



Activity Report 139

Summary Report: Combining
Hygiene Behavior Change with
Water and Sanitation in the
Dominican Republic

A Pilot Project in Hato Mayor and Follow-on
Activities to Institutionalize and Scale-up the
Behavior Change Approach

Diane B. Bendahmane

September 2004

Prepared under EHP Project 26568/CESH.DR.Y5

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

Contents

Acronyms	vii
About the Author	ix
Acknowledgements.....	xi
Executive Summary	xiii
1. Introduction.....	1
1.1. Project Inception	1
1.2. Sequence of Activities	2
1.3. Related Activities and Reports.....	3
1.4. Roadmap to This Report	3
2. The Role of Behavior Change in Diarrheal Disease Prevention.....	5
2.1. Diarrheal Disease Transmission and Prevention	5
2.2. The Hygiene Improvement Framework.....	6
2.3. The Methodology Used in Hato Mayor	8
2.4. New Process Guide for Hygiene Behavior Change.....	9
3. Phase I: Behavior Change Training of NGOs.....	13
3.1. Background.....	13
3.2. Assessment of NGO Experience in Behavior Change.....	13
3.3. Participating NGOs.....	14
3.4. Approach and Content of the Workshop	14
3.5. Results of the Workshop.....	16
3.6. Recommendations for Future Workshops	16
4. Phase II: The Hato Mayor Pilot Project — Planning Processes	19
4.1. Background.....	19
4.1.1. Phase II Scope of Work	19
4.1.2. The Project Area	19
4.1.3. Public Health Goal and Indicators	21
4.1.4. Project Approach and Activities	21
4.2. Research and Selection of Target Behaviors	22
4.2.1. Formative Research.....	22
4.2.2. Methodology	22
4.2.3. Findings of the Formative Research	23
4.2.4. Probative Research.....	24
4.2.5. Target Behaviors	25
4.3. Materials Generation and Testing.....	26
4.3.1. Generating Materials with the Community.....	26
4.3.2. Graphic Products.....	27

4.3.3. Audio-Tapes.....	28
4.3.4. Equipment Provided.....	28
4.3.5. Testing of Materials	29
4.4. Baseline Creation.....	30
4.4.1. Survey Instruments	30
4.4.2. Survey Findings	32
5. Phase II: The Hato Mayor Pilot Project — Implementation.....	33
5.1. Training Community Hygiene Promoters.....	33
5.2. Project Launches.....	33
5.3. Project Activities.....	34
5.3.1. Home Visits by Community Hygiene Promoters	34
5.3.2. Subsidized Products	34
5.4. Mid-Term Assessment.....	35
5.4.1. Scope of the Assessment.....	35
5.4.2. Key Health and Behavior Results	35
5.4.3. Skill Development of Community Hygiene Promoters	36
5.4.4. Process Results.....	37
5.4.5. Impact on Institutional Partners	37
6. Phase III: Initiative for Hygiene Behavior Change.....	39
6.1. Overview and Scope of Work.....	39
6.1.1. Background	39
6.1.2. Rationale	39
6.1.3. Goals	40
6.1.4. Implementation Steps.....	40
6.2. Role of Alianza	41
6.3. Support for Hato Mayor Pilot Project.....	42
6.4. Institutionalizing a Partnership for Hygiene Behavior Change	42
6.4.1. Nature of the Partnership	42
6.4.2. Training of Trainers: Formation of Multipliers	43
6.4.3. Results of the Multipliers’ Workshop.....	44
6.4.4. Development of Work Plans for Hygiene Behavior Change.....	45
6.5. Strengthening National Capacity for Hygiene Behavior Change.....	45
6.5.1. Behavior Change Network.....	45
6.5.2. Training Workshops.....	45
6.6. Rotating Fund.....	47
6.7. Communication Mechanisms.....	47
6.8. Collaboration with the Peace Corps and Other Organizations	48
6.9. GEFI (Food for Education Global Initiative) Workshops	49
6.10. Results of Phase III	50
6.10.1 Training.....	50
6.10.2. Improved Capacity	50
6.10.3. Geographic Coverage.....	53
6.10.4. Network for Hygiene Behavior Change.....	56
7. Assessing Behavior Change Results in Hato Mayor	57

7.1. Background.....	57
7.2. Survey Goals.....	57
7.3. Methodology.....	58
7.4. Limitations of the Analysis.....	59
7.4.1. Health Results.....	60
7.4.2. Behavior-change Results.....	61
7.4.3. Home Visits by Community Hygiene Promoters.....	63
7.5. Conclusions.....	64
8. Impacts and Insights.....	67
8.1. Achievements.....	67
8.2. Challenges.....	68
8.3. Lessons Learned.....	69

Acronyms

ADESJO	Association for the Development of San Jose de Ocoa (La Asociacion para el Desarrollo de San Jose de Ocoa)
ALEPH	Latin American Agency of Planning Experts (Agencia Latinoamericana de Expertos en Planificacion H.)
Alianza	umbrella NGO that coordinated Phase III of Hato Mayor activities
ASOCAR	Association of Rural Water Systems Committees
C-IMCI	community-based integrated management of childhood illnesses
CRS	Catholic Relief Services
DHS	Demographic Health Surveys
DIGPRES	General Directorate for Health Education and Promotion, Ministry of Health
EHP	Environmental Health Project
ENTRENA	umbrella NGO that coordinated NGO involvement in RECON
GEFI	Food for Education Global Initiative
INAPA	Regional Water and Sewer Authority
KAP	knowledge, attitudes, and practices
MUDE	Women in Development
NGO	nongovernmental organization
ORS	oral rehydration salts
PAHO	Pan-American Health Organization
RECON	Hurricane Georges Reconstruction Project
SESPAS	Ministry of Health and Social Welfare
SSID	Social Services of Dominican Republic Churches
TIPs	trials of improved practices
USAID	United States Agency for International Development

About the Author

Diane B. Bendahmane retired as Director of Information and Communication Services at EHP in 2000. She now takes on a few free-lance writing/editing assignments a year for EHP, the World Bank, and other organizations. She was Manager of Marketing and Information Services for the Water and Sanitation for Health (WASH) Project, EHP's predecessor, beginning in 1989. Before that, she worked as a consultant for the Inter-American Foundation, the Foreign Service Institute, the American Public Health Organization, and others, and was on the staff of the Carnegie Endowment for International Peace and Appropriate Technology International. Ms. Bendahmane was a Peace Corps volunteer and staff member from 1966 to 1972.

Acknowledgements

EHP and the author would like to thank everyone in the Dominican Republic who assisted in the presentation of information included in the final report.

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 work and its corresponding formative research and community-level interventions possible. These institutions are the Secretariat of Public Health's Department of Health Promotion (DIGPRES), the 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, the Pan-American Health Organization (PAHO), and the United States Agency for International Development (USAID).

The EHP Activity Manager would further like to acknowledge key participants critical to the success of the work, with the understanding that it would be quite impossible to appropriately acknowledge the host of dedicated participants. As such, EHP regrets any errors or omissions.

Marco Polo Torres from The Manoff Group Inc., EHP consortium member, served as lead technical consultant for the work in the Dominican Republic, beginning with the initial training of NGOs involved in the RECON project. As a health communication and social marketing specialist, Mr. Torres designed, developed, and applied many of the training events and provided input and guidance on others in the implementation of the hygiene behavior change methodology.

The “partners” or *socios*, as they came to be called, are four specialists, representing four organizations: Candida Gil — CRS; Victoria Cruz — MUDE; Bienvenido Mercedes — World Vision, and Carlos Ureña Bravo — INAPA. These individuals received the most intensive training and, in turn, they served as a resource for training others — hence they also became known as “multipliers.” These four individuals, involved almost since the inception of the Hato Mayor project, were dedicated to the project and ongoing oversight of the Hato Mayor pilot through the final survey. EHP would also like to acknowledge the organizations that provided these specialists as a valuable resource to the project.

Alianza — served a key coordination and outreach role in working with NGOs for the promotion of hygiene behavior change. The local coordinator, Flady Cordero, having been involved with the project since its inception, was a key technical resource for the project.

USAID — The USAID Office of Health in Washington, D.C., (represented by Merri Weinger) and the USAID/Dominican Republic Mission (represented by Kelva Perez)

were strong advocates in the conceptualization, planning, and promotional aspects of the work and stages as well as active participants during implementation.

Robert Kolesar, involved in Phases I and II of this project as both an EHP consultant and client (with USAID/DR), also contributed significantly to the project's success.

EHP Technical/Administrative support — the technical guidance and participation of a very engaged EHP staff (EHP Director, Sandra Callier; Senior Technical Director, Eckhard Kleinau; and Manager of the Information Center, May Post) contributed greatly to the success of the project. In addition, Ana Maria Dillon, who was involved in supporting the project from its inception, is acknowledged for her efforts.

Finally, it is important to recognize that the behavior changes and health effects resulting from the work in Hato Mayor are attributable to the tireless work of a team of 23 volunteer community health promoters committed to improving the health of their children, families, and communities.

Executive Summary

Overview

In response to the destruction of Hurricane Georges in the Dominican Republic, the U.S. Agency for International Development (USAID) initiated a comprehensive program in 1999 to reconstruct damaged water and sanitation systems and construct new ones to improve public health, especially of children. RECON, as the program was called, was implemented through NGOs under the aegis of a local contractor, ENTRENA. After a year of project activities, the USAID mission in Santo Domingo asked EHP to incorporate a behavior change component to RECON to maximize the health impact of the effort. EHP technical assistance in support of hygiene behavior change continued through three phases of assistance, ending in June 2004 at the conclusion of EHP II.

Three Phases of Assistance

The initial activity (April 2000 to March 2001) consisted of intensive training in behavior-change techniques for about 40 personnel from the 16 NGOs that were involved in RECON, plus personnel from the Ministry of Health, the National Sewer and Water Authority (INAPA), USAID, and the Pan-American Health Organization (PAHO). The second phase (February 2001 to May 2002) provided additional training and technical assistance to two of the 16 NGOs, Catholic Relief Services (CRS) and Dominican Women in Development (MUDE), in a pilot behavior change project in Hato Mayor, one of the RECON communities. After five months of implementation, a participatory assessment was conducted and results were compared with the baseline. Findings were encouraging. Accordingly, the project team recommended that additional assessments be conducted to see how the results stood up over time and to provide guidance for program planning. Thus, a third phase was instituted (February 2003 to June 2004), which consisted not just of the additional assessments but also training and dissemination of IEC materials to foster replication and scale up. This phase sought to increase expertise in hygiene behavior change and to create a wide behavior change network in the Dominican Republic (and in Nicaragua and Peru where similar behavior change activities were carried out by EHP).

The Hato Mayor Pilot Project

Hato Mayor was selected for the pilot project because RECON had just begun to work there and thus it would be possible to integrate a full-fledged behavior change component to the water and sanitation activities. CRS and MUDE representatives received hands-on, in-depth, step-by-step training in planning and carrying out behavior-change activities. They immediately put what they learned to use in nine

poor agricultural communities in Hato Mayor. The methodology for behavior change that they applied consisted of formative research, development of a strategy, generation and testing of promotional materials, creation of a quantitative baseline, selection and training of a cadre of community-based volunteer promoters, a launching event, implementation and monitoring of activities, and measuring changes in behavior and disease prevalence through participatory assessments. The public health goal was to reduce the prevalence of diarrhea among children under five years of age. Target behaviors were related to protection of drinking water, handwashing, and correct disposal of fecal matter.

The same EHP social marketing consultant that had trained the NGO representatives in phase one continued to provide assistance and guidance as CRS and MUDE personnel carried out the steps in the methodology and as the promoters visited households in the project communities.

Results of the Hato Mayor Pilot Project

After five months of implementation (in May 2002), an assessment was carried out and the results were compared with the baseline (December 2001). The assessment consisted of a survey of about 125 households in which child caretakers were interviewed and asked to demonstrate handwashing techniques. Subsequently, under phase three, two more assessments were conducted (June 2003 and March 2004) and the results analyzed. When reviewing the results, it must be kept in mind that the activities of volunteer community hygiene promoter fell off significantly after the conclusion of phase two, when funding for promoter supervision and support ended.

Major health and behavior results of the three assessments are as follows:

- Diarrheal prevalence among children under five (two-week recall) decreased from 27% at the baseline to 11% at the first follow-up assessment, to 13% recorded at the final assessment. This decrease appears sustainable over time. However, the decrease cannot be linked directly or exclusively to the behavior change interventions, since water systems were being repaired or constructed at the same time. The decrease may be due to the combined effect of the behavior-change and infrastructure interventions.
- Most of the hygiene behaviors promoted showed statistically significant improvements from the baseline to the first follow-up assessment. In subsequent surveys, the results varied, with some behaviors showing signs of backsliding. These findings suggest that some behaviors, once changed, may not require additional promotion, while others need sustained (or perhaps more varied) reinforcement. Positive trends included:
 - For the primary caregiver, reported handwashing after going to the bathroom increased from the baseline to the first mid-term by 12%; in the final survey, the improvement over baseline was 8% (borderline statistical significance).

- For the youngest child, reported handwashing after going to the bathroom increased from the baseline to the first mid-term by 16%; in the final survey, the improvement over baseline was 12%.
- Hand-drying technique seemed to show sustained improvement, with 97% observed in the final survey following recommended practice, compared to 20% at baseline.
- Between the baseline to the final survey, a significant increase occurred in observance of a permanent handwashing location: from 17% to 37%.
- Sanitation facilities were much cleaner at the final survey: e.g., presence of flies decreased from 19% to 2% and presence of feces on the door and walls decreased from 11% to 0%.

The first assessment also documented the skill-development and process results of the Hato Mayor pilot.

- Twenty-three community hygiene promoters attained a very good understanding of the health message and content that they were responsible for communicating; however, they needed further training in counseling skills.
- The pilot project had a positive effect on the organizations involved: new technicians increased their skills in management of focus groups, in-depth interviews, development of strategies, trials of improved practices (TIPs), baseline surveys, etc.
- Support materials were prepared (promoter’s guide, counseling cards, etc.) and later were assembled and made available to other NGOs as “Module I.” (In a parallel activity to phase three, EHP supported development of a detailed guideline on the methodology: Joint Publication #7: *Improving Health through Behavior Change: A Process Guide on Hygiene Promotion*, published jointly by EHP, PAHO, and Plan International.)

Phase Three: Initiative for Hygiene Behavior Change

In addition to conducting the follow-on assessments mentioned above, phase three sought to institutionalize a formal partnership of organizations with the potential to effect a scale up of the behavior change approach in the Dominican Republic. This phase was coordinated by Alianza, an umbrella NGO. The partner organizations — CRS, MUDE, World Vision, and INAPA — made a commitment to incorporate behavior change as an integral part of their activities and to spread the methodology through training others. Four persons — one representative from each of the organizations in the partnership — were trained in a multipliers’ workshop (July 13-25, 2003). Again, the social marketing specialist was the lead trainer. The partners developed six different prototype workshops to make them fully competent as

behavior change trainers. Through this training and their previous experience (all of them had been involved previously in Hato Mayor), the four were certified as trainers and awarded diplomas for more than 1,000 hours of training and hands-on experience.

Phase three also strengthened national capacity for hygiene behavior change through numerous workshops and information-exchange activities for interested NGOs and government agencies. The partners planned four major workshops and functioned as facilitators or instructors, with the coordination and support of Alianza.

- Two Implementers' Workshops, Jan. 25–30, 2004, and March 26–28, 2004, attended by technical staff from NGOs (18 attended the first and 10 attended the second).
- Planners' Workshop, April 26-30, 2004, attended by 21 personnel from partner organizations and other NGOs who had successfully completed one of the implementers' workshops.
- Workshop on the Use of Module I, Sept. 17–19, 2003, attended by 21 representatives from partner organizations and other NGOs.

In addition, Alianza and the partners held mini-workshops on the use of Module 1 for Peace Corps volunteers and trainees and two workshops in connection with the GEFI projects in schools:

- Workshop on the Use of Materials, March 12-14, 2004, attended by the staff of NGOs and state institutions that were implementing GEFI projects.
- Workshop on the Use of Behavior Change Materials in Schools, April 2-4, 2004, attended by about 115 teachers and NGOs representatives. Teachers were trained in the use of "My Ideal School," a module prepared especially for the GEFI projects by CRS, MUDE, and World Vision.

Phase three included establishment of a rotating fund to support dissemination of Module 1. There was some initial uncertainty in the approach to the development of the fund and the mechanism for insuring its sustainability; however, approximately 500 copies of Module 1 were sold, mostly in connection with workshops. At the conclusion of the third phase, remaining seed funds and receipts from sales were used to reproduce 800 additional packages.

