CARE
BANGLADESH

SANITATION & FAMILY EDUCATION (SAFE) PILOT PROJECT

FINAL REPORT ON THE QUALITATIVE ASSESSMENTS

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ACRONYMS

CODEC	Community Development Centre (local non-governmental organization)
DPHE	Department of Public Health Engineering
FE	Field Extensionist
FGD	Focus Group Discussion
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
KCP	Key Community Person
NGO	Non-Government Organization
PAL	Participatory Action Learning
PRA	Participatory Rural Appraisal
SAFE	Sanitation and Family Education Project
TWC	Tubewell Caretaker
VERC	Village Education Resource Center
VSC	Village Sanitation Centre
YPSA	Young Power in Social Action (a local non-governmental organization)

GLOSSARY

Hanging Latrine	Elevated latrine structure with an open area below allowing feces to fall into a pond, ditch, or on the ground.
Pit Latrine	A dug latrine with a 2-meter deep pit, a diameter of one and a half hands, a bamboo slab or squat area and a separate cover plate.
Sanitary Latrine	Similar to a pit latrine, but superior construction, often of brick and/or mortar, and with a larger pit.
Water Seal Latrine	Similar to a sanitary latrine but with a goose neck water seal slab/squat plate. Also called a "pour-flush" latrine.
Hygienic Latrine	A latrine that effectively isolates feces from the environment, that is a "sanitary", water seal, or pit latrine. Hanging latrines are not considered to be hygienic latrines.
Tubewell	A small diameter protected (sealed) well with a hand pump attached.
Tubewell Caretaker	Trained individuals (male or female) who maintain a tubewell (usually located adjacent to their house). The caretakers and their spouses provide hygiene education to village residents through group meetings.
Key Community Person	Individuals identified by each community as being important and influential persons, whom others listen to and respect. Also referred to as "key opinion leaders."
Thana	Administrative unit, based on a police jurisdiction area.

EXECUTIVE SUMMARY

CARE Bangladesh implemented a pilot project entitled the Sanitation and Family Education (SAFE) project in selected *thana* of Chittagong district. SAFE evolved from an earlier project, the Water and Sanitation/Hygiene (WASH/CARE) project, which was a post-cyclone relief effort following the devastating April 1991 cyclone. The WASH/CARE project mainly focussed on the rehabilitation and installation of water and sanitation hardware.

SAFE's objectives were to develop effective and replicable hygiene education strategies to promote behavioral change, to develop and assess different models for health and hygiene education outreach, and to design and implement a behavior-based monitoring system for the hygiene education program. To achieve this, two hygiene education models were implemented and assessed. The first examined outreach efforts through local tubewell caretakers and their spouses through group meetings. The second model explored ways to more widely disseminate SAFE interventions in the community through school programs, child-to-child activities, and by reaching men and key persons identified by the community.

The SAFE interventions were developed from data collected in complementary quantitative and qualitative assessments. These activities were also incorporated into a cycle of data collection, analysis, and formulation of further questions. Community members and field workers contributed to problem definition, solutions, and evaluations through qualitative assessments.

The purpose of the final qualitative assessment was to:

a. Help document successes and failures of the SAFE pilot project;

b. Describe and document the communities' perceptions and attitudes toward the SAFE pilot project;

c. Explore possible future refinements and strategies for hygiene education and community participation;

d. Further investigate quantitative findings; and,

e. Describe lessons learned.

The qualitative methods used during the final assessment included case studies, key informant interviews, focus group discussions, and observations. The use of these different methods provided a better understanding of actual behavior in the community rather than ideal behaviors that might be expressed during quantitative data collection.

CONCLUSIONS AND RECOMMENDATIONS:

Conclusions:

Using Quantitative and Qualitative Assessments:

The quantitative and qualitative assessments complemented each other well, and provided information to answer specific and clearly defined questions for evaluation of the project. They were also user-friendly, and allowed SAFE staff to interact better with community members, and participate more in project development, revision, monitoring, and evaluation.

Use of Multiple-Channels for Information Dissemination:

The use of multiple channels to disseminate interventions in communities appears to be a useful approach, and can help create a positive environment for hygiene behavior change to take place. It is, however, important to recognize and plan for time constraints or other factors that may limit the involvement of different community members in these efforts.

