usted se lava las manos? (**No repita la pregunta ni mencione la lista de momentos. Anote solo el que o los que señale la persona**)	Después de ir al baño/Letrina(1) Antes de preparar los alimentos(2) Antes de comer(3) Después de limpiar el niño(4) Antes de alimentar al nino (O darle el pecho)(5) Otra (6)	
3.2	En qué otros momentos se lava las manos, además del que acaba de indicarme? (**No repita la pregunta ni mencione la lista de momentos. Anote solo el que o los que señale la persona**)	Después de ir al baño/Letrina(1) Antes de preparar los alimentos(2) Antes de comer(3) Después de limpiar el niño(4) Antes de alimentar al nino (O darle el pecho)(5) Otra (6)	
3.3	Y en qué momentos le lavó las manos al niño(a) más pequeño(a) en el día de ayer	Después de ir al baño/Letrina(1) Antes de comer(2) Al bañar al niño/a (3) Antes de que tome el pecho(4) Otro (6).....	
3.4	¿Dónde acostumbran a lavarse las manos todos los miembros de la familia? **(Si contesta que no se lava en ningún lado salte a la pregunta 3.12)**	Cocina(1) Llave de agua de su casa (2) Llave de agua comunitaria (3) Lavadero (4) Lavamanos (5) Ningun lado (4) Otro (5) …….....	
3.5	Quisiera mirar ese Lugar por favor. Puedo?	SI (1) NO(2) No tiene (3) **(si contesta la respuesta 2 ó 3 pase a pregunta 3.12)**	
3.6	OBSERVE el agua	En una jarra (1) Vasija(2) Galon(3) Llave(4) Tinaja (5) Otro (6).....…	
3.7	OBSERVE el recipiente donde se lava y cae el agua	Una Ponchera(1) Una olla (2) Una tinaja (3) Ninguno cae al piso (4) El mismo de donde saca el agua para lavarse(4) Otro (5)…	
3.8	OBSERVE como es el lugar	Improvisado(1) Permamente (2) Lavatorio especial (3) Una mesa (4) El piso (5) Otro(6)……..	
3.9	OBSERVE presencia de jabón	De lavar ropa(1) De Cara/Cuerpo(2) No jabon(3) Ceniza(4) Otro(5)……..	
3.10	OBSERVE presencia de algo para secarse	Una toalla(1) Una tela(3) Ninguno(4) Otro (5)..... **(si contesta Ninguno pase a pregunta 3.12)**	
3.11	OBSERVE el estado de la tela/toalla	Limpia(1) Algo sucia (2) Muy sucia (3) Otro(4)…….....	
3.12	Por favor, me puede hacer una demostración de cómo se lava las manos? **(si contesta que no desea o no puede pase a seccion IV)**	SI (1) NO(2) No puede porque no tiene agua (3)	
3.13	OBSERVE el uso del agua	Ella misma se chorrea(1) Chorro de llave (2) Otra persona le chorrea(3) Pone en el recipiente una vez(4)Pone dos veces (5)	
3.14	OBSERVE el uso del Jabón	Usa (1) No usa(2)	