Results of Phase Three

- *Training.* Through the Initiative for Hygiene Behavior Change, 220 persons were trained, not counting the mini-workshops for the Peace Corps. Eighty-eight of the participants were awarded certificates.
- *Improved Capacity.* Among the partners, CRS gained most; there are now one multiplier and six planners on the organization's staff; other partners also gained significantly. With the exception of INAPA, which was not able to certify a planner, all partners now have personnel certified as multipliers, planners, and

implementers on their staffs. Eight additional organizations have certified planners of behavior change on their staffs; six of them also have personnel trained as implementers and in the use of Module 1. Finally, nine organizations gained the capacity to use and disseminate Module 1.

- *Geographic Coverage.* The partner organizations' commitment to behavior change and the expansion of their work in various locations in the Dominican Republic have greatly increased the geographic reach of the behavior change approach.
- *Network for Hygiene Behavior Change.* The Initiative made contact with and sensitized 43 persons representing 28 NGOs, government organizations, and institutions.
- *Behavior-Change Strategies in Schools.* The Initiative carried out activities outside the health sector through training teachers to apply the principles of behavior change in GEFI school projects.
- The over-arching challenge for Alianza and other organizations involved in the Hato Mayor project is how to build on these significant achievements before interest and enthusiasm dissipate. Alianza is well qualified to play the role of coordinator but needs financial support.

Lessons Learned

A number of lessons were drawn from this multi-phased effort, among them:

- Participatory monitoring proved to be highly successful in keeping stakeholders engaged and increasing their vested interest in the progress of the hygiene behavior change activities. However, the decentralized management of the surveys resulted in compromises to the study design that limited the analysis and therefore the utility of the findings beyond the households included in the sample.
- Negotiated interviews with households are more strategic than the more typical promoter home visit. Promoters using negotiated interviews attempt to obtain an agreement with the household to work toward specific goals.
- Success with the behavior change methodology depends on whether or not the methodology is understood and accepted as intrinsic to the health or water and sanitation project, not simply as a parallel activity.

1. Introduction

1.1. Project Inception

In September 1998, Hurricane Georges swept through the Dominican Republic causing major damage to infrastructure and agriculture in 14 provinces and the National District. In response, the U.S. Agency for International Development (USAID) launched a comprehensive reconstruction activity in 1999 with a \$7 million health component that included community-based integrated management of childhood illnesses (C-IMCI), construction and reconstruction of water systems and latrines, and health education. The Hurricane Georges Reconstruction Project (RECON) was implemented through 16 nongovernmental organizations (NGOs) under the aegis of, ENTRENA, which coordinated NGO involvement in RECON.

The need for significant improvements in water supply, sanitation, and hygiene in the Dominican Republic was great: in 2000, in the Dominican Republic, 16.9% of people living in urban areas and 49.3% of those in rural areas lacked access to potable water services, and 4.4% in urban areas and 21.3% in rural lacked access to sanitation. A 2000 evaluation showed the percentage of children under five with reported diarrhea in the previous two weeks as 15.4% in urban areas and 17.9% in rural (*Evaluacion de los Servicios de Agua Potable y Saneamiento 2000 en las Americas, PAHO*).

In the summer of 2000, after one year of RECON project activities, USAID/Santo Domingo decided to take steps to maximize the health impact of the water and sanitation improvements through a concerted effort to include a strong behavior-change component in the ongoing activities. The expectation was that simultaneously providing infrastructure and carrying out behavior-change interventions would ultimately produce significant benefits for children under age five, who experience high rates of diarrheal disease morbidity and mortality. The mission asked the Environmental Health Project (EHP) to provide technical assistance to support incorporation of behavior-change approaches — thus, the origin of an EHP effort in the Dominican Republic that went through three phases and was to last almost four years.

The RECON project placed considerable emphasis on the construction of water systems by the National Sewer and Water Authority (Instituto Nacional de Alcantarillados y Agua) (INAPA), with community participation and involvement in the transfer and future maintenance of the systems using the total community participation approach, whereby the community participates in the building of infrastructure and then assumes ownership and responsibility for its maintenance. As part of the same project, latrines were built for all homes. Thus, behavior change took

place within the context of significant infrastructure improvements and ongoing community organization and participation.

1.2. Sequence of Activities

EHP provided technical assistance in three phases.

- *Phase One: Behavior-Change Training.* In the first phase, intensive training in behavior-change techniques was given for about 40 personnel from 16 NGOs that were involved in the RECON projects, plus personnel from the Ministry of Health (Secretaria de Estado de Salud Prevision y Asistencia Social) (SESPAS), INAPA, USAID, and the Pan-American Health Organization (PAHO). ENTRENA served as local coordinator. The goal of the training was to strengthen the capacity of the NGOs to design and implement behavior-change activities. The first phase began in April 2000 and ended in March 2001.
- *Phase Two: Pilot Project in Hato Mayor.* The second phase was a pilot project to assist two NGOs working in the town of Hato Mayor to implement and document hygiene behavior-change interventions that had been introduced in the training. With the aid of intermittent technical assistance and hands-on in-depth training in the behavior change methodology, the NGOs developed and field tested materials aimed at improving hygiene behaviors and preventing diarrhea, especially among children under age five. This phase was fairly short, beginning in February 2001 and ending in December 2001, when RECON funds had to be completely expended. However, EHP supported an assessment of the pilot activities in May 2002, after five months of implementation. Based on the assessment, the project team recommended that a third phase be implemented.
- *Phase Three: Initiative for Hygiene Behavior Change.* Phase three focused on scale-up and replication with a strong emphasis on training and dissemination of materials. Under the coordination of the umbrella NGO, Alianza, a team of NGO representatives — all of whom had been involved in Hato Mayor training and implementation — were certified as “multipliers” at the conclusion of a training-of-trainers workshop that covered all aspects of the hygiene behavior change approach. The workshop was the culmination of training begun during implementation of Hato Mayor. The team members went on to apply their new skills by planning and delivering several workshops to increase the capacity of organizations in the Dominican Republic to plan and implement behavior change programs and to use materials that had been developed under Phase II. The team also participated in two additional assessments of the Hato Mayor project and assisted in introducing the behavior change approach to a Food for Education Global Initiative (GEFI) school program. Phase III began in February 2003 and concluded in June 2004 with the completion of the EHP II contract.

1.3. Related Activities and Reports

In addition to the three phases of activities, EHP also supported the participation of personnel trained in the Dominican Republic as training assistants for projects in Nicaragua and Peru based on the Hato Mayor model. The activities were an EHP-PAHO joint venture that involved the Ministry of Health in both countries and that was based on a common acceptance of the behavior-change methodology. The activities are described in the pending EHP Activity Report documenting the Peru and Nicaragua C-IMCI experience.

The EHP-PAHO joint venture also led to production of a guideline on hygiene behavior change based on the approach used in Hato Mayor. The guideline provides detailed practical information on planning and carrying out hygiene behavior change projects and explains the theory that underlies the approach (EHP Joint Publication 7, *Improving Health through Behavior Change: A Process Guide on Hygiene Promotion.*)

This report supercedes Activity Report 125, *Combining Hygiene Behavior Change with Water & Sanitation: A Pilot Project in Hato Mayor, Dominican Republic. April 2000 – May 2002*, which covered the first two phases of the behavior change effort in the Dominican Republic. A separate report—EHP Activity Report 137, *Combining Hygiene Behavior Change with Water and Sanitation: Monitoring Progress in Hato Mayor, Dominican Republic — Part II. December 2001 — March 2004* — documenting the findings from the three assessments of the Hato Mayor pilot is also available.

1.4. Roadmap to This Report

Chapter 2 describes the behavior change methodology used in Hato Mayor and the hygiene improvement framework that is its theoretical foundation.

Chapters 3 through 7 describe the three phases of activities: Phase I in Chapter 3; Phase II in Chapters 4 and 5; and Phase III in Chapters 6 and 7, the latter chapter devoted solely to an analysis of the assessment results.

Chapter 8 concludes the report by summarizing the accomplishments, challenges, and lessons learned.

2. The Role of Behavior Change in Diarrheal Disease Prevention

2.1. Diarrheal Disease Transmission and Prevention

Diarrheal disease is one of the principal causes of death in children, and it contributes to under-nutrition, which in turn affects children's growth and development, and increases their susceptibility to other diseases. Worldwide, 1.3 million children die annually from dehydration brought about by diarrhea.

Diarrhea is caused by ingestion of pathogens found in the feces of human beings and certain animals and birds. When excreta are disposed of improperly, agricultural fields, water, food, people's hands, and household objects can be contaminated.

- Food may be contaminated as a result of unsanitary transportation or handling or through irrigation of fields with contaminated water, or it may become contaminated through contact with a contaminated food preparation surface or utensil or someone's unwashed hands. Food may also be contaminated if the water used to wash it is not safe.
- Water may be contaminated in the same manner as food. Also, water can be contaminated as a result of broken water lines, leaks, incomplete treatment, and storage in contaminated cisterns, tanks, or kitchen vessels. Some water is untreated.
- Pathogens are ingested when contaminated fingers and objects come into contact with the mouth. Generally people's hands become contaminated because they fail to wash them after defecating or changing a child's diaper or cleaning a child's bottom. Also, people's hands may become contaminated by touching manure, dust, or objects that have come in contact with excreta.

Diarrheal disease can be prevented if:

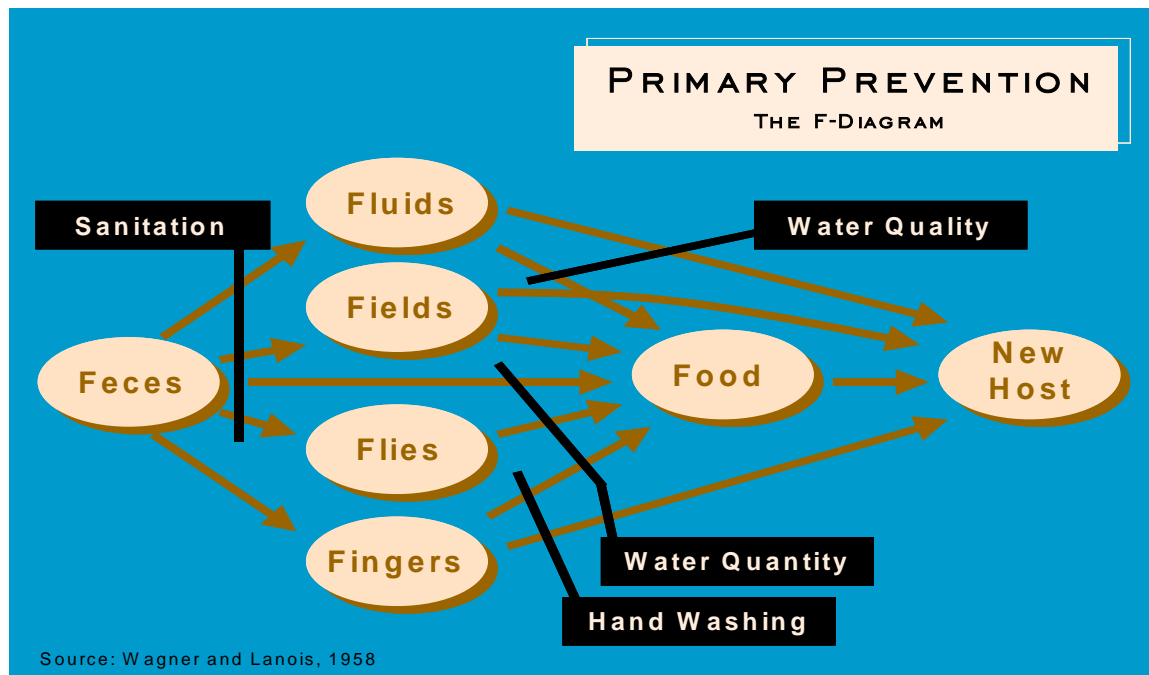
- Barriers are created to keep infectious organisms out of the social environment
- People avoid coming into contact with organisms that may overcome the barriers
- People destroy the organisms that may overcome the barriers

The social environment may be protected by disposing of human excreta in a sanitary way, including decontamination of hands and cleansing materials. Water should be disinfected before drinking; kitchen utensils should be protected and disinfected; animals and birds should be prevented from coming into contact with water or food; and food should be thoroughly washed, peeled, or cooked.

These preventive interventions depend largely on people’s actions or habits. To prevent diarrhea, programs should seek to identify current behaviors, and if necessary, promote the adoption of new or modified behaviors to interrupt transmission of pathogens.

Figure 1, the “F-diagram” by Kawata, illustrates the pathways of fecal exposure and corresponding opportunities to interrupt transmission. When pathogen exposure is reduced, diarrheal disease decreases and nutrition absorption improves. These intermediate outcomes mutually support a decrease in illness and death.

Figure 1. Primary Prevention: The “F” Diagram



2.2. The Hygiene Improvement Framework

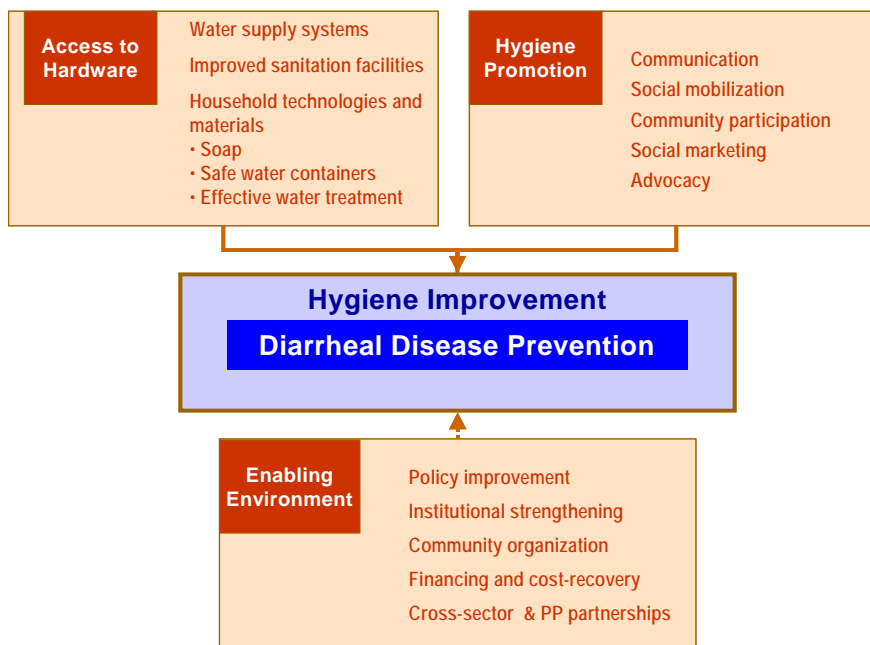
Over the past two decades, diarrhea mortality in children under-five has declined steadily, yet a parallel reduction in diarrhea related morbidity has not been seen. Studies have shown that hygiene improvement interventions (improved water, sanitation, and hygiene behavior change) have resulted in a 30-50% reduction in the burden of diarrheal diseases. Based on these findings, EHP developed the hygiene

improvement framework, a comprehensive approach to diarrhea prevention that addresses three elements (see Figure 2):

- Access to water and sanitation hardware (e.g., piped water and latrines) and household technologies/products (e.g., water storage containers, soap).
- The promotion of hygiene through IEC, community participation, social marketing, etc., leading to improved behaviors.
- The development of an “enabling” environment — one that supports hardware and hygiene activities (e.g., favorable policies, strong institutions and community organization, financing and cost-recovery options, involvement of the private sector, etc.)

The Hato Mayor experience described in this report focuses on the second element of the Framework.

Figure 2. Hygiene Improvement Framework



The Hato Mayor project was conceived and carried out in keeping with the essential elements of the hygiene improvement framework. In Hato Mayor, the hygiene promotion activities took place in communities where water and sanitation hardware had recently been (or was being) installed. The connection of hygiene promotion to hardware is obvious: most recommended hygiene behaviors are difficult — if not impossible — to adopt and sustain in the absence of safe water and adequate sanitation. Likewise, the project took steps to create programs and attract resources to support hygiene behavior change at the community and household level. These “enabling” activities, which were especially important during Phase III, included advocacy, institutional change, and development of NGO and government partnerships.

2.3. The Methodology Used in Hato Mayor

The hygiene behavior change methodology used in the Hato Mayor project fostered behavior change, as opposed to simply increasing people's knowledge. It was based on an understanding of how families think and behave, what resources they have, the constraints and limitations they encounter, and the reasons they may resist change.

The methodology was a six-step process, which required community outreach and broad community participation. The first four steps consisted of preparatory activities, the last two of implementation, when the main activities were in the hands of the community hygiene promoters.

1. Assessment of the behavioral skills of the participants, application of formative research in the communities; development of a draft strategy.
2. Testing of concept and strategy, implementation of trials of improved practices (TIPs), generation of promotional materials.
3. Pre-testing of materials, preparation of a manual for promoters, appointment of a cadre of promoters to be trained in the next phase.
4. Training of community volunteers, preparation of a monitoring and follow-up plan, preparation of a quantitative baseline, launching (including introduction and certification of the promoters).
5. Monitoring community activities, conducting a mid-term assessment.
6. Measuring changes in behavior and disease prevalence based on a final survey (approximately 14 months after the launch).