Activities targeting children in communities and schools appeared to be quite effective, and were strongly supported by the teachers, and enjoyed by the children. When compared to children in non-intervention areas, children in the intervention areas were better able to link specific unhygienic behaviors with diarrhea. Since ring/slab makers for latrines have direct contact with clients purchasing latrines, it may be important to include them in hygiene education initiatives. Sweepers may not be affordable, and are not readily available to community members, to help them deal with the problem of filled latrines.

Figure 1 Community children learn through games

Latrine Access and Use:

Though the decision to build a latrine was discussed in the household, the actual labor was often provided by women. The case studies suggest that the decision to build a hygienic latrine was made after community members had learned about the risk to health posed by hanging latrines. Also, the demonstration provided by SAFE on how to build the latrines seemed to be instrumental in their initial decision to construct the pit latrines. Usually, cost was not stated as a significant barrier for building a pit or water seal latrine. The hygienic disposal of feces, including how to deal with filled latrines, will need to be further examined so that viable solutions can be developed and tested with community members.

Recommendations for CARE:

a. SAFE provides an example of how NGO field staff, with relatively little or no previous experience with qualitative methods, can be trained to use a variety of simple field-based techniques to develop and improve program approaches. CARE may consider providing technical assistance in this area to other local NGOs implementing water and sanitation programs.

b. Further examination is needed to assess with SAFE staff the "process" approach used in SAFE of focussing on behaviors instead of messages. Since some respondents viewed SAFE as a "message delivery" project, a review of SAFE project staff understanding and perceptions of the hygiene behavior change process may be helpful.

c. If Key Community Persons (KCP) are used in future programs for intervention dissemination, the objectives and expectations of this approach will need to be clearly stated and understood by the KCPs, CARE field staff, and the community members before including this approach in future programs.

d. CARE should continue to promote the approach of working through multiple information dissemination channels at the community level. Further examination is needed regarding the timing of activities (such as group education meetings), and the burden they may place on specific community members.

e. Discussions with ring/slab makers should be carried out to further explore their ideas for addressing the problem of filled latrines, and to assess their possible role as disseminators of hygiene education to their customers.

f. Further assessment and analysis is needed with regards to the appropriate disposal of feces from latrines that have filled. This should be carried out with community members, to identify realistic community-based solutions.

g. Given the importance of the opinions of neighbors, the focus on the community health benefits of a clean environment should continue to be emphasized. In addition, the construction and use of hygienic latrines in communities can be encouraged by building upon and sharing the experiences of other community members who have installed and are using hygienic latrines.

h. In the school program, latrine use and hand washing after use, are areas needing additional focus and study. This would involve discussions with students and teachers, as well as providing teachers with technical assistance on how to conduct and facilitate participatory hygiene education sessions for their students.

i. The child-to-child approaches to promote hygiene education amongst children should be continued. This strategy may be improved by conducting informal monitoring of behavior changes in children to assess if there is a transfer of this knowledge into action. In addition, it may be worthwhile to explore how to promote an active exchange between children and their parents in terms of what children have learnt; and examining how children can influence behavior change at the household level.

Recommendations for Other Health Projects:

a. SAFE provides a good example of how qualitative methods can be tailored to a community-based project. NGO grass-roots fieldworkers can learn from the SAFE experience about how qualitative assessments can be used within project time constraints to improve the project in an ongoing and iterative fashion.

b. Use of qualitative methods during project design, intervention and evaluation allow project staff to establish direct contact with community members. This helps staff to develop rapport and build mutual respect between the community members (project beneficiaries) and project staff. It also provides more opportunity for input by community members in the development and implementation of a project. An additional benefit is that a high level of project staff involvement in key areas of project planning and improvement builds the commitment and interest of staff members in project strategies and activities.

c. Including qualitative assessments as part of a flexible behavior-based monitoring and evaluation system, can ensure that project interventions are modified to meet the expressed needs of the community. Some of the methods and tools used during the SAFE project that could be applied in other health projects include participatory rural appraisal, focus group discussions, in-depth interviews, case studies, direct observations of behaviors, as well as casual observations by project staff. These can provide important information, which can result in modifications of approaches and activities. The result is a program that is responsive to the needs of the beneficiaries.