3.15	OBSERVE el frotamiento	Se frota 1vez (1)-2veces(2)-3 veces(3) No se frota (4) Se frota mas de 3 veces(5)	
3.16	OBSERVE el secado	Se seca en toalla(1) Se seca en tela (2) se seca al aire(3) En ropa/delantal(4) Otro(5).....	
IV	**DISPOSICION DE EXCRETAS**		
4.1	¿Dónde hacen sus necesidades LAS PERSONAS DE ESTA CASA?	Sanitario con séptico(1) Letrina tradicional (2) Abonera (3) Bacinilla(4) Monte (5) Un lugar específico en su terreno(6) Otro(7).....	
4.2	¿Ha utilizado usted ya esta letrina?	SI(1) NO (2)	
4.3	¿Hay alguna persona de la casa que la han utilizado ya?	Solo el papá(1) Solo la mamá(2) Ambos (3) Toda la familia (4) Niños grandes (5) Otros (6)	
4.4	Imagínese que está explicando a un vecino cómo es la letrina. ¿Usted diría que es una letrina como las demás o que es especial?	Igual a las demas(1) Especial (2) No sabe (3) Otro (4)……	
4.5	Qué le diría sobre el bacinite más pequeño	Correcto (1) Incorrecto (2) Necesita completar informacion(3) No responde (4)	
4.6	Qué le diría sobre el bacinete mas grande	Correcto (1) Incorrecto (2) Necesita completar informacion(3) No responde (4)	
4.7	Qué le diría sobre el bacinete que está sellado	Correcto (1) Incorrecto (2) Necesita completar informacion(3) No responde (4)	
4.8	¿Qué mantenimiento necesita hacerse en esta letrina?	Correcto (1) Incorrecto (2) Necesita completar informacion(3) No responde (4)	
4.9	¿Cuál es su presente experiencia sobre el uso de la letrina?. Usted como lo calificaria:(**Léale las opciones)**	Sastifactorio(1) Tiene ciertos problemas (2) Complicada de usar (3) Definitivamente no le gusta(4) Va a probar por un tiempo más(5) No piensa utilizarla (6)	
4.10	¿Qué es lo que los demás de la casa dicen de la letrina ?	Satisfechos(1) Han tenido problemas (2) La encuentran complicada de usar(3) No les gusta (4) Van a probar por un tiempo(5) No quieren usarla (6)	
4.11	Cuál es, segun su conocimiento, la razón de que hayan hecho este tipo de letrinas aqui	Correcto (1) Incorrecto (2) Necesita completar informacion(3) No responde (4)	
4.12	¿Recomendaria a un pariente o vecino hacer una letrina así?	SI(1) NO(2) Duda (3) NO Responde (4)	
4.13	¿Qué hacen cuándo alguien tiene necesidad de hacer la Pupú en la noche?	Van a la letrina (1) Hacen en una basinilla (2) Hacen junto a la casa(3) Se esperan hasta el dia (4) Otro(5)…	
4.14	Para ir a la noche a la letrina...que tienen para alumbrarse**(Pueden haber múltiples respuestas)**	Nada(1) Una vela(2) Una Linterna (3) Foco (4) Bombilla (5)Lámpara (6) Otro (7)……	
4.15	Con que se limpian luego de hacer la Pupu	Con papel higienico(1) Con papel de mascota (2) papel periodico(3) Hojas (4) Agua (5) Otro (6)……	
4.16	¿Dónde hace la pupu el/la niño/a más pequeño/a?	Pañal(1) Pamper(2) Basinilla (3) En el piso (4) En la letrina (5) Otro (6)..... (**Si contesta letrina continúe) (Si pañales salte a la 4.21) (Si contesta Basinilla salte a la 4.23)**	
4.17	¿A qué edad empezo su niño/a a usar la letrina?	A los …. Años	