The pilot project in Hato Mayor made some adaptations in the methodology so that it would be possible for most NGOs, given their budgetary capacities, to complete the necessary steps over a two-year period. One important adaptation was to carry out the formative research in an accelerated timeframe of ten days, rather than the more typical duration of a month. This was possible because the two NGOs had some basic knowledge of the communities from earlier involvement with RECON. Instead of carrying out a typical knowledge, attitudes, and practices (KAP) study, the focus was solely on a quantitative study of the specific behaviors. Also, the pilot project optimized the use of time devoted to other activities and minimized the number of personnel involved.

2.4. New Process Guide for Hygiene Behavior Change

At the conclusion of Phase II of the Hato Mayor project, the favorable evaluation of the approach and assessment of the results achieved in the Dominican Republic (and in similar programs supported jointly by EHP and PAHO in Peru and Nicaragua), led EHP to fund development of a manual on hygiene promotion based on the six-step process of Hato Mayor, for planners and managers. The manual was three years in the making and was based on the texts, charts, templates, and technical resources used successfully in Hato Mayor, as well as in Peru and Nicaragua. *Joint Publication 7, Improving Health through Behavior Change: A Process Guide on Hygiene Promotion* has been published jointly by EHP, PAHO, and Plan International.

The guide is intended for use by health planners and managers in governmental, nongovernmental, and international organizations working at all levels. Users will find help in designing and implementing effective diarrheal disease prevention programs with a focus on hygiene behaviors. In addition, the principles described will help planners involved in any program that addresses public health.

The guide describes six basic steps in Behavior-Centered Programming (BCP)^{SM*}. These are similar to the six steps of the Hato Mayor activity, although, as mentioned above, during the Hato Mayor pilot project — and the same would hold true for virtually any other field project — some phases had to be revised to fit the situation and available resources. The six steps in Table 1 present the approach as it would be implemented in an ideal situation.

* Behavior-Centered ProgrammingSM is a registered *Service Mark* of the Manoff Group, Inc

Table 1. The Behavior-Centered ProgrammingSM Approach

Step	Actions	Time Frame
1. Getting organized	<p>Establish a project team.</p> <p>Identify and engage partners.</p> <p>Meet with the project team and partners.</p> <p>Agree on a plan of action and timeline.</p>	
2. Situational assessment	<p>Prepare for the assessment: define objectives, list essential hygiene practices and enabling factors, identify sources of information.</p> <p>Conduct the assessment: obtain and review materials, conduct key informant interviews,</p> <p>Analyze and write the assessment: summarize background information, summarize current practices, and draft the report.</p>	1 – 3 weeks
3. Formative research	<p>Preparatory tasks: decide how the research will be managed, prepare an information-gathering plan,</p> <p>Choose research methods (in-depth interviews, observations, diagnostic role plays, focus group discussions).</p> <p>Phase 1: Exploratory research: prepare in-depth interview and observation guides, organize field personnel and supervision, identify sites and participants, conduct the research, analyze the results, draft a summary of findings.</p> <p>Phase 2: Trials of improved practices (TIPs).</p> <p>Phase 3: Checking research.</p> <p>Summary research report.</p>	7 – 14 weeks
4. Strategy formulation	<p>Hold strategy workshops.</p> <p>Develop behavior-change strategy.</p> <p>Design communication strategy (audiences, channels, materials and messages).</p>	1 week
5. Planning and implementation	<p>Write work plans for each strategy component</p> <p>Develop communication materials: creative brief, getting community input, pre-testing.</p> <p>Conduct training.</p> <p>Disseminate technologies or products.</p> <p>Carry out advocacy activities.</p> <p>Promote community (or collective) actions.</p> <p>Strengthen institutions and coordinating structures.</p>	<p>Planning: 4 – 12 weeks</p> <p>Implementation: ongoing.</p>
6. Monitoring and evaluation	<p>Carry out routine periodic monitoring.</p> <p>Conduct an evaluation.</p> <p>Develop indicators for monitoring and evaluation.</p>	<p>Monitoring: ongoing.</p> <p>Evaluation: several weeks.</p>

An essential feature of BCP is that it views the health problem through a behavioral lens and defines and promotes key behaviors. It fosters a logical, disciplined and consultative method for selecting strategic actions that are most essential for promoting adoption of behaviors needed for the desired health outcome — in this instance, reduction of diarrheal disease.

In the words of the *Process Guide*: “*In the past, some programs have simply introduced new services or technologies to address a health problem. For example, latrines have been built or a public source of water established with minimal, if any, support to encourage appropriate use. In such cases, it soon becomes apparent that education on the use of technologies or services is also vitally important if the full health benefit of providing these technologies is to be realized. However, even adding an educational component does not necessarily ensure that the strategy to address the health problem is correct, nor that the education about a technological intervention will ensure its use*” (EHP Joint Publication 7, Chapter 2).

3. Phase I: Behavior Change Training of NGOs

3.1. Background

The USAID initiative to provide 16 NGOs with support in implementing sanitation and hygiene projects under RECON originally did not include behavior-change approaches, largely because in RECON an emergency response had been called for. About a year after the initiation of RECON, USAID requested that EHP work with the implementing NGOs to improve their project interventions through the use of behavior-change techniques. At the time of EHP's involvement, about 30% of the projects to be implemented under RECON could potentially be influenced. These were in the initial phases of implementation under the second installment of RECON funding.

EHP provided technical assistance in the form of systematic training to the technical staffs of the NGOs, to be applied to their ongoing sanitation and hygiene projects. The projects were to be modified, particularly as regards their educational components, to achieve specific changes in behavior that would contribute to the prevention of diarrhea in children under age two — those at greatest risk. Thirteen of the 16 NGO project managers showed interest and gave their staffs permission to receive the training.

ENTRENA served as local coordinator and provided project resources and funds for training events.

3.2. Assessment of NGO Experience in Behavior Change

Prior to the training workshops, a baseline evaluation of the 13 NGOs was carried out to assure that the workshops would be tailored to the needs and experience of the trainees. The evaluation reviewed project documents that had been submitted to ENTRENA, the coordinator of the implementing NGOs, and interviewed the 13 NGO managers. Questions focused on the extent to which behavior-change strategies were already being used.

The evaluation found that most NGO personnel believed that their NGO had some expertise in behavior change, except as regards preparation of information and communication materials; however, often this expertise was not present within the organization itself, but was found among external technicians that subcontracted with the NGO. In addition, some NGO managers stated that they used behavior-change strategies, but on closer examination, these were simple health communication interventions without clearly defined behaviors that would prevent diarrheal disease. Of the 13 NGO managers, four stated that they sought changes in knowledge and handwashing; three sought changes in water quality; and two in latrine use. The NGOs had the greatest capacity in training of promoters and community work and the least in strategy design. All of the NGOs were receptive to the training and saw that adding capability in behavior-change skills would not only improve their work under RECON, but would help them in other work as well.

3.3. Participating NGOs

By agreement with EHP, participants in the training workshop were NGO personnel who dealt with or actually carried out activities in the areas of education, research, or communication. There were two representatives from each participating NGO; they agreed to be in continuous attendance for the entire duration of the workshop. Other trainees came from INAPA, SESPAS, PAHO, World Vision, the Peace Corps, and ENTRENA. There were 38 trainees in total; 23 trainees attended all training sessions.

3.4. Approach and Content of the Workshop

Training consisted of a six-day workshop, presented in two parts by the lead consultant. The Latin American Agency of Planning Experts (ALEPH) organized and supported the workshop (ALEPH's manager — currently the head of the Latin American chapter of the World Trainers' Association — also participated as co-trainer). Each part of the workshop was followed by an interval during which the trainees implemented what they had been taught. Technical assistance was available during the implementation periods if requested.

Activities were scheduled as follows:

- Initial scoping April 2000
- Evaluation of NGOs. September 2000
- Workshop design and preparation of materials. October 2000
- Workshop, Part 1. November 2000
- Workshop, Part 2. February-March 2001

The workshop aimed to give trainees an understanding of the importance of behavior change and to show them how they could include behavior change activities in their projects, thus bringing about a positive impact on health.

For the working sessions, illustrated PowerPoint slides were used to present key concepts. The entire group and various subgroups completed practical exercises and discussed their results, capturing the gist of the discussions on “matrices” — templates prepared by the project team for trainees to capture the content of presentations and discussions. At the conclusion of the workshops, the matrices from these activities were bound together as a 90-page, two-volume text for each participant to take home.

The workshop was a dynamic process characterized by intensive work and innovative motivational techniques, including involvement of trainees in leading specific exercises. It was envisioned not just as a way to improve the ongoing RECON projects of the NGOs, but mainly to increase the capacity of their technical staffs to apply behavior change techniques in subsequent activities. The approach used in the workshop was designed to meet that goal. As such, it was not overly directive and was based on strengthening and refining techniques already being used and on giving trainees a theoretical framework or philosophy to guide the collection of baseline data, the development of communication materials, monitoring activities, and training.

The workshop covered the following topics:

Part 1:

- Behavior change methodology
- How behaviors are established and influenced
- Key behaviors for preventing diarrhea
- Creation of behavior change strategies
- Testing concepts; strategies and behaviors; TIPs

Part 2:

- Creating educational materials with the community
- Organizing other activities with the community
- Field testing materials
- Using materials; interpersonal communication
- Follow up, monitoring, and evaluation

The training focused on interpersonal techniques that promoters needed to work effectively with families to change their practices, or behaviors. Often people are prevented from adopting new behaviors by obstacles that range from lack of necessary technologies or infrastructure (hardware) to personal resistance arising

from distrust, disbelief, cultural devaluation, fear of innovation, etc. These obstacles have to be specifically addressed.

Community health workers must attain a high level of interpersonal and counseling skills, so they can gain the confidence of household members, discuss with them the obstacles that prevent the adoption of new behaviors, and “negotiate” a household strategy for overcoming the obstacles. While counseling and negotiating skills are indispensable, IEC campaigns — using graphic materials, mass media campaigns, etc. — also play a supporting role by creating a “greenhouse” in which hygiene promotion activities can flourish.

3.5. Results of the Workshop

The workshop gave trainees practical experience in strategy design, strategy and concept testing, and materials generation. Their enthusiasm prompted a demand for further assistance in supporting implementation of the planned activities. In response, EHP carried out a pilot program of technical assistance to two of the NGOs that had participated in the workshop, as Phase II of the behavior-change effort. The two NGOs were in an early stage of implementing their RECON projects and were negotiating INAPA’s participation in community participation in the construction of water systems (see Chapters 4 and 5 for a description of Phase II).

3.6. Recommendations for Future Workshops

The workshop planners and trainers made several recommendations for increasing the effectiveness of future behavior change training.

- *Carefully measure the capacity of participating institutions.* Measurement should go beyond accepting the self-assessment of NGO personnel. For example, individuals may state that they can manage focus groups, but their statements may not be based on any uniform standards. Knowledge of the actual level of competency of the groups involved aids in planning a workshop.
- *Three parts, or modules, may be more effective than two to improve the transfer of all the behavior-change techniques.* The three modules should be: (1) research; (2) materials production and testing; and (3) establishment of a baseline, training of staff in the use of materials, and monitoring. Enough time should be allocated between the modules for trainees to apply what they have learned.
- *Select as trainees only individuals with communications background who will actually be applying the methods in the NGOs projects.* The presence of some trainees with very little experience in communications slowed down the workshops.

- *Allow for the participation of at least two individuals from each NGO in training to increase the likelihood that the methodology will be implemented and institutionalized.* Three from each organization would be ideal.
- *Provide a common fund for activities that could benefit several NGOs simultaneously.* A common fund for formative research, collection of baseline data, materials production, validation, etc., would be cost-effective. In research activities, it is less costly to expand the sample of one research effort than to carry out several small efforts. And in materials production, larger volumes lead to lower unit costs.
- *Ensure that the managers of the NGOs involved understand the scope of the methodology and are willing to provide subsequent support.* It is too often the case that inadequate resources are allocated for communications activities, the money being spent instead on tangible, physical products. NGO directors sometimes lack knowledge of the methodologies and examples of how they have been successfully applied, and NGO communications personnel may not have much influence on how money is allocated within the NGO.

4. Phase II: The Hato Mayor Pilot Project — Planning Processes

4.1. Background

4.1.1. Phase II Scope of Work

Following the conclusion of the behavior-change training workshops in early spring 2001, USAID/Dominican Republic decided to work further with two of the NGOs to improve their ability to address hygiene behavior change at the household and community levels. Two NGOs — Catholic Relief Services (CRS) and Mujeres en Desarrollo (Women in Development) (MUDE) — were selected to work closely with a local EHP representative and international consultants to implement and document hygiene behavior-change interventions, as part of the RECON effort. The result would be the development and/or adaptation and use of field-tested materials aimed at improving hygiene behaviors and preventing diarrhea, especially in children under the age of five, and the achievement of hygiene behavior change in the population of Hato Mayor.

Following the training workshops, a core team was formed consisting of: the EHP coordinator; representatives from CRS, MUDE, Servicio Social de las Iglesias Dominicanas — Social Services of Dominican Churches (SSID), and INAPA; two volunteers, from Cooperacion Espanola (Spanish Cooperation Agency) and the U.S. Peace Corps; and two from SESPAS — to complete a program of “training through action” — in which technical assistance or training was followed by direct field work. The team’s work culminated in the development, field testing, and implementation of a community-based hygiene behavior-change strategy in nine communities of Hato Mayor.

4.1.2. The Project Area

Phase II — the pilot project — took place from February 2001 to May 2002 in the municipality of Hato Mayor in the central-eastern section of the Dominican Republic, approximately three hours from the capital city of Santo Domingo. Hato Mayor was selected because the RECON projects had just begun there, and it was not too late to incorporate behavior-change elements. Further, the province was representative of

conditions existing at the community level in the Dominican Republic: poverty, weak community organization, and no NGOs working in the area.

Nine communities were selected, as shown in Table 2. All are characterized as poor rural agricultural communities. Though they are geographically dispersed, the communities are culturally and ethnically homogeneous. Residents work for firms that produce fruits and vegetables. They live in fairly isolated communities connected by highways in a state of disrepair. The terrain is semi-mountainous with no access to the sea. There is not enough arable land to meet local consumption needs.

In Hato Mayor, community organizations were generally lacking, except for a number of women’s groups and associations, parents’ associations in local schools, neighborhood boards, and the recently created Association of Rural Water Systems Committees (Asociacion de Comites de Acueductos Rurales) (ASOCAR), which was charged with construction and maintenance of the water system.

The nine communities had a total of 385 children under age five in a population of about 1,700. Table 2 gives the names of the communities and the number of children in each.

Table 2. The Hato Mayor Project Communities

NGO	Community	Children <5
MUDE	La Jaqueta	33
	El Bambu	49
	El Mango Limpio	42
	Kilometro 15	120
CRS	La Mora	24
	Libonoa	23
	El Coco	39
	Los Vasquez	19
	El Mamon	36
	TOTAL	385

When the project was being planned, about 47% of the communities had a water system, although some were in need of repairs and improvements; those without systems collected water from a nearby river or purchased it from a water truck. Sanitation coverage was abysmally low at about 21%. It was expected that before implementation of the behavior change activities began, all communities would have access to adequate water and sanitation.

Children in Hato Mayor are undernourished and have a diarrhea prevalence rate higher than the national average (17.9% in rural areas). Baseline studies for the pilot project found a diarrhea prevalence rate of 27% in the two preceding weeks — most

affected were children under one year. It appears that early introduction of bottle-feeding is a contributing cause of diarrhea, along with lack of water, sanitation, and hygiene. However, mortality from dehydration is not equally high, probably because access to health facilities is good. Additionally, according to a SESPAS official, community members learned how to prepare and administer oral rehydration salts (ORS) during the anti-cholera campaigns and they still demonstrate the use of these practices.

4.1.3. Public Health Goal and Indicators

The public health goal of the project was to reduce the prevalence of diarrhea among children under five years of age. These young children are the most susceptible to diarrhea, and the dehydration it causes is life-threatening for them, especially if they are undernourished. The preventive approach used to achieve the goal was the simultaneous delivery of infrastructure and a hygiene behavior-change program focusing on handwashing, excreta disposal, and proper handling of drinking water. Ideally, the two types of interventions would create a synergy that would increase health impact.

The indicators to be used to measure achievement of the goal were taken from the current Demographic and Health Surveys (DHS) questionnaires.