1. INTRODUCTION

1.1 Background of the Project:

Since January 1993, CARE Bangladesh has been implementing a pilot project called Sanitation and Family Education (SAFE) project in two *thanas* of Chittagong district. This project evolved from the Water and Sanitation/Hygiene (WASH/CARE) project, a post-cyclone relief effort to provide safe water and sanitation systems to affected families following the devastating cyclone in April 1991. The WASH/CARE project focussed on repair of damaged tubewells, provision of new tubewells, and supply and construction of latrines to the areas with new or repaired tubewells. A limited hygiene education component was later provided in a few communities, and focussed on proper use of water, installation and use of latrines, and prevention of diarrheal diseases.

The goal of the SAFE pilot project is to provide hygiene and education training to improve the health and hygiene status in over 9,100 households through field extension and participatory methodologies. The primary objectives of the SAFE project are to:

i develop effective and replicable hygiene education outreach strategies to promote behavior change

ii. develop and assess different models for health and hygiene education outreach

iii. design and implement a behavior-based monitoring system for the health/hygiene education program.

The approach SAFE used to accomplish the pilot program objectives was to develop, implement, and assess, both quantitatively and qualitatively, two hygiene education outreach models. The first model (Model 1) involved outreach efforts through local tubewell caretakers and their spouses. These trained caretakers (men and women) provided hygiene education to other village residents through group meetings in their community. The second intervention (Model 2) utilized varied methods for dissemination of interventions to reach community members outside the areas covered by the tubewell caretakers. This model used multiple approaches to reinforce SAFE activities, including involving local schools and community leaders in addition to the caretakers, targeting men, and reaching out to non-school going children at the community level. The school component of the intervention used child-to-child, child-to-family and child-to-community approaches to broadly disseminate the interventions. Community leaders, key community persons (KCPs), were identified by other community members through participatory methods and were involved in developing and disseminating the SAFE hygiene education.

The individuals involved in this project included CARE personnel as well as community members.

- SAFE field extensionists (FEs) were recruited from within the thana or a nearby thana. The thirteen field extensionists provided insights on the basis of their observations in the field as well as providing health education, conducting courtyard hygiene education sessions, and health education sessions with school going and non-school children. The FEs used a variety of materials and methods to ensure that the relationships between health and hygiene with a focus on behavior change, (the fundamental SAFE process approach) would be understood as well as making the experience interesting and enjoyable for both adults and children in the community. Materials used during these courtyard sessions included flip charts, flash cards, hanging boards, colored chalk, comic stories, folk songs, and games (for the children). Methods for intervention dissemination included group discussions, role play, and participatory action learning (PAL). The PAL methods used during education session involved participants in a process of "learning by doing" through a variety of village-based activities.

- Tubewell caretakers (TWC) were selected over time through a variety of mechanisms including:

    1) Department of Public Health Engineering (DPHE)
    2) WASH/CARE
    3) Community Development Center (CODEC)
    4) Other NGOs or organizations

  Tubewell caretakers are individuals (men or women) who were selected from the community and trained to maintain and do simple repairs on the tubewell. Both the government (DPHE) and NGOs often expect the TWC to disseminate hygiene messages to families living in the catchment area of the tubewell.

  During the SAFE pilot project, TWCs in the Model 1 intervention area provided a more "conventional" outreach approach for hygiene education dissemination. They were trained by FEs and were expected to provide more effective courtyard education sessions for the households in their tubewell catchment area. In the Model 2 intervention area, the TWC provided the courtyard education sessions, but multiple channels of communication were also used, including school children in the community and community opinion leaders. A total of 265 TWCs were trained in the Model 1 and Model 2 intervention areas.

- Key community persons (KCPs) were identified by the community through participatory rural appraisal (PRA) methods using the community/social mapping tool. Community members created a map of their neighborhood or village to identify KCPs, or those people identified by each community as being important and influential individuals to whom other people listened, and respected. Using this method (PRA mapping), each community identified its own influential leaders in the communities. Individuals identified as KCPs were varied and included a tea shop owner, an elderly lady who sets broken bones, and a retired school master. Fifty KCPs (men and women) selected by the communities were trained in hygiene education and how to disseminate health and hygiene education messages to their communities. They were not expected to act as volunteers or outreach workers, but were targeted as repositories for information since they were identified as influential opinion leaders by their neighbors.