4.18	¿Qué cosas le ha enseñado sobre como usar la letrina?	A limpiarse bien (1) Como sentarse(2) Que debe usar el bacín grande para la pupú (3) Que debe usar el bacín chico para las orinas(4) No tirar objetos en la letrina (5) Poner los papeles en el zafacón(6) No venir solo/a(7) Lavarse las manos después de usar (8) Otro(9)…….....	
4.19	**¿**Quién acompaña a la letrina al niño/a?	Mama(1) Cuidador del niño(2) Papa (3) Hermana/o (4) Nadie (5) Cualquiera (6) Otro (7)	
4.20	¿Quién le limpia al niño/a después que hace la Pupú?.	Mama(1) Cuidador del niño/a(2) Papa (3) Hermana/o (4) Nadie (5) El mismo (6)Cualquiera (7) Otro (9)	
4.21	**SI HACE EN PAñALES:** ¿Dónde arroja la pupú de los pañales?	En la letrina(1) En un hueco (2) En el monte/campo(4) Los enjuaga (5) Otro (6)	
4.22	**SI HACE EN PAMPER:** ¿Dónde arroja los pamper?	En la letrina(1) En un hueco (2) En el monte/campo(4) Los lava y enjuaga(5) Otro (6)	
4.23	**SI HACE EN BASINILLA:** ¿Dónde arroja la pupú de La basinilla?	En la letrina(1) En un hueco (2) En el monte/campo(4) Otro (5)….	
4.24	Ahora me podria permitir mirar la letrina y los alrededores de la casa	SI(1) NO(2) **(Si dice NO, salte a la pregunta 4.28)**	
4.25	OBSERVE la estructura y accesorios de la letrina. (**Anote solo si su estado es bueno o usable)**	Tiene techo (1) Puerta(2) Bacinete (3) Tapa de bacinete(4) Zafacon (5) tapa de Zafacon(6) Ventilacion (8)Camino de acceso(9) Otro/a(10).....	
4.26	OBSERVE la higiene de la letrina. (**Anote solo si su estado es negativo)**	Excretas en piso (1) En el bacinete(2) En la tapa del bacinete(3) En el Zafacon (4) En las paredes o puerta (5) Hay moscas (6) Hay mal olor (7) Papeles sucios en el piso (8) Objetos que no son propios de la letrina(9) Otro (10)	
4.27	OBSERVE Los alrededores de la casa. **(Anote solo lo negativo que observa)**	Excretas alrededor de la letrina (1)Alrededor de la casa(2) Varias en un lugar (3) Pañales desechables (4) Papeles o bolsas con excretas (5) Otro relacionado (6)…….	
4.28	Tiene usted basinillas	SI(1) NO(2) **(si contesta NO pasar a ssiguiente sección V)**	
4.29	Puede enseñarmelas	SI(1) NO(2)	
4.30	OBSERVE Lo siguiente y anote	Hay basinilla de niños (1) Hay basinillas de adultos(2) Tienen excretas (3) Tiene mal olor (4) Se ven limpias Otro(5).....	
V	**SOSTENIBILIDAD DE AGUA**		
5.1	¿Hay en la comunidad un acueducto o agua por tubería funcionando?	SI(1) NO(2)No sabe (3) **(si contesta NO, salte a la pregunta 5.7)**	
5.2	¿Desde cuándo recuerda que disponen de este acueducto?	Convierta en dias cualquier unidad que le den:	
5.3	¿Hay en la comunidad un acueducto o agua por tubería en construcción?	SI(1) NO(2) No sabe (3)	
5.4	¿Contribuyó usted o alguien de su familia o está contribuyendo ahora a la construcción de este	SI contrubuyó (1) NO(2) Está contribuyendo (3)No sabe (4) **(si contesta que no o no**	
5.5	¿Contribuyó o está contribuyendo con trabajo, con dinero o de alguna otra forma?	Trabajo (1) Dinero (2) Ambos (3) Ninguno (4) NS(5) Otro(6)…….	
5.6	Paga usted al momento alguna cuota por el acueducto o le han indicado que pagará cuotas	SI(1) NO(2) No sabe (3) **(si contesta 2 ó 3 pase a pregunta 5.7)**	

5.7	¿Cada qué tiempo paga o va a pagar y cuánto es la cuota?	**Cantidad $RD**:…….. **Cada:**Semana(1) mes(2) bimensual (3) Trimestral (4) Semestral (5) Annual (6) Otro (7)…….	
VI	**PROVISION DE SANEAMIENTO**		
6.1	**(Esta pregunta se aplica si la persona tiene letrina) ¿**Qué tiempo, en meses, tiene usted la letrina que observamos?	**Convierta en dias** cualquier unidad que le den:	
6.2	¿La construyeron ustedes o recibieron alguna ayuda de alguna organización?	Ellos(1) Recibieron ayuda(2) No sabe (3) Otro(4)…	
6.3	**(Si recibieron esta ayuda)** ¿En qué les ayudaron?	Diseño (1) Definir el lugar (2) Materiales para la caseta(3)materiales para la fosa(4) materiales para la Plancha/piso(5) El bacinete (6) Mano de obra (7) Otro (8).....	
6.4	¿Esta letrina solo la usan ustedes o comparten con otros hogares?	Solo esta familia (1) Comparten con otra famimlia(2) Comparten con varias otras familias(3)	

AGRADEZCA Y PASE A LA INTRODUCCION DE LA VALIDACION DE MATERIALES

OBSERVACIONES:

Annex C

PROYECTO MULTIAGENCIAL DE CAMBIO DE COMPORTAMIENTOS

CUESTIONARIO DE LINEA DE CORTE

HATO MAYOR DEL REY. REPUBLICA DOMINICANA

ENCUESTADOR ***CUESTIONARIO N;***

COMUNIDAD ***VIVIENDA N:*** ***FECHA:***

INTRODUCCION:(Saludar)- Mi nombre es:……y trabajo para MUDE/ CRS. En el mes de NOVIEMBRE del año pasado vinimos a entrevistarle sobre el uso del agua y las letrinas. Nuevamente queremos pedirle que nos permita volver a hacerle esta entrevista. Le agradecemos por su atención

	FILTRO: HAY en esta casa algún niño menor de 5 años?	
	No haga aun ninguna anotación. Si hay uno o varios niños en esas edades, continúe. Si no hay niños, agradezca y vaya a otra vivienda	
I	**IDENTIFICACION Y SOCIO DEMOGRAFICAS**	
1.1	Quién cuida a los niños o niñas menores de 5 años?	Madre del niño(1) Abuela (2) Hermano/a(3) Otro familiar (4) Otro cuidador (0)…….
1.2	**(ATENCION ENCUESTADOR/A: ESTA PREGUNTA ES DOBLE)** Por favor PRIMERO deme las edades, en años cumplidos, de cada uno de los niños (M) y niñas(F) que tengan, desde menos de un año hasta 5 años cumlpidos. **ANOTE...(CONTINUE PREGUNTANDO)**Ahora dígame cuales de ellos tuvieron **diarrea (D) en cualquiera de las dos ultimas semanas.**	
1.2.0	Menores de 1 año:	Diarrea en las dos ultimas semanas: (M) (F) (Y)
1.2.1	UN año cumplido:	Diarrea en las dos ultimas semanas: (M) (F) (Y)
1.2.2	DOS años cumplidos:	Diarrea en las dos ultimas semanas: (M) (F) (Y)
1.2.3	TRES años cumplidos:	Diarrea en las dos ultimas semanas: (M) (F) (Y)
1.2.4	CUATRO años cumplidos:	Diarrea en las dos ultimas semanas: (M) (F) (Y)
1.2.5	CINCO años cumplidos:	Diarrea en las dos ultimas semanas: (M) (F) (Y)
1.3.	Pertenece a algún Comité, Asociación u Organización de esta comunidad?	(SI) (NO) (NR)
1.3.1.	(**Si dijo si, continúe. Si dijo no, salte a la siguiente) NOTA: Recuerde que puede contestar a varias opciones.** Puede decirme a cuales grupos pertenece?	Junta de Vecinos (1) Asociación de Padres Madres y Amigos de la Escuela (2) Comité de Agua (3) Comité de Amas de Casa (4) Comité de Mujeres (5) Comité deportivo (6) Ninguno (7). Otro:(0)Anote:_____
II	**ALMACENAMIENTO DE AGUA PARA BEBER**	
2	De donde toma el agua para cocinar y beber.	Llave comunitaria(1) Llave domicilio (2) Pozo con Bomba Comunitaria(3) Pozo familiar (4= Acequia(5) Rio (6) Lluvia(7) Tanquero (8) Otro (0) Especifique
2.1	Usted toma de esa directamente o le hace algun tratamiento?	Toma directamente(1) Hace tratamiento (2) NR(3)
2.2	Que es lo que hace	Filtra (1) Clorifica(2) Hierve (3) Deja reposar (4) Otro (0) Especifique...
2.3	¿Tiene un envase para guardar solamente el agua para tomar?	SI (1) NO (2) NR(9)**(Si contesta NO Pase a la seccion III pregunta 3.1.)**
2.4	¿Podría permitirme mirar este envase?. OBSERVE LOS SIGUIENTES ASPECTOS Y ANOTE	SI (1) NO (2) No tiene (3) **(Si contesta 2 ó 3 pase a la seccion III.Pregunta 3.1.)**
2.5	OBSERVE el Material	Plástico (1) Metal (2) Cerámica (3) Vidrio (4) Otro (0)Anote;.....
2.6	OBSERVE el Tipo	Cubeta (1) Tinaja(2) Galón (3) Botella (4)Olla (5) Jarra (0) Otro (7)Anote;.....