- Percentage of children under age five with diarrhea during the two preceding weeks, as reported by their parents or principal care takers. Diarrhea is defined as three liquid bowel movements in a 24-hour period.
- Percentage of individuals responsible for caring for children under age five or for preparing their food who demonstrate appropriate handwashing behavior, defined as washing the hands at appropriate times and using the correct techniques.
- Percentage of the population using hygienic facilities for disposal of fecal matter. A hygienic facility is defined as a latrine or toilet in which excreta are not found on the floor or on the seat or walls and where there are no flies present. The facility should be operational and show signs of use. (Disposal of fecal matter is appropriate, by definition, only when homes have latrines or toilets. For this reason, the indicator spells out what constitutes a “hygienic” facility.)

4.1.4. Project Approach and Activities

The overall approach in the Hato Mayor pilot project was to hire a local communications expert to work directly with CRS and MUDE, while the lead consultant (a U.S.-based social marketing specialist) provided support from the United States and through three visits to the Dominican Republic.

From May 2001 through November 2001, the community consultation process was carried out in a series of stages. Supporting materials for both community hygiene promoters and the general public were prepared while the promoters received

appropriate training. Once the baseline study was complete, the program was launched in early December 2001 through a series of events directed toward the general public in each community. After the launch, community hygiene promoters began making home visits. In May 2002, a cut-off measurement was conducted using the baseline questionnaire, with the incorporation of additional questions related to the work performed by the promoters. An evaluation meeting was held with promoters in the town of Hato Mayor, and all promoters' reports were collected and processed.

Preparatory activities required seven months from the initial stage to the launching of the intervention and involved a total of 74 person days from a team ranging in size from between four to nine individual promoters under the direction of a coordinator from each of the two implementing NGOs.

This chapter covers all preparatory and planning activities: research and selection of target behaviors, materials generation and testing, and baseline creation. Chapter 5 covers implementation.

4.2. Research and Selection of Target Behaviors

4.2.1. Formative Research

Formative research investigated existing behaviors, the constraints or resistance to changing those behaviors that put people at risk for diarrheal disease, and possible motivations for behavior change.

The project team carried out the research with technical assistance from EHP. The project team also carried out other preparatory steps: development and testing of a strategy and concepts for articulating messages, TIPS, development and testing of materials, creation of a baseline and follow-up assessment, and training of promoters.

4.2.2. Methodology

Formative research was carried out through direct dialogue with the community. Researchers used various techniques, such as focus groups, direct observation, and in-depth interviews of key informants — primarily community leaders, as shown in Table 3.

Table 3: Formative Research Techniques and Informants

Technique	Informants
Focus groups	Fathers and mothers with children under age 5 with access to a latrine. Fathers and mothers with children who attend school with or without access to a latrine. Fathers and mothers with children without access to a latrine. Men with and without access to a latrine.
In-depth interviews	Key informants from homes/communities with or without access to latrines. Key informants from homes/communities without latrines.
Observations	Homes with latrines. Homes without latrines. Homes with water. Homes without water.
Special interviews	Active leaders (three in each community).

In each of the nine communities, there were five focus groups, twelve in-depth interviews, and six observations. Variables considered were the sex of the respondent, presence of water and a latrine, proximity to urban areas, and presence of adequate communication. The differences encountered at the behavioral level were predictable. Therefore, it was felt that all community members should be treated as a single unit, that is, the audience would not be segmented, as is usually the case. Training would concentrate on giving community hygiene promoters the skills to focus on the most appropriate behaviors for the areas in which they were working.

It was possible to gather a great deal of information about existing practices in Hato Mayor, as all informants offered their complete support. There was a perceived interest in improving the level of hygiene; the greatest obstacle was deemed to be the lack of infrastructure.

4.2.3. Findings of the Formative Research

The following major findings of the formative research served to guide development of project IEC materials.

- *Poor maintenance and use of water storage containers.* Appropriate behaviors were not observed in the maintenance of water containers and in the way in which water was drawn from the containers. A large cup was usually used to draw water from various kinds of drinking water containers, most without covers. When water was extracted, fingers came in contact with the water. Also, water containers were not kept clean.

- *Inadequate handwashing practices.* People washed in the cup used to draw water from the container or poured water over both hands. Hands were air dried, although women sometimes dried their hands on their aprons. Soap was not always available, and, when it was, it was generally *Jabon de cuaba*, an all-purpose soap or detergent.
- *No handwashing places.* Most homes did not have a place reserved for washing hands; people washed where kitchen utensils were washed.
- *No latrines.* Most homes had no latrines, and household members defecated in the fields. Existing latrines were all in use and were shared with neighbors. Latrines were cleaned with Clorox, which is highly regarded as a disinfectant. (However, latrine use was increasing, since RECON was in the process of constructing latrines.)
- *Use of disposable diapers.* Despite the poverty of most households, residents made widespread use of disposable diapers. In some cases they were washed and reused; they were generally disposed of by throwing them in a field.
- *No garbage collection.* There was no garbage collection service, and some households were in the habit of burning their trash.
- *Poor economic conditions.* One of the most significant obstacles to a more hygienic use of water was the poor economic situation of the families, who depended on sporadic work for agricultural firms. It was difficult for them to afford adequate water storage containers and other items, such as soap and toilet paper.

4.2.4. Probative Research

Probative research is common in marketing and has been adopted by social marketing. Such research assesses the response of the audience to planned innovations. The goal is to avoid promoting ideas or practices that have no chance of being accepted. Probative research is used to test the strategy of a project, the concepts that will be used to motivate action, the proposed target behaviors, and, finally, the materials. Is the strategy of interest? Are the concepts broadly accepted? Are the target behaviors feasible and practical? Do the educational materials convey a clear message?

TIPs are a key tool of probative research. Volunteer families agree to try out a specific behavior for a certain time. After about two weeks, the family is visited to see how the trial is going. If the behavior is being practiced, the family may simply be encouraged to continue; if there are problems, additional counseling is given. After a few more weeks, a final visit is made to ascertain to what extent the behavior has been adopted. Also, the family is given an opportunity to discuss problems encountered in practicing the behavior. These TIPs predict which behaviors are likely to be adopted and which are not.

In Hato Mayor, TIPs were carried out for most proposed target behaviors (it was not possible to test some behaviors because they depended on the presence of water and sanitation systems, which had not been constructed in all project sites). All results were positive, although some behaviors were more easily adopted than others. The TIPs also showed that many behaviors could not be adopted easily unless certain products were available. Hence, an attempt was made to subsidize the sale in local grocery stores of both toilet paper and hand soap. The initial assessment showed, however, that this promotional activity was not successfully implanted because of problems involving budget and community organization.

TIPs showed that people did *not* accept the idea of using a ladle or a specific utensil to draw drinking water. For this reason, a decision was made to promote the procurement and distribution of water storage containers equipped with taps.

4.2.5. Target Behaviors

Formative research conducted in each community revealed common elements that were used to decide which behaviors should be targeted. However, as discussed above, the final decision on target behaviors was made on the basis of probative research — TIPs. If the TIP for a behavior showed a positive trend toward adoption, the behavior was included; those that did not exhibit a positive trend were excluded.

The supposition was that, if the selected behaviors were successfully adopted by the communities, diarrheal disease prevalence would decrease significantly. The goal was to achieve 65% to 70% adoption of each behavior — so that a critical mass of the population would be using the correct behaviors. At that level, the behavior change would be considered sustainable.

Seven macro behavior changes were selected; each had supporting micro behaviors, for a total of 42:

- *Drinking water is kept uncontaminated* (1), is drawn from its container without being contaminated (2), and is kept protected (covered) (3). Alternatively, a container with a built-in tap is used (4). The container is washed every three days (5) with detergent and a soft cloth (6).
- *Beginning at age three, every boy and girl is taught to use the latrine* (7), with training provided by his or her parents (8). Parents train the children to use the latrine correctly and accompany them at all times until they feel secure (9).
- *All household members, except children under three years of age, use the latrine, day and night* (10). A lantern is made available, and the path to the latrine is kept clean and dry (11).
- *Children under age three use a potty* (12), and the mother disposes of the fecal matter in the latrine (13) and correctly washes the potty (14). The mother teaches the child to let her know when he or she needs to go to the bathroom (15) and to use the potty for that purpose. The mother cleanses the child (16) using toilet paper (17).

- *All household members wash their hands in the wash basin (18), using soap (19) and water, and dry them (20) with a clean cloth (21) at two critical junctures. The two critical junctures are after defecating or using the latrine (22) and before eating (23). Mothers and fathers make sure that their children wash their hands or help them to do so (24).*
- *Mothers wash their hands (25) with soap and water (26) after cleansing the baby (27), after changing the baby's diaper (28), and before preparing (29) or serving food (30). Mothers wash their hands with soap and water in the wash basin (31) and dry them with a clean cloth (32). Mothers dispose of disposable diapers in the latrine (33).*
- *Households are equipped with a sink or wash basin (34). The sink has a jar or gallon jug containing clean water (35), a basin (36), soap in a soap dish (37), and a towel or clean cloth hanging on a hook (38).*
- *Latrine maintenance: Keeping the latrine path clean (39), cleaning the latrine with detergent (40) weekly (41), and for compost latrines, adding lime periodically (42).*
- *Maintaining dry-composting latrines. Ninety some households in the project area were provided with dry compost latrines; however, the formative research did not cover use of such latrines. The behaviors involved in using the dry compost latrines correctly were identified a priori, as follows: All household members use the dry compost latrine in the following manner: they use the small compartment for urination only and the large rear compartment for defecation; they refrain from using the latrine for disposing of Pampers or foreign objects; they toss in a shovelful of lime periodically; they use a stick to level off the excreta every week; and they keep the door shut at all times. Note that all maintenance issues were not included: for example, sealing the first compartment and changing to the second. Also, lime was not accessible to community members.*

Some other behaviors were considered but not included in the final list. Water purification was not included because research indicated that drinking-water disinfection had reached a rate close to 78%. Community members made a distinction between water for use in washing utensils and water used for drinking, with the latter receiving treatment.

4.3. Materials Generation and Testing

4.3.1. Generating Materials with the Community

Generic-type communication materials are often used owing to budget constraints. However, tailor-made materials are more effective. A practical compromise is to adopt generic materials through a process with the community.

In Hato Mayor, community participation in the process of materials development was spontaneous and enriching. With regard to graphic materials, it was observed (consistent with research carried out in similar contexts) that community residents

understand and prefer illustrations that are extremely detailed, contain no text, are realistic, and present “things they way they should be,” as opposed to the way they actually are. For example, latrines were represented, not as they existed in the community, but as ideal structures. The illustration became the model for replication. The conclusion reached was that the people who design water tanks, latrines, and outhouse structures should devote more time to community dialogue, with a view toward seeking better standards of comfort and design.

The community process was not limited to production of illustrations but also covered possible topics for radio drama and puppet theatre. The target population has a high regard for interesting stories, and they even suggested plot lines, settings, and names for characters. People also appreciate lively popular music with witty lyrics. Audio-taped dramas were developed, but time and budget constraints made it impossible to develop a line of popular theatre art.

4.3.2. Graphic Products

Two types of graphic products were developed: those intended for use by community hygiene promoters and those aimed at mothers.

Products for promoters were designed to aid them in interacting with household members:

- *Counseling cards*: eight different cards depicting ideal behaviors, picturing typical local characters and settings.
- *Promoter’s Handbook*: a notebook-sized pamphlet with easy-to-read text profusely illustrated covering the use of the counseling cards — questions to be asked and steps to be taken.
- *Data recording sheets*: simple forms on which to record visits and to note behaviors being promoted.

Products for mothers consisted of reminders:

- *Poster showing bacterial transmission*: a large educational poster depicting the areas where contact with feces can take place and showing how fecal matter can contaminate food and people’s hands. It was intended to be posted in the home.
- *VIP latrine reminder*: a graphic depiction, by means of a circular image, of the sequential actions that should take place to use and maintain the latrine properly.
- *Dry-composting latrine reminder*: a variant of the VIP reminder. (This reminder was not part of the original strategy, but when it was found that there were about 100 dry-composting latrines in the project area, the variant reminder was added.)
- *Water-storage container washing reminder*: an adhesive label graphically depicting the proper care and washing of the water container, particularly for the type of containers with tap and cover promoted by the project.

4.3.3. Audio-Tapes

Five dramatized stories aimed at adults 18 to 45 (with the primary focus on mothers with children under five) were taped. The characters were suggested by the target audience; the setting was a *campesino* community; the language was that used by *campesinos*. The tapes were not sequential but could be listened to individually. The educational topics were intimately linked to the story line to encourage people to put the message transmitted into practice.

The tapes communicated the following messages:

- The fecal matter of all persons, even children, no matter how small the amount, contains active but invisible microbes. The way to get rid of these invisible enemies is by washing one's hands with soap and water.
- Diarrhea in children is caused by microbes from fecal matter transmitted by family members or relatives whose hands have not been washed properly.
- A community that wishes to remain healthy knows that, nowadays, water, regardless of whether it comes from a natural spring, a stream, a well, or a rainwater catchment system, must not be drunk until it is purified.
- A family that wishes to remain free from diarrhea has a latrine that it maintains constantly. If all members of the household perform their bodily functions solely in the latrine, they eliminate the cause of diarrhea.
- Many families have come to understand that, by performing simple actions, such as using a latrine and always washing their hands after using the latrine, they can save considerable amounts of money.

Community hygiene promoters used these taped dramas with families to initiate a dialogue on proposed behavior changes.

4.3.4. Equipment Provided

Each community hygiene promoter was provided with the following equipment to facilitate work in the communities:

- A battery-operated portable tape recorder that could be heard by a group of three or four individuals nearby.
- A backpack for carrying graphic materials and the tape recorder.
- A photographic identity card (these were the source of considerable pride among the promoters).

Community members were provided with subsidized access to water containers, toilet paper, soap, and other products to facilitate adoption of the selected behaviors (see Chapter 5 for more information on these subsidies).

4.3.5. Testing of Materials

Not only did the project team take considerable care to generate materials in collaboration with the community, they also put forward a similar effort to test them. The purpose of the tests was to avoid incorrect or confusing messages or messages that were inconsistent with SESPAS guidelines. The community made suggestions with regard to the positions assumed by individuals in drawings, the use of particular colors, and items missing from some scenes. The final appearance of the graphics, including the expressions of happiness on the faces of the individuals pictured, was felt to be quite pleasing and accurate.

Social marketing is interested in measuring the audience response to any proposed action. There are many models of message testing; the one used in Hato Mayor was a quantitative measure of audience reaction to the sampling of materials according to four variables: understandability, attractiveness, acceptability, and whether or not the audience identified with the message. The audience was asked to state whether or not the graphic or audio drama possessed the indicated attribute. A critical mass in social marketing is the percentage of persons in a community that adopts an innovation (or makes a change) that must be reached for other community members to feel social pressure to adopt the innovation. This methodology uses 70% acceptance as the critical mass. Averages are computed for each variable and then for all four to see if they reach the desired percentage. If one variable is below 70%, the message is still considered effective if the average of the four is 70% or above. Table 4 gives the results of the tests. Note that all materials reached 70%, except for the water-storage tank reminder, which reached 69%.

Table 4: Approval Tests of Materials and Audio-Taped Dramas

Graphic/ Drama	Attractiveness %	Understandability %	Acceptability %	Identification %	Average %
Card 1	89	82	88	56	79
Card 2	84	77	96	50	77
Card 4	71	91	93	44	75
Card 5	64	73	89	66	73
Poster	79	73	67	64	71
Latrine reminder	84	75	89	47	74
Water storage container reminder	71	70	89	44	69
Audio drama #1	94	80	89	71	84
Audio drama #2	95	91	94	65	86
Audio drama #3	96	95	100	74	91
Audio drama #4	89	83	89	72	83

Tests using this model have proven to have a great impact. The model also has the advantage of permitting the project team to identify the shortcomings of materials so that improvements may be made. Through cross-tabulation of data, it is possible to find out if level of education, age, sex, or occupation is influencing the way people rate the materials.

4.4. Baseline Creation

4.4.1. Survey Instruments

Following the formative research and materials generation and testing, an initial baseline measurement was carried out the first week of December 2001, aimed strictly at measuring the behaviors that were to be promoted. Baseline data were to be used to determine progress and to identify problems as the strategy was implemented.

The study sample consisted of selected households with children under the age of five. The sample was designed using a weighted-quota, to ensure participation from all project communities. A total of 109 households were selected, and 165 children were included.

A survey consisting of 60 questions and 18 structured observations was conducted.

Interviewees, mothers or other child caretakers (usually grandmothers), were asked to respond to a number of questions and to demonstrate washing their hands. In addition, water storage and latrine structure and cleanliness were observed. A supplemental questionnaire was developed and applied to households with elevated-composting latrines. The supplemental questionnaire consisted of 11 questions relating exclusively to elevated-composting latrines. Both instruments were field tested in two communities similar to those in Hato Mayor.