- Primary schools and high schools were selected in the Model 2 area for intervention dissemination through the public school system. The target groups for school children were those attending classes three through five for the primary schools, and classes six through ten for the high school levels. Eight primary schools and three high schools were selected for diffusion of hygiene education in the Model 2 intervention area. FEs provided training in classrooms through group discussions and interactive sessions with the children. Courtyard sessions outside the school involved the non-school children in activities such as folk songs, local games and role plays.

An important component of the pilot project was the ongoing behavior-based monitoring system to continuously assess and improve the hygiene education approaches utilized during the intervention activities. CARE collaborated closely with ICDDR,B (International Center for Diarrheal Disease Research, Bangladesh: an international research organization) to develop and analyze the monitoring and evaluation systems, to assess, adapt, and improve project activities and conduct a final evaluation (quantitative and qualitative) after one year of pilot project intervention.

1.2 Background of Qualitative Assessments in Project Design

The SAFE pilot project demonstrates the benefits of using qualitative assessments during various phases of project implementation. This inclusion of qualitative approaches at all stages of the SAFE pilot project allowed prompt revision and refining of the:

a) quantitative data collection instruments;

b) behavior-based monitoring system;

c) contents of SAFE interventions and activities; and

d) materials used in schools and community-based education sessions.

The integration of qualitative and quantitative approaches provides an iterative or repetitive cycle that allows project personnel to continuously revise, correct and expand previous information, and assess project progress.

Focussed ethnographic assessment and PRA provide tools that have evolved from traditional anthropological methodologies for use in program development and assessment (Scrimshaw and Hurtado 1987; Heaver 1992; Herman and Bentley 1992; Pelto and Pelto 1992). The use of qualitative techniques in program design and intervention ensures that results are incorporated into the project from the start of the program. As information accumulates, results can be incorporated into the initial project phase. Input of program managers and field staff from their experience using qualitative methods also ensures that their priority areas are included in the project development. A participatory approach introduces the field staff within the community to help build rapport as well as a sense of teamwork incorporating both the field staff and the community members (Griffiths 1992). Community participation can also provide information on what is valued by the community, which may be important to include in project interventions and motivation for behavioral change. For example, a sanitation project in Thailand was successful because the project field staff emphasized that religious merit would be earned by working to construct latrines near the temples (Paul 1969). It is important to understand the existing values and beliefs in a community in order to assure that interventions are consistent with local values and beliefs, and to build on them.

Qualitative assessments should complement the quantitative surveys (which generally provide a picture of "what" is happening in a community). The qualitative techniques help to answer the "why" and "how" questions raised in quantitative assessments, help clarify the cultural context and determinants, and provide specific information for a behavior change communication program. Qualitative and quantitative assessments should complement one another in an integrated cycle of information collection, analysis, and formulation of questions that need further information. These different techniques also provide overlapping and reinforcing information, which gives a better understanding of the local context, what is actually happening, and what is acceptable and realistic at the community level.

Final evaluation of a project should include multiple approaches to assess the health of the target group and their perceptions regarding the project. This provides a measure of both the health outcome of the project as well as the responsiveness of the program to the needs of the population (Whiteford 1991). Qualitative and quantitative studies are also important to assess any behavioral change that may take place during the project intervention.

The following definitions provide some description of the qualitative techniques used during the SAFE pilot project.

Case Study is a qualitative research method that provides a detailed analysis of a single "case". A case study tries to give the "whole story" of a particular event or situation. A case study could be as broad as a certain community, a culture, or (in this case) selected household members that were involved in a sanitation and hygiene education program.

Key informants are individuals who are knowledgeable about particular domains of culture and are able to communicate this. Thus the caretaker of a tubewell might be well-informed about water collection, while a mother might be well-informed about disposal of infant feces. Individuals vary in the type and level of knowledge.

Focus Group Discussions (FGD) involve interviewing a group of 6-10 individuals who are not previously known to each other, but who share a common characteristic. A typical example would be a focus group discussion with female tubewell caretakers about water use. The group context allows for new issues to be raised, and the participants stimulate each other to discuss the topic.

Group Interview are similar to Focus Group Discussions except the participants are usually known to each other. For example, a group of school students or field extensionists might constitute such a group.

Semi-structured Interviews entail the interviewer having a check-list of questions but lets respondents express themselves in their own terms, and records their responses in an open form rather than in a pre-coded format. The interviewer encourages respondents to expand on answers and explores them in depth. This allows the respondent to spontaneously raise issues and questions that might not have been predicted, but which are of direct relevance to the investigation.

Observation involves watching and recording particular behaviors in specific places, such as water collection at the tubewell for set periods of times at different intervals in a day. These can be structured or un-structured. In some cases a check list is prepared and spot checks are made of different sites. Instruments are designed to allow observers to record what they see.

Participatory Rural Appraisal (PRA)' Community Mapping : Community Mapping is a method which involves asking groups of respondents from a specific locality to draw a map using locally available resources such as a mud floor, beans and seeds or whatever is appropriate and easy to manipulate. The construction of a map of a locality can be the focal point for much discussion about the place and its community. It is a method that may rapidly yield information about an area and its population.

1.3 Summary of SAFE Initial Qualitative Assessments

SAFE interventions and approaches were developed from data collected through quantitative and qualitative assessments (Zeitlyn, et al., 1994; Bateman, et al., 1993). Qualitative assessments allowed both community members and SAFE field workers to jointly examine problems and develop solutions to further refine interventions. Qualitative techniques used during the initial assessment included key informant interviews, semi-structured interviews, focus group discussions, group interviews, observation (structured and unstructured) and participatory rural appraisal mapping (Zeitlyn, et al., 1994). The advantage of using these different methods was to distinguish between ideal behaviors and actual behaviors (what people say they do compared to what they actually practice).

The qualitative assessments also provided information to address the following objectives:

a) To define questions, terminology, and response categories for the baseline survey instrument;

b) To define the nature of the problems and to devise appropriate and effective interventions and strategies;

c) To answer questions raised by the baseline survey;

d) To facilitate community participation in the process of defining the problems and finding solutions; and

e) To identify who the community considers to be influential persons.

A. Defining Questions Terminology, and Response Categories for the Baseline Survey Instrument

- The qualitative assessments provided information about collection and storage of water, and community perceptions regarding the use of tubewell and pond water. The focus groups helped reveal the ideal behaviors, while the observation and interviews helped identify constraints and revealed the extent to which ideals are actually practiced in the community.

- Observation in households with young children (under two years of age) provided information on location and disposal of their feces. Interviews and focus group discussions with mothers and tubewell caretakers gave valuable information related to common beliefs and practices regarding diarrhea. This information was used to refine the quantitative baseline survey.

B. Defining the Problem and Devising Appropriate Interventions

- A pre-test of hand washing with mud or ash (low-cost alternatives to soap) was conducted which provided feedback on how they were perceived in the households. Field staff and community members described the advantages and disadvantages of each agent (mud and ash), and the practical ways they had adapted and modified the advice for use. An example of this direct feedback was that mud was associated with "worms and germs" while ash was seen as relatively "cleaner."

- Observation of hand washing practices demonstrated that hands were often dried in unhygienic ways (e.g., on a dirty sari). Focus group discussions with mothers provided feasible alternatives for hand drying (keep a special clean rag for hand drying).

- Tubewell caretakers, mothers, field extensionists, school children and teachers were interviewed to further explore how feces were disposed, latrine use by small children, and effective and acceptable alternative strategies. From this information, interventions on latrine use were defined, and later promoted in schools and the community.

- SAFE field extensionists who come from the intervention communities were also excellent key informants. They provided insight into revision of the interventions, making them more appropriate for their community. Their feedback also gave them a sense of ownership and highlighted their importance as part of the team responsible for the SAFE project development and refinement.

C. Answering Questions Raised by the Baseline Survey

- The qualitative assessment also provided answers to paradoxical findings from the quantitative baseline survey. For example, the baseline quantitative assessment showed that households further away from tubewells experienced less diarrhea than those located nearer the tubewell. To investigate why this may happen, observations and a small survey showed that the household members who lived near the tubewells appeared to be less careful about how the water was stored.

- Interviews with household members identified during the baseline evaluation as having constructed pit latrines prior to the SAFE project, provided information on the reasons why these individuals had done so. Household members that had constructed pit latrines at their own initiative, said that reduction of odor and contamination of the household environment were the advantages of pit latrines over hanging latrines. This information was incorporated into the interventions on sanitation promoted during the SAFE project in the communities.