Information was collected on the following:

- *Socio-demographic*: household composition, school facilities, presence and type of community organization.
- *Drinking water*: observed storage, drinking vessel, washing practices.
- *Handwashing*: critical times (primary care giver and child), facilities, peripherals (soap, towel, and water), observed skills (use of soap, rubbing hands together, and use of towel).
- *Latrine use*: length of time family had a private latrine, sharing of latrine, observed structure and cleanliness, latrine use, knowledge of proper maintenance.
- *Water sustainability*: access, participation, payment.
- *Diarrheal disease*: reported diarrhea prevalence in children under five in the last two weeks, identification of children and caregivers.
- *Community action*: participation in construction of latrines and water systems, membership in community-action groups.

Questions on handwashing and latrine use were especially important. Questions on handwashing covered critical times (after defecation, after cleansing a child, before preparing food, before eating, before feeding a child, including breastfeeding) and critical techniques (washing with water, using soap or ashes, scrubbing at least three times, and drying in a hygienic manner — with a clean cloth or air drying).

Questions on latrines sought to determine who used the latrine. How many individuals used the latrine by themselves? Did they use it at night? How many children used a potty? Was there a place where children's excreta and disposable diapers were disposed? In addition, the latrines were inspected to see if they showed signs of use and to determine their state of cleanliness (absence of excreta outside the latrine or in the surrounding area or on the floor, seat, or walls of the latrine, and a low level of flies). Inspections looked to see if there was a path leading to the latrine, if the latrine had a door, and what type of lighting was used. If items were stored in the latrine, that might indicate that it wasn't being used for its designed purpose

(A resource used in the selection and description of indicators was *Water and Sanitation Indicators. Measurement Guide* by Patricia Billig, Diane Bendahmane, and Anne Swindale. Food and Nutrition Technical Assistance Project — FANTA.)

4.4.2. Survey Findings

The baseline survey provided detailed information about the prevalence of diarrhea among children under five and the hygiene behaviors of the residents. The information was intended to be compared with the results of subsequent surveys to track changes from project activities. Key findings were as follows:

- There were 165 children under age five in the 109 surveys completed; 45 of them (or 27%) had had diarrhea in the past two weeks, according to their parents' or caregivers' recollection.
- All indicators regarding times of handwashing for the primary caregiver were below 50% compliance, with the exception of washing after defecating (54%). Only 14% of caregivers washed their hands after cleansing a child who had defecated and only 12% before feeding a child.
- Handwashing of the youngest child was not generally practiced: Fifteen percent reported washing their child's hands after he/she defecated and 33% before he/she ate.
- Indicators for handwashing techniques were generally higher than for correct times: 56% demonstrated the use of soap; 49% rubbed their hands together at least three times, but only 13% demonstrated use of a towel — 48% dried their hands on their clothes.
- Sanitation coverage was near universal, given the recent activities of RECON: 94% of the surveyed households had a toilet, VIP latrine, or dry-composting latrine; however, 50% had had the facilities less than a month.
- Among the 18 households with children using diapers, 39% reported disposal of excreta in the open field; among those with children using potties (49 households), 90% reported excreta disposal in the latrine.
- Thirty-four percent of the households reported having access to a community water system; all of these lived in communities where the RECON project had completed the water systems.

Other results of the baseline survey may be found in Chapter 7, which also considers data obtained at two mid-term assessments (May 2002 and June 2003) and a final assessment (March 2004). An additional report presents and compares the results of the four assessments in greater detail than is possible here: EHP Activity Report # 137: *Combining Hygiene Behavior Change with Water and Sanitation: Monitoring Progress in Hato Mayor, Dominican Republic — Part II*. (Activity Report #120: *Combining Hygiene Behavior Change with Water and Sanitation: Monitoring Progress in Hato Mayor, Dominican Republic*, which covered just the baseline and the first mid-term assessment, was superseded by Activity Report #137).

5. Phase II: The Hato Mayor Pilot Project — Implementation

5.1. Training Community Hygiene Promoters

The backbone of the behavior-change strategy was home visits made by volunteer community hygiene promoters. Therefore, training them was a highly important component of implementation. The promoters to be trained were selected with the active participation of the community, based on the profiles prepared. Twenty-three promoters were selected and received training. (Two withdrew after moving from the community and one retired; 18 responded to a later evaluation.)

Training took place in a designated locale to which the promoters traveled from their communities. Families were informed about the nature and importance of the training and agreed to accept the promoters' absence from home. Training activities succeeded in deepening team spirit and motivation and were viewed as positive and enjoyable.

The basic subject matter consisted of an introduction to health, with an emphasis on the effects of fecal-oral contamination. Subsequently, participants were given an explanation of the supporting materials and how to use them, followed by the basic elements of interpersonal communication and intensive exercises in counseling and the use of negotiating skills, important aspects of behavior-change techniques.

5.2. Project Launches

The pilot project was launched in each of the nine communities with a special program that included the presentation of training course diplomas and materials to the community hygiene promoters. Community participation was enlisted through drawings, song contests, and a small fiesta. To the extent possible, central-level authorities from a number of organizations attended. These launching events sparked community interest and facilitated promotional activities.

5.3. Project Activities

5.3.1. Home Visits by Community Hygiene Promoters

The community-level hygiene intervention focused on the promotion of seven macro behaviors, encompassing 42 micro-behaviors (see Section 4.2.5). The macro-behaviors were

- Maintenance of an uncontaminated drinking water supply
- Latrine use for children over three years of age
- Latrine use by all family members
- Use of potties for children under three followed by appropriate disposal of feces in the latrine
- Handwashing at critical times and with critical techniques for all household members
- Handwashing at critical times especially for mothers
- Promotion of a permanent place for handwashing

Community hygiene promoters, who had just been trained in counseling techniques and armed with materials that they themselves had helped develop, began making home visits. They distributed materials, products, and services and reported their activities on simple visit forms. Their purpose was to “negotiate” an agreement with a household to adopt certain behaviors. The promoters primarily worked with women in the households as the primary caregivers. On follow-up visits, the promoters would see how the households were doing: if there were problems, the agreement would be re-negotiated, perhaps with an attempt to address problems or constraints that people encountered. NGO coordinators provided support to the community hygiene promoters.

5.3.2. Subsidized Products

The project did not rely exclusively on communication, but also promoted the use of certain products that had been identified in the formative research, as follows:

- *Water containers with taps.* Formative research revealed that household members didn’t know where to acquire a safe water storage container, although they were willing and able to buy one. The solution was to offer storage containers for sale on installment, through a small-business component, which established a revolving fund to offer families five-gallon containers with covers and spigots. EHP provided the NGOs with the containers, and the promoters acted as intermediaries, delivering the containers and collecting the payments. The containers were exhibited when the project was launched and were depicted on the counseling cards. The price was 80 pesos (about US\$6.00) to be paid in three installments. Approximately 80 containers were sold. The fund was exhausted

shortly after the first mid-term survey in May 2002. Neither the NGOs nor the water committees were able to handle the logistics of distribution and collection of payments. With available data, it is difficult to determine if the facilitation of access to large containers with spigots had any real impact on their presence within the homes. However, well-maintained containers were seen in many houses during the mid-term survey, and promoters, who favored the container program, reported that many people were frustrated that they had not had the opportunity to buy a water-storage container.

- *Other products.* Other products that were promoted were sinks or appropriate tables with wash basins, potties, garbage containers with covers, detergent for scrubbing the water storage containers, soap and toilet paper, and lime for latrines. Community members were constrained in their ability to obtain these products because of lack of money. A subsidy program was initiated to stimulate use of hand soap and toilet paper, but it ended shortly after the first mid-term survey.

5.4. Mid-Term Assessment

5.4.1. Scope of the Assessment

Five months after the launch of the hygiene promotion activities in the Hato Mayor project communities, a mid-term survey was conducted in May 2002, to monitor progress. Both the baseline and mid-term surveys were part of the community participation process because the institutional team that initiated and implemented the water sanitation and hygiene activities also participated in the monitoring surveys. In addition to repeating the baseline survey, the mid-term assessment also looked at the skill development of community hygiene promoters, process results, and the impact of the project on the institutional partners.

5.4.2. Key Health and Behavior Results

The results of the mid-term survey were encouraging in that they showed positive changes for several indicators, although it was not possible, because of unavoidable limitations in the study design, to link them directly or exclusively to the behavior-change interventions. Increases in the percentage of residents practicing hygiene behaviors do, however, appear to be related to the specific activities of promoters.

- A decrease in diarrheal prevalence (two-week recall) occurred for all age groups. The mean diarrhea prevalence for children under five years of age was 27% at baseline and 11% at the mid-term survey.
- An increase in 12% from the baseline to the mid-term in handwashing of primary caregiver after defecation (54% to 66%).
- An increase of handwashing of the youngest child after defecation of 16% (15% to 31%) and before the child ate of 22% (33% to 55%).

- A highly significant decrease in improvised handwashing locations (64% at baseline to 35% at mid-term) and a simultaneous increase in the presence of a permanent, designated handwashing location: from 17% at baseline to 30% at mid-term.
- An increase of 13% in the demonstrated use of soap for handwashing.
- Improvements were also registered in handwashing technique (an increase of 23% of those primary caretakers who rubbed their hands together three or more times when they demonstrated how they washed their hands) and hand drying (use of a towel increased from 13% to 30%).

Based on the project team's recommendation that a follow-up assessment be conducted to see how the results stood up over time, two additional assessments were carried out under Phase III of the Hato Mayor project. The results of these assessments compared with the first mid-term and the baseline are discussed in Chapter 7. These surveys were not designed as scientifically rigorous studies, but as part of a participatory monitoring process to guide program managers. Nonetheless, it is important to note that not all positive changes were sustained from the mid-term assessment to the fourth, and final assessments. Possible reasons for the slippage are discussed in Chapter 7.

5.4.3. Skill Development of Community Hygiene Promoters

The data-recording forms used by promoters were reviewed and tabulated at the time of the mid-term assessment (the intent was to continue to review them quarterly). The review revealed that some promoters were having difficulty filling out the forms and that the forms as well as the recording techniques were in need of improvement.

Supervisors' visits were not made as often as planned; however, this shortcoming did not negatively affect the volunteer promoters, whose determination, dedication, and motivation stood them in good stead. In addition, the tasks that they were being asked to do were feasible and they were well accepted by the communities.

The mid-term assessment revealed that the promoters had attained a very good understanding of the health message and content that they were responsible for communicating. Five videos were made of promoters making community visits. They demonstrated extremely good interpersonal relationships and were obviously trusted and well-received by households. However, the negotiating aspect of their counseling needed improvement. They exhibited a tendency to impose rather than negotiate and to decide what should be done before exploring the situation in greater depth with the household members involved.

The following is a sampling of comments by promoters:

- Everyone welcomes us into their homes and we are often asked to visit homes where there are no children under age five.

- We rarely miss our monthly visits, which take place between 3:00–5:00 p.m.
- Our routine is as follows: (1) friendly greeting, (2) check to see if the child has diarrhea, (3) identify or recall the problem, (4) use the counseling cards, (5) propose improved behavior, (6) negotiate a commitment, and (7) say goodbye and plan the next visit.
- We find the guide to be extremely useful and like wearing the project T-shirt and identification badge.

Some promoters complained — and this was the only negative comment — that they had not received all materials; in particular, they lacked the audio-taped dramas.

The promoters rated the target behaviors according to how much emphasis they gave them in their household visits. Handwashing was given the greatest emphasis (47%), followed by latrine management (27%), water storage (22%), and children’s potty (2%).

5.4.4. Process Results

The mid-term assessment considered how the project was implemented and what effect it had on the organizations involved. The following are the most notable process results:

- New technicians from participating partner organizations received practical training in behavior-change methodology through preparation and implementation of the pilot project.
- The technicians also increased their skills in management of focus groups, in-depth interviews, behavior observation, TIPs, qualitative analysis of obstacles, development of strategies to address obstacles, testing of strategies, preparation of materials, creation of a baseline, and organization of a community launching activity.
- Twenty-three community hygiene promoters were trained and made household visits on a regular basis.
- Support materials were prepared (promoters’ guide, counseling cards, etc.). After the conclusion of Phase II, these educational materials were assembled by PAHO and the Red Cross in the Dominican Republic as “Module I,” reproduced in quantity, and made available for distribution to other NGOs engaged in diarrheal disease prevention.

5.4.5. Impact on Institutional Partners

Both Phases I and II of the Hato Mayor project called attention to the importance of behavior change. The individuals exposed to the behavior-change methodology came to realize that seeking merely to improve *knowledge* of hygiene generates poor progress in achievement of public health results. Even those who did not go through the training in Phase I were able to obtain, through their involvement in the pilot project, a grasp of the fundamental principles of behavior change.

The activity prompted local USAID officials to require the inclusion of behavior-change activities in their water and sanitation projects. USAID sent a group of the most competent technicians involved in the two phases of the project to Nicaragua and Peru as instructors and participants in similar programs supported by PAHO. This experience raised their competence in behavior-change methodology and their potential as possible “multipliers” of the approach.

The project forged a number of institutional partnerships that enriched the approach and assisted in dissemination.

- EHP and PAHO/Dominican Republic together provided support in placing the hygiene behavior change approach within the C-IMCI framework and financed the inclusion of staff members from SESPAS and INAPA in project implementation.
- The involvement of SESPAS, through the staff of the General Directorate for Health Education and Promotion (Dirección General de Promoción y Educación para la Salud) (DIGPRES), signaled the ministry’s support for the behavior-change methodology, which can be applied in other health projects.
- INAPA, after having observed the potential of the methodology, expressed interest in training its two experts with a view toward expanding the use of behavior change in various community-level activities.

The results of the mid-term assessment were positive, not only in terms of demonstrated behavior change, but also in terms of skill development of the NGO coordinators and community hygiene promoters. Project partners — including INAPA, SESPAS, PAHO, CRS, and MUDE — appeared committed to utilizing the behavior-change materials and methods in their ongoing work. To build on the significant accomplishments of Phase I and II, EHP supported continuation of Hato Mayor activities with a concentration on training for capacity building and for replicating the approach in the Dominican Republic. Phase III activities are described in Chapters 6 and assessment results are discussed in Chapter 7.

6. Phase III: Initiative for Hygiene Behavior Change

6.1. Overview and Scope of Work

6.1.1. Background

In February 2003, USAID/ Dominican Republic agreed to collaborate with USAID/Washington, EHP, and local partners in an Initiative for Hygiene Behavior Change. The effort was Phase III of the hygiene behavior change activities in Hato Mayor, which had begun in April 2000 (Phase I) with training in hygiene behavior change and had continued (Phase II) with a pilot project in Hato Mayor. Phase III was developed with the participation of a large number of NGO and governmental organizations: CRS, MUDE, INAPA, Peace Corps, PAHO, World Vision, ALEPH, Change, and DIGPRES of SESPAS. Several of these organizations had belonged to the original project team that had implemented the pilot project. Another key participant and organizing influence of the Initiative was the umbrella NGO, Alianza, which served as the local coordinator.

Phase III was originally intended to conclude at the end of 2003, but it was extended for six additional months until the end of the EHP II contract in June 2004.

6.1.2. Rationale

Several reasons were put forth for instituting a third phase of the Hato Mayor effort. First, the pilot project had been in operation only five months at the time of the assessment in May 2002. There was general agreement that the work of the community hygiene promoters should be continued to achieve maximum sustainability of the targeted behaviors. Second, the assessment had shown that implementing NGOs were able to use the behavior change methodology, but they required additional training to learn how to train others in its use — a necessary condition for replication and scale up. Third, a number of high quality graphic and audio materials had been developed to complement the counseling activities of community hygiene promoters on their home visits, but a system to ensure access to these materials was lacking. Finally, given the success of Phases I and II, the question of scale up had arisen; it was thought that the new phase could train several people

from organizations that had been involved since Phase I to train others in the methodology — to become “multipliers” of behavior change.

In short, at the end of Phase II, participating organizations were highly motivated to expand and extend the use of behavior change methods, but they needed additional training and support to increase their capacity and a coordination mechanism for capacity-sharing.

6.1.3. Goals

The Initiative for Hygiene Behavior Change had three broad goals (these are discussed below in the subsections indicated):

- Demonstrate the impact of the hygiene behavior change activities in Hato Mayor through additional promotional activities and follow-up surveys (Section 6.3).
- Institutionalize behavior change as an accepted approach within local organizations, both governmental and nongovernmental, through establishing a partnership of organizations committed to incorporate behavior change as a regular component of their work (Section 6.4).
- Strengthen national capacity to design, implement, and evaluate hygiene behavior change programs, through training and technical assistance (Section 6.5).

6.1.4. Implementation Steps

The scope of work for the Initiative included five major activities.