D. Community Participation, Identifying Key Influential People in Each Community and Understanding the Beneficiaries' Perspective

- Community participation during the initial stages of the SAFE pilot project allowed community members to give input to the development of the intervention. Villagers created a map of their neighborhood which led to further discussion on topics related to hygiene and health. This community mapping also helped identify key persons (influential members of the community) who were individuals that others in the neighborhood identified as respected members of their community. This provided information on community opinion leaders, with whom the SAFE field staff could interact to encourage success of the project's strategies.

E. Conclusions from the Initial Qualitative Assessment

The qualitative component was useful because the design was flexible. When necessary, a number of different methods were used. Each focus group session addressed specific and clearly identified questions. The information was invaluable in refining and continuously improving the intervention.

Field workers were included as partners in the process. They knew that the findings directly influenced the key messages that they would disseminate. They were encouraged to make observations, ask questions, and reflect on the process. In fact, these casual observations often resulted in useful hypotheses. The data came from the community members, but the field workers helped refine its interpretation because of their relationship with the beneficiaries. Each member of the team clearly understood that their input was an important and necessary component of the project.

Also important was the involvement of senior staff in the qualitative data gathering process. This meant that field workers and beneficiaries gave it importance. They realized that key decision makers were actively interested in the questions being asked, and the responses.

1.4 Monitoring and Improvement of Project Interventions

SAFE's monitoring system is behavior-based and participatory. This system was developed with SAFE field staff under the guidance of ICDDR,B consultants. During data collection and analysis, the participation of community members was ensured. During the SAFE pilot project, problems related to the monitoring system were identified, solutions were developed and the system was revised through this repetitive process.

The qualitative assessments used during program monitoring and revision of interventions included:

- Focus Group Discussions
- Group Discussions
- Key Informant Interviews
- Observations

Key groups from the project and control areas were identified as the sample for these qualitative studies. The key groups included students, community children, mothers, teachers, members from households with latrines, key staff of local NGOs, latrine ring makers and sweepers (people who clean out latrines).

Examples of how qualitative approaches were used during the SAFE project for monitoring and improving implementation follow:

- Focus Group Discussions

  FGDs with male and female community members provided important input on intervention for further refinement. Community members offered practical suggestions such as designing a fixed defecation site for young children (3-5 years of age), rather than using an open area for defecation. The fixed site suggested was a small, dug hole, with two bricks for squatting, and responded to fears and concerns from mothers and children related to using a pit latrine. This revision was added to the SAFE intervention.

  FGDs with community mothers about hand drying indicated that the air drying of hands after washing was not accepted in the community (too time consuming). The community mothers instead, suggested a clean rag should be kept readily available in the household for hand drying. The SAFE hand drying information was refined according to the feedback from the community women.

  FGDs with members of households with pit latrines constructed after the SAFE intervention provided descriptions of their problems and solutions during construction. They gave suggestions for covering pits with plastic sheets, washing holes after use, how to maintain the roof, as well as other useful and practical suggestions. These were incorporated into the interventions and demonstrations.

- Group Discussions

  Group discussions with children provided an effective audience for field-testing the concept for the comic stories (Pushi and Bhulu) and games (Snakes and Ladders) used in the hygiene education sessions for children.

  Group discussions with adults also provided feedback for revision of educational materials. All the materials were pre-tested in the community, including flash cards, flip charts, posters, and folk songs. The community members actively led the group discussions (FEs act as facilitators) and generated discussion among themselves. Besides providing feedback on the training materials, the community members also taught and learned from each other during these pre-test sessions.

- Key Informant Interviews

  Multiple channels of information were monitored during the implementation period to assess their effectiveness. Discussions with school teachers during the SAFE pilot project period showed that teachers can tell children about the advantages of using latrines. The teachers felt it was important that parents be encouraged to take their children to the latrine to further emphasize their use. They also felt they (the teachers) could also teach children about the advantages of using latrines to provide additional emphasis on latrine use by the children.

- Observations

  SAFE field staff used direct observation to determine actual hygiene practices during the intervention period, to monitor affects of the project and determine changes or revisions that might be necessary for the program.

  Observations for periods of about three hours were conducted at ponds and tubewells to assess hygiene practices at these locations. The observations indicated that people were still engaging in some risky hygiene behaviors in the intervention area. From observing actual behavior near the ponds and tubewells, SAFE field staff realized that courtyard sessions would require more frequent monitoring to ensure that the hygiene education emphasized the relationships between behavior change and improved health.

  Observations also indicated that more emphasis needed to be given to highlight the use of mud, ash, or soap for hand washing and discourage open defecation by children. Increased emphasis and clarification on environmental cleanliness and contamination were included in the SAFE approach for interventions dissemination.

  Observations by field staff also indicated that feces from the fixed place for defecation by young children (from three to five years of age) were not being properly disposed. After this problem was observed, focus group discussions with mothers provided the feedback that they were willing to bury or cover the feces with ash.

  Casual observations of the community members during monthly field visits by field staff in addition to the formal quarterly monitoring, often provided information not included in the more structured data collection. For example, field workers noted that children were admonishing other children for defecating in the open rather than in an arranged, fixed site. The child-to-child activities provided momentum for the children to report activities and changes to the field workers on a casual basis.

The use of qualitative techniques provided rapid feedback to project personnel to allow for prompt revision of project activities. This ongoing monitoring and revision made SAFE an active rather than reactive project. The iterative monitoring and improvement activities during all phases of the pilot project period resulted in an intervention that was not static and waiting for a final evaluation, but active and amenable to refinements over the period of project implementation.

1.5 The Success of the SAFE Pilot: Results from the Final Quantitative Assessment:

Baseline and final surveys were done to evaluate the effects of the SAFE Pilot intervention on hygiene knowledge, hygiene behavior, and diarrhoea in children under age five. The Baseline Survey took place during the peak of the diarrhoea season in April and May 1993 (before the intervention began in August 1993), and the Final Survey was done during April and May 1994, after 3 rounds of SAFE intervention activities. The Baseline Survey showed that there were initially no significant differences between the intervention sites (where the SAFE intervention was implemented) and control areas (comparison communities with no SAFE intervention during this period). The Final Survey results revealed dramatic effects of the SAFE Pilot Project in the intervention areas. Both surveys included 720 households, 180 from each of the four study areas. The final quantitative survey findings are discussed in detail in a separate report (Bateman, et al., 1995).

TABLE 1
SAFE Pilot Project - Results of the Final Survey

		Model 1		Model 2	
		Intervention	Control	Intervention	Control
1.	Knowledge of causes of Diarrhoea ■ 6 or more causes known	84%[1]	0	100%	4%
2	Knowledge of Diarrhoea Prevention ■ 6 or more means of prevention known	90%	1%	100%	7%
3.	Reported Latrine Use ■ Mother, man, children>5 usually use a latrine	91%	54%	90%	58%
	■ Live in a community where >66% of all mothers, men & children >5 usually use a hygienic latrine	43%	10%	83%	0
4.	Observed Hand washing Technique ■ All 5 correct elements demonstrated	74%	3%	82%	16%
5.	Observed Environmental Cleanliness ■ Feces in yard (none) ■ Feces inside latrine (none)	99% 88%	82% 53%	99% 99%	76% 85%
6	Impact on Diarrhoea ■ Diarrhoea prevalent in at least one child in the household in the past 2 weeks.	23%	65%	20%	57%

[1] *Represents Percent of surveyed Households with the Characteristic.*

In summary, the results of the evaluation of the SAFE Pilot intervention showed that the SAFE approach to behavior change programming can have very significant beneficial effects on knowledge, behaviors, and risk of diarrhoea in children.

1.6 Purpose and Organization of the Final Qualitative Assessment Report

The purpose of the final qualitative assessment is to:

a. Help document successes and failures of the SAFE pilot project;

b. Describe and document the communities' perceptions and attitudes toward the SAFE pilot project;

c. Explore possible future refinements and strategies for hygiene education and community participation;

d. Further investigate quantitative findings; and,

e. Describe lessons learned.

The final evaluation also includes information provided by community members regarding how project objectives can be sustained and promoted through their continued involvement for improved hygiene behavior.

This report describes how information collected through multiple qualitative methodologies provided an assessment of the SAFE hygiene behavior change interventions. The first section of the report provides the background and synthesizes what the SAFE project did using qualitative techniques to develop the baseline questionnaire, refine the key interventions, materials and extension of the project. The following section of this report (section 2) briefly describes the methodologies used during the final qualitative evaluation.

Section three provides the actual results of the information collected using qualitative techniques for the final evaluation of the SAFE project. Finally, conclusions and recommendations are included in the last section of the report.