1. *Coordinating Mechanism.* Designate an existing national organization as lead coordinator and establish a coordinating committee consisting of representatives of organizations, most of whom had been involved since the inception of the Hato Mayor effort: INAPA, DIGPRES, CRS, MUDE, World Vision, Peace Corps, and PAHO. The operational members of the coordinating committee consisted of Alianza, as local coordinator, and representatives of the four organizations involved in the early Hato Mayor activities (CRS, MUDE, World Vision, and INAPA). These four representatives are alternatively referred to as “*socios*” — partners — as well as “multipliers.”
2. *Follow-up Work in Hato Mayor.* Continue to support the work of community hygiene promoters in the nine communities in Hato Mayor and facilitate additional follow-up surveys to assess the results over time of the behavior change activities.
3. *Team of Multipliers.* Prepare an expert team of national “multipliers,” or trainers, in the behavior change approach, through extensive training and hands-on experience.
4. *Network for Hygiene Behavior Change.* Establish a network of agencies involved in hygiene behavior change consisting of organizations involved in the behavior

change training of Phase I as well as new organizations that would be invited to take advantage of training workshops and to use materials on hygiene behavior change. The main thrust was to increase the capacity of these organizations to carry out behavior change activities: thus, numerous training workshops were organized.

5. *Dissemination of Project Materials.* Establish a sustainable system for reproduction and updating of project materials so that they would be reliably available for purchase. The mechanism to be used was a revolving fund.
6. *Technical Assistance.* Provide technical assistance to participating organizations.

6.2. Role of Alianza

Alianza, an umbrella NGO, was selected as the main coordinator of the Initiative for Hygiene Behavior Change. Alianza is a multi-sector network fostering coordination among public and private institutions and assisting non-profit organizations to improve their management, marketing, and use of new information technologies to strengthen their operations. Its goals are to diminish poverty and promote democracy in the Dominican Republic. Members represent many different sectors: education, rehabilitation, environment, defense, health care, family support, etc. Alianza is a member of the Consultative Committee for Social Affairs created by the President and receives assistance from the National Council for Private Enterprise. Its responsibilities for Phase III were as follows:

- Establish a formal partnership for behavior change committed to incorporating a behavior change component in their work and able to function as “multipliers.” Document meetings of the partners.
- Develop a wider informal network of organizations implementing activities related to water, hygiene and sanitation, including those that participated in the initial workshop in 2001 (Phase I). Prepare a list of organizations contacted and keep in communication with them.
- Organize appropriate workshops for personnel from organizations in both the formal and informal networks. Prepare brochures describing the workshops and document the activities and achievements of the workshops.
- Establish a rotating fund to facilitate dissemination of IEC materials. Document the transactions of the fund.
- Establish a communications system for disseminating information to partners and interested organizations, including newsletters or electronic bulletins, briefings of partners, and visits to partner organizations to promote the project.
- Produce periodic reports on the progress of the Initiative and a final report that discusses progress related to indicators.

Under an EHP subcontract, Alianza appointed a local coordinator as chair of the coordinating committee to develop a work plan and begin implementation activities.

The accomplishments of the Initiative (discussed in the sections below) are due in large part to the effective role Alianza played in organizing a full agenda of activities, seeing to logistics, and reaching out to a large number of organizations.

6.3. Support for Hato Mayor Pilot Project

Continuing support for the Hato Mayor Pilot Project was an important component of the Initiative. Two additional surveys were carried out in the nine project communities: one in June 2003 and the other in March 2004. Alianza was responsible for data processing, logistical support, and preparation of the presentation of results, except for the June 2003 measurement, for which Alianza did not process the data. The organizations originally involved in Hato Mayor (INAPA, CRS and MUDE) and World Vision, which became involved later, also assisted with the surveys and worked under EHP technical assistance in disseminating the results and preparing the final documentation. Results of the additional surveys are discussed in Chapter 7.

In the memorandum of understanding outlining the commitment of partner organizations, CRS and MUDE also agreed to visit each Hato Mayor community at least once each month during the course of the Initiative to monitor the continuing work of the community hygiene promoters. This level of support was much less intensive than that provided during Phase II, and there had been a break in support after the conclusion of Phase II. Probably as a result of less supervision and support, the second mid-term survey revealed serious erosion in some key behaviors. Following that survey, the NGOs voluntarily and on their own initiative began a more vigorous schedule of supervisory visits, which led, in many cases, to better results in the final survey.

6.4. Institutionalizing a Partnership for Hygiene Behavior Change

6.4.1. Nature of the Partnership

The partnership for behavior change consisted of organizations with the potential to effect a scale up of the behavior change approach in the Dominican Republic. They would make behavior change an integral part of their activities and spread the methodology through training others. Eight organizations were potential partners: the six organizations of the original project team (CRS, MUDE, INAPA, DIGPRES, PAHO, and Peace Corps) plus two additional organizations (SSID (a member of CRS) and World Vision). During Phase III, representatives from CRS, MUDE, World Vision, and INAPA were fully trained and certified in the behavior change methodology and thus became full-fledged partners.

Each partner's roles and responsibilities were formalized in a memorandum of understanding. For its part, Alianza agreed to hold bimonthly meetings, monitor

partner work plans, promote coordination among partners, and provide appropriate technical assistance and training.

The partnership was intended to continue after the conclusion of the Initiative in June 2004 as the principal mechanism for scaling up the behavior change methodology in the Dominican Republic.

6.4.2. Training of Trainers: Formation of Multipliers

In anticipation of Phase III, representatives from CRS, MUDE, and World Vision participated as assistant training instructors in behavior change projects that replicated the Hato Mayor activities in Nicaragua and Peru and provided technical assistance during three of the four “application” periods between workshops. This, and their work on the GEFI workshops (see Section 6.9), was part of their formation as multipliers.

The first training workshop carried out in Phase III was the multipliers’ workshop held July 13-25, 2003, at MUDE headquarters. There were only four trainees: one each from CRS, MUDE, World Vision, and from INAPA. The four worked intensively with the lead consultant, Marco Polo Torres, to learn how to transfer the behavior change approach to other organizations. The multipliers’ workshop focused specifically on training design and adult learning techniques. It had three components: (1) developing prototype workshops; (2) planning three workshops to be delivered under Phase III; and (3) planning a workshop/meeting for managers.

Prototype Workshops. To be fully competent as trainers in behavior change, the four partners developed prototype designs for workshops to achieve six different goals:

- To sensitize *managers* and administrative persons to the behavior change approach and what it contributes to projects.
- To enable *implementers* (those who directly work in the field and carry out research) to prepare tools and materials and to train and supervise promoters.
- To familiarize *planners* with the resources and tools that are needed to develop coherent plans for effective behavior change programs.
- To provide *promoters* with an understanding of the materials prepared for Hato Mayor and practice in using them.
- To introduce *public institutions* (such as INAPA) that do not implement projects by themselves to the behavior change methodology so that they can effectively orient and supervise projects under their funding and responsibility.
- *To enable implementers to become multipliers.*

The trainees prepared plans and support materials for each type of workshop and then each delivered a sample unit to increase their presentation skills. Their performances were video-taped and evaluated collectively. Plans were captured on a CD.

Plans for Upcoming Workshops. During the multipliers' workshop, the partners developed detailed curricula for workshops that they would deliver as part of the Initiative. Each member was assigned to produce one workshop. Plans included contents, exercises, methodology, schedule, and resources needed. The following workshops subsequently held under the Initiative were led and/or staffed by partners.

- Workshop on the Use of Module I, Sept. 17–19, 2003.
- Implementers' Workshop, Jan. 25-30, 2004.
- Workshop on the Use of Module I, March 12–14, 2004.
- Implementers' Workshop, March 26–28, 2004.
- Planners' Workshop, April 26-30, 2004.

Managers' Workshop. The final training task for the four partners was to plan a brief workshop for managers and directors from NGOs and other organizations, with the aim of introducing them to the behavior change approach and inviting them to attend future workshops (see Section 6.5.2 for additional information on this workshop). Held just a few days after completion of the multipliers' workshop, the managers' workshop was the partners' introduction to their future role as trainers.

6.4.3. Results of the Multipliers' Workshop

At the conclusion of the multipliers' workshop, the four partners were certified as trainers and awarded diplomas for more than 1,000 hours of training and hands-on experience. This included their training under Phase I, their work on the Hato Mayor pilot project in Phase II, and their participation in the PAHO projects in Nicaragua and Peru. The accumulated time spent in training and implementation could be compared to a regular graduate academic curriculum, with the advantage that it was field-grounded and produced real consequences.

The newly certified multipliers used their skills by facilitating five subsequent workshops and certifying 28 as implementers and 22 as planners and 36 in the use of hygiene behavior change materials.

Teamwork among the behavior change partners was excellent, particularly in the preparation of workshops. When a workshop was upcoming, the designated lead instructor called the other instructors and gave them their assignments. Meetings were held as the materials and presentations were prepared. The Alianza coordinator attended the first planing meeting and was responsible for reproducing materials, handling logistics, and communicating with participants.

The four multipliers met and exceeded their commitments as agreed upon in the memoranda of understanding they signed at the beginning of Phase III. They continued to carry out their facilitation work without payment during the extension of the Initiative from January to June 2004. In addition, one representative each from CRS and MUDE continued to participate in the design and delivery of workshops even through they had been promoted by their organizations and had increased

responsibilities. Likewise, the INAPA and Word Vision representatives participated despite their full agenda of responsibilities with their respective organizations. The directors of the partner organizations and the manager of INAPA were extremely supportive of the Initiative.

6.4.4. Development of Work Plans for Hygiene Behavior Change

The partner organizations each agreed to prepare a written work plan for one year for hygiene behavior change in the context of their organization's comprehensive programs. The plans included their participation as instructors in the training workshops on hygiene behavior change for the Initiative and their work on the additional assessment surveys in Hato Mayor.

The plans produced by MUDE, CRS, and World Vision also covered their related work in a school project under GEFI (see Section 6.9). INAPA's plan included key behaviors for community participation in the organization of water and sanitation committees and the maintenance of infrastructure.

6.5. Strengthening National Capacity for Hygiene Behavior Change

6.5.1. Behavior Change Network

In addition to the formal partnership, the Initiative for Hygiene Behavior Change promoted a wider network of NGOs, including participants in the initial workshop of Phase I in Hato Mayor and other organizations and donors, such as the Spanish Agency for International Cooperation, the European Union, the Peace Corps, Procomunidad, the Red Cross, etc. Alianza promoted the project among these organizations, invited them to attend workshops and experience-sharing activities, and served as a motivating influence for participation in activities. The main purpose of the network was to increase the capacity of member organizations to carry out hygiene behavior change programs.

6.5.2. Training Workshops

The Initiative organized several workshops for individuals at various levels of competence. In this section, workshops for managers, implementers, and planners are discussed as well as those on the use of Module I (see Section 6.9 for information on workshops for GEFI-funded school programs and Section 6.8 for a description of the mini-workshops for the Peace Corps).

- *Managers Workshop (NGO Directors)* — July 29, 2003. Forty-three managers and directors of national institutions attended a four-hour workshop on the importance of a behavior-change focus. Twenty-nine organizations were

represented, among them CONECTA, ALEPH, PNUD, IICA, ENTRENA, PRONATURA, FUNDASEP, COTEDO, USAID, Peace Corps, and the Technical Secretarial of the Presidency. Attendance far exceeded expectations. The workshop sought to bring the organizations into the informal network on behavior change and to interest them in future training. The event was not technically a workshop, since it did not have practical exercises and lasted only four hours. It consisted of four punchy visual presentations with the ample use of anecdotes and stories. The U.S.-based lead consultant led the workshop with assistance from the four multipliers from the partner organizations.

- *Second Implementers' Workshop — Jan. 25–30, 2004.* Eighteen technical staff from NGOs attended a week-long workshop on the management of behavior change programs to enable them to carry out all steps in the behavior change approach: formative research, training, materials development, implementation, and monitoring and evaluation. (This was viewed as the *second* workshop for implementers, the *first* being the one conducted in Phase I, within the framework of RECON.) Three trainees were from CRS partner NGOs that were participating in the hygiene project in the schools; three others were from Amigo de los Ninos, an organization that had shown an interest in orienting its projects to behavior change. Two managers and a technician from World Vision's regional programs also attended with plans to apply the strategy in their respective regions. The workshop was led and facilitated by the four partners for behavior change and the local coordinator from Alianza.
- *Third Implementers' Workshop — March 26–28, 2004.* This workshop had the same objectives as the second implementers' workshop, but was shorter and more intensive. It was designed for new NGOs interested in having their technicians learn the strategy — for example, Plan International, which intended to focus its projects on behavior change. There were ten participants: two each from MUDE and INAPA, two from Plan International, two from Inda Joven, and one each from the Otsenre Diaz Pimental Foundation, and the City Council of Constanza. The workshop was facilitated by the four partners.
- *Planners' Workshop — April 26–30, 2004.* The goal of this workshop was to transfer the skills needed to plan and implement behavior change projects in hygiene and health: all steps in the process were covered. Participants, who were required to have successfully completed the implementers' workshop and the workshop on the use of Module I, were divided into three groups based on their experience with the behavior change methodology. The goal was to produce a second group of “multipliers” with minimal skills in training but with adequate skills to plan a behavior change intervention from beginning to end. The 21 participants came from the four partner organizations (and SSID) as well as other NGOs: FUNDASUR, Sur futuro, IDDI, ADESJO, Ce Mujer, Hermandad, IDAC, Amigo de los Ninos, CEDECO, and Plan International. One third of the participants were from the health sector. The workshop was led by the lead consultant, with the four partners as instructors.
- *First Workshop on Use of Module I — Sept. 17–19, 2003.* The representative from World Vision led a workshop on the use of Module I. It covered the salient

features of the behavior change methodology, how to initiate a behavior change project, use of materials, the art of counseling, interpersonal communication, and project follow up. Twenty-one representatives from various NGOs attended, along with partner institutions (four from World Vision and one each from MUDE, INAPA, and CRS). Among the participants were some institutions that were just being introduced to the behavior change methodology (Sur Futuro, IDDI, Adesjo, and Hermandad). To participate in the workshop, trainees had to agree to purchase fifteen sets of Module I to use in their projects. Participants received a pamphlet on the basic principles of behavior change and a CD with the workshop presentations.

6.6. Rotating Fund

The scope of work for the Initiative called for establishment of a rotating fund to support the development and promotion of new materials and the reproduction and dissemination of existing materials. There was some initial uncertainty in the approach to the development of the revolving fund and the mechanism for insuring its sustainability; however, approximately 500 copies of Module I have been sold, most in connection with workshops coordinated by Alianza. The module was sold at a subsidized price to the partner institutions and at a price slightly above cost to non-partners, in an effort to generate a balance for renewing the fund. Sales were as follows:

- First Workshop on Module I, September 2003 = 295 packages.
- INAPA = 30 packages.
- Peace Corps = 15 packages
- The remaining seed fund and receipts from sales were used to reproduce 800 additional packages. One hundred and fifty of these have been sold, and 80 have been ordered by ADESJO. Several additional organizations have inquired about purchasing more copies (e.g., World Vision, Amigo de los Ninos, IDDI, and MUDE).

Depending on the balance between packets sold at subsidized cost, versus those at cost-plus, the rotating fund may eventually run out. As such, the fund may not be truly rotating; however, it accomplished and continued to accomplish the primary goal of disseminating a large number of hygiene behavior change materials to a broad audience throughout the Dominican Republic.

With the profits of the 800 reprinted packages, 1,100 promoters (with the potential to reach 11,000 families) could be trained to use Module I.

6.7. Communication Mechanisms

In addition to Alianza's outreach to extend the behavior change network and publicize workshops, the organization designed a website to disseminate information on behavior change in the Dominican Republic, Peru, and Nicaragua. It was a

continuing challenge for Alianza, given its current personnel, to keep this website current. At the time of writing, Alianza had just hired a staff member to be responsible for the website.

During the Initiative, five issues of *Inter-cambio*, an internet bulletin for the exchange of information among behavior change oriented organizations in the Dominican Republic, Peru, and Nicaragua were developed by the lead consultant.

Activities of the Initiative were covered in wide-circulation newspapers in the Dominican Republic, including an interview of the program coordinator.

6.8. Collaboration with the Peace Corps and Other Organizations

The Initiative worked closely with the Peace Corps to integrate the behavior change strategy into its training activities and to encourage volunteers to use Module I in their communities. Three mini-workshops on the behavior change strategy, counseling techniques, and the use of Module I were held.

- Mini Workshop for Health Trainees — Oct. 8–9, 2003.
- Mini-Workshop for Safe Water Trainees — Nov. 7, 2003.
- Mini-Workshop for Mid-Term Health Volunteers — Nov. 20, 2003.

The Peace Corps also participated in workshops for managers and implementers and in other workshops on Module I.

Alianza actively promoted collaborative activities and participated in conferences and meetings sponsored by other organizations. Among the most fruitful of these many contacts were the following:

- Participation in a meeting of the gender and water network at USAID/Dominican Republic.
- Collaboration with the Irrigated Land and Valleys Management Project of the World Bank in training of promoters and the use of Module I; training and oversight of the promoters was provided by ADESJO — Association for the Development of San Jose de Ocoa (La Asociacion para el Desarrollo de San Jose de Ocoa). This project trained 80 promoters in the Nizao River Valley in San Jose de Ocoa and San Cristobal provinces.
- Assisted with training 12 promoters in the use of Module I by the Center for Women and Participation (CEDEMUR).
- Trained 20 Plan International technicians in Latin America and the Caribbean in behavior change and to analyze the hygiene promotion experiences of Peru and Nicaragua. Participants come from Haiti, Peru, Paraguay, Nicaragua, Panama, and the Dominican Republic.

- Participated in the regional workshop sponsored by the Inter-American Development Bank on Water and Sanitation conducted in Guatemala City.

6.9. GEFI (Food for Education Global Initiative) Workshops

During the planning of the Initiative, Alianza was successful in obtaining a grant from USDA to provide training in behavior change approaches for GEFI projects being supported by the USAID mission in the Dominican Republic. The GEFI projects were to include environmental health at school as well as at home, prevention of parasites, and improvement in the management of complementary nutrition products. Several training workshops based upon a modification of the methodology used in the Hato Mayor experience were carried out.

The two NGOs that had been involved in the Hato Mayor pilot project, CRS and MUDE, were the initial primary implementers of the grant for the GEFI projects (CRS took the lead role and modified the Hato Mayor materials for use in schools). Subsequently, World Vision also became a GEFI implementer.

- *Workshop on Developing Behavior-Change Strategy in Schools — Dec. 16–20, 2002.* This workshop was held a few months before the agreement before Alianza and EHP was signed in February 2003 and was considered an important event in the planning of the Initiative. Its goal was to strengthen management capacity for behavior change and guide activities within the framework of the GEFI projects. Eleven participants, from MUDE, CRS, World Vision, Wings of Equality, Cezopas, and INAPA, received training in applying behavior change approaches to various health themes and an orientation on how to manage behavior change projects so that they respond to GEFI’s needs. More than just a workshop, the activity provided guidance (tutoring) to GEFI trainers on incorporating behavior change in an ongoing project.
- *Second Workshop on the Use of Materials — March 12–14, 2004.* A second workshop on the use of Module I was designed for the staff of NGOs and state institutions that were implementing projects under the GEFI. (Some of these staff had been trained in the first workshop on the use of materials in September 2003: Ce-Mujer, World Vision, CEDECO, MUDE.) Participants were required to buy 15 sets of Module I, as they had been in the first workshop on Module I. The workshop was facilitated and led by the four partners for behavior change.
- *Workshop on Use of Behavior Change Materials in Schools — April 2–4, 2004.* CRS, MUDE, and World Vision produced materials on behavior change in schools especially for the GEFI projects. These materials, known as Module II or “My Ideal School,” were the topic of a workshop attended by a total of 104 teachers and 14 NGO representatives led by CRS. This workshop was not included in the original planning, nor did it use small groups and hands-on work in the use of materials. Rather it used lectures, like a college class. However, the workshop was considered strategically important for the Initiative for Hygiene

Behavior Change because of its strong links to the GEFI projects. Five hundred copies of “My Ideal School” were subsequently reproduced for use in the schools participating in the GEFI project.

6.10. Results of Phase III

6.10.1. Training

The Initiative developed and delivered five workshops that were central to the goal of increasing capacity in hygiene behavior change (one for multipliers, two for implementers, one on the use of Module I, and one for planners), a brief managers workshop/meeting, and three workshops associated with the GEFI projects (an initial tutoring workshop and workshops on the use of Module I and “My Ideal School”), and three mini-workshops for Peace Corps volunteers. The total number of persons trained was 220 (not counting the managers’ workshop and the mini-workshops for Peace Corps). Most of the workshops were facilitated by the multipliers, who demonstrated the skills they had obtained in the multipliers’ workshop. These achievements are summarized in Table 5.

Table 5. Training Results for Phase III

Workshop	Date	# of Organizations	# of Participants	# of Certificates
GEFI Tutoring	Dec. 2002	6	11	N.A.
Multipliers	July 2003	4	4	4
*Module I	Sept. 2003	12	21	18
*Implementers	Jan. 2004	11	16	16
*Module I for GEFI	Mar. 2004	8	18	18
*Implementers	Mar. 2004	8	10	10
“My Ideal School”	April 2004	unknown	118	N.A.
*Planners	April 2004	14	22	22
TOTALS			220	88

*Workshops that were planned and led/facilitated by the four partners.

6.10.2. Improved Capacity

Table 6 shows specifically how the organizations that attended training workshops increased their capacity.

Note that among the NGO partners, CRS increased its capacity the most: one multiplier, six planners (or seven counting the multiplier); some CRS personnel participated in Hato Mayor; all participated in GEFI. It is the group with the most experience and capacity.

The other partners also gained significantly in capacity. MUDE, with one multiplier and three planners, now has the capacity to implement projects with a behavior change focus. World Vision has gained one multiplier and five planners, not counting the planners in its partner organizations.

INAPA was the only partner institution that could not certify anyone as a planner, due to the large number of personnel assigned to work on the rural water supply.

Fifteen organizations now have certified planners of behavior change on their staffs. Seven are from the original partners: MUDE, World Vision, and CRS and its partner organizations (CEDECO, IDAC, SSID, Ce Mujer). And seven new organizations were empowered: FUNDASUR, ADESJO, Sur Futuro, Hermandad, Plan International, IDDI, and Amigo de los Niños. The fifteenth was Alianza itself.

Among those organizations with personnel certified as planners (not counting the multipliers), six now have personnel trained as implementers and in the use of materials: IDAC, FUNDASUR, ADESJO, IDDI, Sur Futuro, and Hermandad. This broadens the capacity of these organizations and will make it easier for them to carry out behavior change projects.

Table 6. Organizations That Increased Their Capacity in Hygiene Behavior Change

Organizations	Personnel and Training Levels			
	Use of Module I	Implementers	Planners	Multipliers
CRS	1	3*	2	1
MUDE	1	4*	3	1
World Vision	2	8*	5	1
INAPA	2	2*	-	1
CRS partner: SSID			1	
CRS Partner: IDAC	1	1	1	
CRS Partner: Ce Mujer		1	1	
CRS Partner: CEDECO		1	1	
FUNDASUR	1	2	1	
FUNDASEP	1			
CIAC	5			
Wings of Equality	4			
Cezopas	2			
Alianza		1*	1	
Alianza member: ADESJO	1	1	1	
Alianza member: IDDI	6	1	1	
Sur Futuro	1	1	1	
CEDEMUR	1			
Hermanidad	1	1	1	
Amigo de los Ninos		3	1	
Plan International		3*	1	
Inda Joven		2		
Otsenre Diaz Pimental Foundation		1		
ALEPH		1		
Constanza City Council	1	1		
Government institution: SEE-BE	2			
Government institution: STP-DCR	1			

* Including participation in Phase I implementers' workshop.

Nine organizations were not able to train planners, but they gained the capacity to use and disseminate the materials of Module I. For example, the Constanza City Council has planned a promoters' workshop in all areas of the municipality, and Inda joven has requested training of promoters on the east side of Santo Domingo.

Aside from the four partners, who were all certified as implementers before the Initiative began, 16 institutions in the country gained the capacity to implement the behavior change methodology through participation in one or more of the three implementers' workshops.

Personnel from most of the organizations that participated in training learned to use Module I and have gone on to train promoters. Workshops on Module I were linked to the training of community promoters. Some organizations were not ready to work with promoters and therefore the workshops on Module I were not appropriate for them. Currently more than 500 promoters have been trained in the use of Module I. They work in 106 communities and reach 1,000 families.

Two government institutions participated: SEE (Education Secretary of State) and STP. Their technicians know the materials and principles of the strategy.

Capacity to implement GEFI projects was also gained. MUDE, World Vision, and CRS (and its partner organizations) implemented a behavior change strategy in schools. They have trained 118 teachers in the use of Module II: "My Ideal School" and reproduced 500 copies of the module for distribution to the schools. The initial training and implementation of the hygiene behavior change methodology was carried to a much broad audience through the GEFI projects.

6.10.3. Geographic Coverage

The partner NGOs have expanded their work in various locations around the whole national territory, with a concentration in the east and south areas of the country. These organizations' commitment to behavior change has greatly increased the geographic reach of the behavior change approach. Table 7 shows the zones and provinces in which the three partner NGOs now have the capability to develop the hygiene behavior change strategy.

Table 7. Geographic Dissemination of the Behavior Change Strategy

Partner	Sub-Group	Zones and Provinces
CRS	SSID	San Pedro e Macoris Hato Mayor
	CEDECO	San Cristobal
	Ce-Mujer	Monte Plata Bayaguana Yamasa
	IDAC	San Pedro de Macoris San Cristobal Bateyes de Santo Domingo
MUDE		Santiago Rodriguez Bonao Constanza Barahona y Pedernales Hato Mayor El Seybo
World Vision	Conuquito zone	Tamayo Vicente Noble
	Seybo zone	El Seybo Miches
	Barahona zone	Barahona
	Neyba zone	Bahoruco

Six of the seven new organizations that have personnel trained as behavior change planners work in the south region, which is the poorest. One of these works in a province (Adesjo), one at the provincial level in Peravia, San Jose de Ocoa, and San Cristobal (Hermandad), one in Barahona, Pedernales, Bahoruco and Independencia (FUNDASUR), one at the regional level (Sur Futuro), and two national organizations work in the south (Plan International and IDDI). In addition, Amigo de los Ninos currently works in Santo Domingo and the east region but has a mandate to work nationally; thus, it has the potential to bring the behavior change approach to new areas in the Dominican Republic.

The following map shows how the geographic reach of the project has been extended. The south zone, from San Jose de Ocoa to the border, has institutions with the capacity to develop hygiene behavior change activities.

6.10.4. Network for Hygiene Behavior Change

The Initiative made contact with and sensitized 43 persons representing 28 NGOs, government organizations, and institutions; through training, the Initiative integrated 22 NGOs, one municipal government, three government institutions, one international organization, and one consultant.

Extensive outreach efforts were made through the Initiative, but these were not successful in all cases. For example, personnel from SESPAS and PAHO were not active participants during the latter phases of the work. USAID/Dominican Republic (and Alianza) will continue efforts to reestablish their involvement. An additional objective is to obtain active support for the Initiative through the USAID CONECTA project.

Organizations that did get involved strengthened their inter-institutional links and ties. The ground has thus been prepared for institutionalizing this network.

7. Assessing Behavior Change Results in Hato Mayor

7.1. Background

In May 2002, five months after implementation of the hygiene promotion activities of Phase II by CRS and MUDE, a mid-term survey was conducted to monitor progress, as mentioned in Section 5.4. This comparison of the mid-term survey data with the baseline (conducted in December 2001) yielded encouraging results. Although the results had to be viewed in light of some methodological limitations, still the data pointed to improvements both in diarrhea prevalence and hygiene behaviors. To see how the apparent improvements would stand up over time and after continuing program interventions, EHP and USAID/Dominican Republic decided to include additional surveys in the scope of work for Phase III of the Hato Mayor effort. These were carried out in June 2003 (a second mid-term) and March 2004 (the final survey).

(Activity Report 137, *Combining Hygiene Behavior Change with Water and Sanitation: Monitoring Progress in Hato Mayor, Dominican Republic — Part II* provides a detailed analysis of all surveys. It supercedes Activity Report 120, *Combining Hygiene Behavior Change with Water and Sanitation: Monitoring Progress in Hato Mayor, Dominican Republic*, which covered only the baseline and first mid-term surveys.)

7.2. Survey Goals

The goal of the surveys was to measure the results of the hygiene behavior change interventions in the project area: nine communities in the municipality of Hato Mayor. The results would provide NGO program managers and communities with information about diarrhea prevalence and hygiene behaviors before and after provision of water and hygiene interventions were introduced. The surveys were “participatory” in that the data were collected by the community hygiene promoters and community members, with the active participation of the inter-institutional team that implemented the project activities. The surveys were not intended as a scientifically rigorous program evaluation; instead their purpose was programmatic:

- As a monitoring tool for program managers and communities to identify accomplishments and challenges to enable fine tuning of future field work

- As feedback for the community hygiene promoters to demonstrate their accomplishments and motivate them for continued work
- As confirmation of the importance and potential of hygiene behavior change for local stakeholders to continue to scale up the approach to the national level

7.3. Methodology

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.

A total of 109 households were interviewed at the baseline, 13 of which were households with elevated-composting latrines. At the first mid-term, 125 households were interviewed and at the second mid-term and final surveys, 126 households, 16 of which were additional households with elevated-composting latrines (to capture the particular behaviors promoted for households with these alternative latrines). To the greatest extent possible, the same households were visited for all surveys.

The questionnaire used in the baseline was also used in the subsequent surveys, with a few changes. Some questions that did not seem to be useful were eliminated for the mid-term and final surveys, and a section on interaction with the community health promoters was added. The questionnaire consisted of 60 questions and 18 structured observations, with a supplemental questionnaire relating exclusively to elevated-composting latrines. In the analysis of the data, questions that were substantially modified were not included. Section 4.4 goes into detail on the topics covered.

The organization and logistics of data collection were the same for all surveys. Two inter-institutional teams, each consisting of eight interviewers and one supervisor, conducted the interviews and observations. NGO (CRS, MUDE, and World Vision), SESPAS, and INAPA staff and representatives made up the teams. Community hygiene promoters collaborated in the identification of households with children under five. The questionnaires required approximately 25 minutes to complete. (SESPAS, the International Cooperation Agency of Spain, and Peace Corps also participated in the baseline survey.)

All interviewers had had previous experience with community-level data collection and interviewing. They received eight hours of training by the field supervisors in the use of the questionnaire. A field manual, written by the primary researcher and the field supervisors, defined and standardized interviewing procedures. Supervisors randomly monitored interviewers for quality assurance.

Data was entered, processed and summarized using EPI-INFO Version 6.4.

7.4. Limitations of the Analysis

The surveys, as mentioned, were not scientifically rigorous, but had a programmatic intent. Nonetheless, it is important, in reviewing the results of the analysis of the data, to keep in mind its limitations.

Perhaps the most important limitation is that no pre-hardware baseline was established. Therefore, it is not possible to measure the impact of water and sanitation interventions independent from the impact of hygiene behavior-change activities. At baseline, 34% of the households reported having access to a community water system. All of these were in the two communities where the water systems had been completed by the hardware component of the project. By the May 2002 survey, all nine communities had new water systems, and all households reported that they had access. (Some of the community water systems experienced breakdowns in 2003, which were not immediately repaired.)

Other limitations have to do with how the study was designed. Given the constraints of time and resources, the study had to take a number of short cuts, all of which jeopardized to some extent the results:

- The sample was selected using a quota-convenience methodology; there was no randomization. Therefore, findings are not generalizable beyond the households interviewed.
- There was no control group (non-intervention group) with which to compare the observed changes. In the absence of a control group, conclusions about the extent to which changes are attributable to interventions are tenuous.
- Although the majority of the households at baseline were included in the mid-term evaluation, no coding system was used to enable linking of the surveys by household. Such a coding system would have permitted a comparison of changes in diarrhea prevalence by household with and without water at baseline.
- 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.

The study results should also be viewed in light of a marked diminution in behavior change interventions in the project communities. During the project period in 2002, the collaborating NGOs maintained no less than bimonthly contact and support to the promoters. Thereafter, the NGOs attempted to keep a line of support open, but at the contact level of once every six months. It was anticipated that more direct NGO involvement would taper off as the NGOs faced new priorities in their other program areas and regions. The participating NGOs did so without direct funding or support from EHP other than for the monitoring events themselves.

Some of the water systems had suffered breakdowns by the time of the later surveys, thus undermining the ability of household members to carry out desired behaviors.

Finally, external factors may have affected the results. After a decade of relative economic stability, in 2003, the value of the peso declined rapidly and purchasing power was eroded by as much as 50%. It may be that households were not able to purchase “behavior-change-enabling” items like soap, toilet paper, and hand towels.

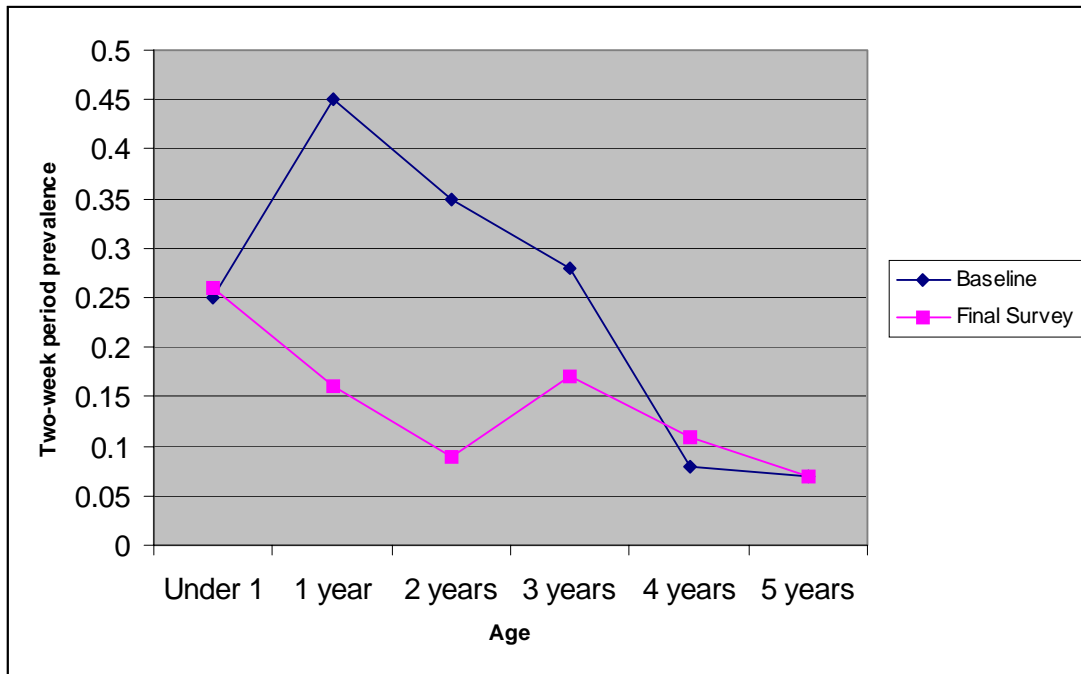
7.4.1. Health Results

The desired health effect from water, sanitation, and hygiene behavior-change interventions is a reduction in diarrhea prevalence. At baseline and the three subsequent surveys, households were asked about diarrhea prevalence within the past two weeks for all children under five (information was collected on children who turned five after the baseline in order to include the same cohort in both surveys). 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. More than two years later, this fell to 13% for the 197 children included in the final survey. While this decrease may be attributable to the program interventions, it could possibly also reflect seasonal variations.

The decrease in diarrheal prevalence was uneven. The first mid-term survey showed the most promising results with an overall decrease of 16% (from 27% at baseline to 11% in May 2002); the decrease was also experienced across all age groups. The second mid-term, while still less than the baseline (23% compared with 27%), showed increases from the baseline for some age groups, most dramatically for one year olds, at 71% compared to 45% at baseline. By the final survey, in March 2004, the overall decrease was back down to 13%, with one age group (under one year old) at baseline level (26%) and one age group (four year olds) increasing slightly to 11% from 8% at baseline. The two year olds showed the most sustained decline across all surveys. Excepting second mid-term survey results for one year olds, the decrease in prevalence was most significant across surveys for the one and two year old groups and for the group taken as a whole.

Though uneven, the overall decrease in diarrhea prevalence from 27% at baseline appears sustainable over time, with the final survey average diarrheal prevalence of 13% recorded in March 2004 close to the 11% recorded in May 2002. See Figure 3.

Figure 3. Two-Week Period Prevalence of Diarrhea by Age, Baseline and Final Survey



Several factors must be taken into account in interpreting the findings on diarrheal disease prevalence:

- The decrease in prevalence cannot be linked directly or exclusively to the behavior-change interventions. Sanitation coverage was near universal at baseline (94%), water and sanitation infrastructure having been constructed by December when the RECON project ended. Although not all the infrastructure was in use by that time, the decrease in diarrheal disease prevalence may be due to the combined effect of the behavior-change and infrastructure interventions.
- There may be a seasonal fluctuation in diarrheal disease between the months in which the surveys were conducted. However, seasonal epidemiological data are not available to empirically reject this possibility.

7.4.2. Behavior-change Results

Most of the hygiene behaviors promoted as part of the interventions showed statistically significant improvements from the time of baseline to the first follow-up survey. In subsequent surveys, the results varied, with some behaviors showing signs of backsliding. These findings suggest that some behaviors, once changed, may not require additional promotion, while others need sustained (or perhaps more varied) reinforcement.

- Handwashing at Critical Times.
 - For the primary caregiver, reported handwashing *after going to the bathroom* increased from the baseline to the first mid-term by 12% (from 54% to 66%);

- in the final survey the improvement over baseline was 8% (borderline statistical significance).
- For the youngest child, reported handwashing *after going to the bathroom* increased from the baseline to the first mid-term by 16% (from 15% to 31%); in the final survey, the improvement over baseline was 12%.
 - Handwashing *before eating* among caregivers rose from 33% at baseline to 48% in the second mid-term survey (June 2003) and remained at that level for the final survey (a statistically significant improvement). The reported handwashing of the youngest child *before eating* showed the same improvement.
 - These improvements may reflect the emphasis given to handwashing after going to the bathroom and before eating by the community hygiene promoters.
 - Four of the responses (before food preparation, before eating, after cleaning a child, and before child feeding) failed to demonstrate a statistically different change from the baseline to the later surveys.
- *Handwashing Location.* Between the baseline in December 2001 to the final survey in March 2004, a significant increase occurred in observance of a permanent handwashing location: from 17% to 37%. It is assumed that people are more likely to wash their hands if they have such a location.
 - *Use of Soap.* Observed use of soap improved from 56% to 69% in the first mid-term survey but declined to near baseline at 60% in the final survey. At baseline, 40% of households did not have soap visible in the area that was reportedly designated for handwashing. At the final survey, the percentage decreased to 31% (a 9% improvement). A possible explanation for the apparent discrepancy in presence of soap and use of soap in handwashing demonstrations is that the respondent may have had to retrieve soap stored somewhere away from the handwashing location 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.* Demonstrated handwashing technique, while showing significant improvement in the first mid-term survey, showed a decline by the final survey.
 - The proportion of respondents who rubbed their hands together three times or more while washing improved from 49% to 72% at the first mid-term but declined to 43% in the final survey. Perhaps this is an indication of banking on a trend too early, where additional reinforcement would have produced more sustainable positive results. Also, the final survey is the only one in which “no response” was recorded (11%). This could have skewed the results.

- Hand-drying technique seemed to show sustained improvement, with 97% observed in the final survey following recommended practice compared to 20% at baseline.
- *Hygiene Training of Children.* Interviewees were asked what they had taught their children about latrine use. From baseline to the first mid-term, substantial increases in the percentage who reported teaching self cleaning (17% to 27%), how to sit (16% to 32%), and wash hands after use (0% to 36%) were recorded. However, these improvements eroded significantly by the final survey, with only handwashing after latrine use retaining some of the positive gain (10%) from the baseline. These changes appear to need reinforcement if they are to be sustained over time.
- *Excreta Disposal for Children.* For young children using potties, the reported disposal in a latrine started out high at baseline (90%) and improved to 100% by the final survey.
- *Use of Toilet Paper.* Use of toilet paper was promoted by the implementing NGOs, and its use did increase by 12% from baseline to the first mid-term (78% to 90%); however, by the final survey, the trend was back toward the baseline. This may be a function of severe economic instability rather than non-sustainability of the change.
- *Condition of Sanitation Facilities.* Cleanliness of sanitation facilities is associated with use. From the baseline to the final survey, presence of flies decreased from 19% to 2% (a significant and sustained decrease). A decrease was also noted for conspicuous odors (11% to 2%) and for presence of feces on the door and walls (11% to 0%) and on the seat (17% to 3%). Also, use of sanitation facilities for storage is believed to be associated with non-use for feces disposal. At the first mid-term, no sanitation facilities were being used for storage, a highly significant decrease from 19% at baseline. However, 5% latrines were being used for storage at the final survey.

7.4.3. Home Visits by Community Hygiene Promoters

A section on contact and interaction with the community health promoter was added to the mid-term and final surveys: themes discussed, number of visits, commitment to make a change in behavior, receptivity to visits. In the first mid-term survey, 78% of the respondents reported that they had been visited by a promoter; at the final survey the number was 72%. Regarding the number of visits, at the first mid-term, respondents reported an average of three visits for the five-months of project activities. (The same question was asked at the final survey, but the results are not comparable as they covered a different time period.)

As mentioned above, the level of involvement in the communities dropped off after the mid-term survey. At the conclusion of Phase II, the promoters were asked to check in with each home once per month. During focus group meeting with the promoters during the final survey, most admitted that it was not possible to maintain

that level of interaction. At mid-term, 74% of the survey respondents stated that they would like to continue being visited by a community hygiene promoter, this rose to 93% in the final survey.

The topics most often discussed at both the first mid-term and the final surveys were

- Handwashing after using the bathroom
- Latrine cleanliness
- Cleaning water storage containers
- Handwashing after cleaning a child
- Handwashing before eating
- Handwashing before food preparation

It is notable that the improvements in handwashing after defecation from baseline to mid-term correspond to the most frequently discussed topic. Likewise, reported handwashing of the youngest child after going to the bathroom and before eating significantly increased.

7.5. Conclusions

Overall, the findings of the mid-term and final surveys are suggestive of the effect of the hygiene behavior change intervention. In addition to a sustained decrease in diarrhea prevalence among children under five, several positive changes in hygiene-related behaviors and outcomes were documented, although the sustainability of individual behaviors is highly variable. Additional qualitative research may help to explain why the increase in reported handwashing after going to the bathroom was so modest (from 54% [baseline] to 66% [May 2002]) to 60% [June 2003]) and then ending at 62% [March 2004]), as well as why there was no reported change in handwashing at other critical times.

It is important to keep in mind that the main objective of the surveys was to reinforce the work of the community hygiene promoters by quantifying the changes that may plausibly be associated with their efforts. The “witnessing of visible changes” and a sense of accomplishment are cited as effective incentives to motivate community health workers in a 2001 BASICS II publication, *Community Health Worker Incentives and Disincentives: How They Affect Motivation, Retention, and Sustainability* (by K. Bhattacharyya, P. Winch, K. Leban, and T. Marie). At the community level, the success and sustainability of the project depends largely on the continued promotion and negotiation of improved hygiene practices by community hygiene promoters.

The surveys, and the concomitant behavior-change promotion activities, were the result of an impressive inter-institutional effort. Nine institutions came together to make it possible (CRS, MUDE, SSID, INAPA, DIGPRES, World Vision, USAID, Peace Corps, and PAHO). This collaborative enterprise created a sense of ownership

on the part of all stakeholders, made manifest by their continued commitment to work towards scaling up the approach to the national level. Such participatory approaches to project implementation can serve as a model to achieve impact, scale, and sustainability.

8. Impacts and Insights

8.1. Achievements

The Hato Mayor project, which began modestly in April of 2000 with training in the behavior change approach for personnel involved in the RECON projects initiated in the wake of Hurricane Georges, continued through two additional phases. In the second (2001–2002), personnel from three organizations that had participated in the behavior change training (CRS, MUDE, and INAPA), acquired hands-on experience, under EHP technical assistance and support in planning and implementing a hygiene behavior change program in nine communities in Hato Mayor, the last communities to receive water and sanitation through RECON. In the third phase (2003–2004), additional training to scale up the hygiene behavior change approach was provided. This four-year effort yielded significant results, as discussed in this report. The major achievements are listed below.

- *Documentation of the Hygiene Behavior Change Approach.* Materials used in the Hato Mayor communities were refined and produced as Module I and made available to a large number of organizations and are now being used in their programs. In addition, through a separate activity, EHP supported creation and publication of a guideline for the approach: Joint Publication 7, *Improving Health through Behavior Change: A Process Guide on Hygiene Promotion* available from EHP and PAHO.
- *Positive Results in Hato Mayor.* Two mid-term and one final survey of diarrhea prevalence and hygiene-related behaviors were conducted in Hato Mayor (May 2002, June 2003, and March 2004) and compared with the baseline survey. While the results of these surveys have to be seen in light of methodological limitations, they are suggestive of sustained improvements in health and positive changes in behavior — especially handwashing behaviors. Such improvements should be viewed as resulting from the synergy between improved infrastructure and a well-designed behavior change program.
- *Strengthened Capacity for Implementing Hygiene Behavior Change.* Over 200 individuals from about 30 organizations received training in the use of materials or in implementing and planning hygiene behavior change programs. Some of these organizations had been involved from Phase I; others were recruited through the outreach activities of Phase III.
- *Scale-Up and Replication.* One representative from each of the main behavior change partner organizations (CRS, MUDE, World Vision, and INAPA) were trained and certified as “multipliers,” or trainers, with the ability to transfer the behavior change approach to other groups. In addition, their organizations

formally committed themselves to make behavior change an integral component of their programs. Along with PAHO support, projects similar to the one conducted in Hato Mayor, were carried out in Peru and Nicaragua.

- *Implementation of the Behavior Change Strategy in Schools.* The Initiative carried on activities outside the health sector through training about 120 teachers and implementers to apply principles of behavior change in USDA's GEFI school projects and through creating a special module for use in the schools, "My Ideal School."
- *Increased Geographical Reach.* As a result of capacity-building training, certification of multipliers, and dissemination of materials, behavior change approaches are being used in most zones and provinces of the Dominican Republic, with a concentration in the east and south.
- *Strengthening of Alianza.* Through work in Phase III, Alianza acquired knowledge of behavior change and experience in coordination and attracting resources, and it increased and strengthened its ties to local organizations involved in health and water and sanitation. It is willing to offer technical assistance to other organizations and, at the time of writing, was involved in many training activities.

8.2. Challenges

EHP support concluded with the termination of the EHP II contract. The over-arching challenge for Alianza and other organizations involved in the Hato Mayor project is how to build on what has been achieved so that the enthusiasm and interest do not dissipate. Some coordinating mechanism is needed. Alianza is well qualified to play the role of coordinator but would need financial support. Other key challenges are listed below.

- *Difficulty of Establishing a Sustainable Network for Behavior Change.* The organizations that participated in training have strengthened their inter-institutional links, and the trained personnel have formed ties among them. These links and ties have created a nascent behavior change network. However, the network is not yet sustainable. A plan for making it so is needed.
- *Maintaining the Website.* To be effective, the website must be maintained so that electronic communication is possible among behavior change technicians and organizations.
- *Dissemination of Results of the Hato Mayor Experience.* The results of the Hato Mayor project should be disseminated to the academic community. University certification of the behavior change methodology would guarantee its continuity.
- *Assessment of Results.* The goal of the participatory assessments of the Hato Mayor effort was programmatic. If the goal instead were to evaluate the effectiveness of the behavior change program in the Dominican Republic and compare the approach to other hygiene promotion efforts, a rigorous external evaluation would be necessary. Such an evaluation would yield more reliable data and could be used to advocate for hygiene behavior change interventions.

8.3. Lessons Learned

- *Long-term success in strengthening an alliance depends upon continuity in funding.* In the Dominican Republic, the building blocks are in place for additional activities, scale up, and sustainability; however, the continuing functioning of the partnership and network for behavior change depends on maintaining donor interest as the alliance is strengthened. EHP expended considerable effort at the end of EHP II to identify alternative funding sources. At the time of writing, no donor had agreed to offer continuing support.
- *Participatory monitoring proved to be highly successful in keeping stakeholders engaged and increasing their vested interest in the progress of the hygiene behavior change activities.* Participatory monitoring involves stakeholders in the monitoring process — in this case, through direct involvement in three assessment surveys — thus building their skills. However, the decentralized management of the surveys resulted in compromises to the study design that limited the analysis and therefore the utility of the findings beyond the households included in the sample.
- *Implementers' skills in formative research and their commitment to using such research to design projects are heightened through hands-on experience in such research.* In the Hato Mayor project, formative research was conducted in a “learn-by-doing” style. Participants were involved directly in collecting and tabulating data and analyzing results.
- *Community involvement and the use of local artists in developing IEC materials increase the effectiveness of the materials.* In Hato Mayor, after determining through community visits the types of behavior change communication materials needed, a local artist was brought into the community for drafting sessions. Community volunteers guided the artist as sketches were produced and suggested modifications. The artist's sketches captured local dress and other features of the community.
- *Negotiated interviews with households are more strategic than the more typical promoter home visit.* The interview technique used in the project was a departure from home visits in which a promoter covers largely the same material in each household. Promoters using negotiated interviews attempt to obtain an agreement with the household to work toward specific goals. The promoter documents the agreements — in effect developing a customized plan for each household — and tracks progress on subsequent visits.
- *Success with the behavior change methodology depends on whether or not the methodology is understood and accepted as intrinsic to the health or water and sanitation project, not simply as a parallel activity.* Supervisors within implementing organizations who understand the novel characteristics and utility of the behavior change methodology will be more supportive of behavior change promotion. Communicating the behavior change concept to supervisors must be a high priority for project implementers.

- *Successful organizations adopt a different modus operandi to effectively use behavior change methodologies as an integral part of their approach to development.* They recognize that a substantial period of time is needed for individuals to adopt changes, take ownership of those changes, and remain faithful to them. They also are aware that the methodology requires a considerable amount of fieldwork and that implementers must be adequately trained. Thus, sufficient funding and time must be allocated so that the behavior change approach can be fully applied.