The remainder of this report concentrates on the final qualitative assessments of the SAFE pilot project. It should be again emphasized that, though this report focusses only on the final qualitative assessments, qualitative techniques were used throughout the project period.

1.7 Audience of this Report

This report gives a description of the range of qualitative techniques that can be applied by field staff to improve and refine key interventions. It also shows how qualitative assessments can complement quantitative data for an integrated and continuous cycle of feedback into project development.

The primary audience for this report are the staff of CARE Bangladesh, particularly those in the SAFE project. This report also provides useful information for program managers administering health education projects. It is meant to help demystify and clarify anthropological techniques, which can be adapted and used to define and refine health or other types of program interventions and techniques.

2. METHODOLOGY

2.1 Description of the Study Area

The SAFE pilot project area is in Chaturi union of Anwara *thana* and Saidpur union of Sitakunda *thana*. These areas are located near Chittagong city in southeastern Bangladesh. The major occupation of the 17 villages in these two unions is agriculture and the majority of the population is Muslim. This area was selected because the SAFE project built on the Water and Sanitation/Hygiene (WASH/CARE) project, a relief effort in Chittagong and Cox's Bazaar. The WASH project was in operation from August 1991 through December 1992 and its main objective was to provide safe water and sanitation systems to families affected by the April 1991 cyclone.

2.2 Preparation for Qualitative Assessments

The preparatory work for final qualitative assessments included, selection of tools, setting specific objectives for each technique used, development of guidelines and staff training on different techniques (e.g. case study, FGD, group interview).

After selection of the qualitative tools the objectives were specified and guidelines for SAFE staff who used the tools, were developed based on suggestions from the ICDDR,B consultants. The staff received training from the SAFE Project Coordinator on how to administer the qualitative techniques, and how to record and synthesize the information. On the basis of this training and a discussion meeting with senior project staff, several field staff were selected for data collection and an action plan was prepared for this purpose.

2.3 Rationale for Selection of the Qualitative Tools for Final Evaluation

The use of qualitative methods for the final evaluation was based on collection of information from different sources, in a variety of ways to understand the effect of the SAFE pilot project on the communities and their perceptions of the project. The qualitative studies helped to gather lessons learned by focussing on the perceptions of community members about the effect of the SAFE pilot project activities on their behaviors and practices. The following section describes the qualitative methods used during the final evaluation of the SAFE pilot project and explains why those particular tools were selected for specific tasks.

- Case study

  During the SAFE pilot project, FEs noted that some key community persons and tubewell caretakers were more effective than others. By using a case study approach to interview both effective and less-effective KCPs and tubewell caretakers, it was possible to understand factors that influenced individuals at the community level to participate in the project. Case studies provide in-depth information for a specific action or behavior to help explain factors that influenced that behavioral change.

Another example is based on findings from the final quantitative assessment (Bateman, et al., 1995) which indicated that a significant number of households had constructed pit or water seal latrines since the baseline assessment. These case studies provided the "whole story" of a particular event or situation. It was important to interview a sample of these households to understand why they built their latrines and what factors were related to that decision. For extension of successful interventions, it is essential to know why people change or modify their behavior and practices. Follow-up interviews using a case study approach with these households were essential. Conversely, a few households had constructed hanging latrines after the start of the project. It was also important to understand why these households still built hanging latrines despite the SAFE intervention program in their community.

- Key Informant Interview

Key informants are individuals who are knowledgeable about particular domains of culture and are able to communicate this. During the SAFE pilot project period, community members discussed the problems associated with latrine construction, including the cost and transportation of the rings for water seal latrines and the emptying of filled latrines. During the final qualitative evaluations, ring makers (who produce cement rings for water seal latrines) and Hindu sweepers (who traditionally empty filled latrines) were interviewed to better understand problems that village residents face when they construct and maintain latrines.

Interviews with coordinators or managers from other NGOs working in the study area provided information on other inputs (by NGOs) in the SAFE pilot project area that could have had some affect on the outcome of the SAFE intervention. During these interviews, the NGO key persons also discussed problems their NGOs faced regarding installation and maintenance of latrines.

- Focus Group Discussions

Focus group discussions were conducted with school children, teachers and mothers to assess their perceptions of the knowledge children gained during the SAFE intervention period. It was important to get feedback from children as well as adults to determine what children learned from the educational intervention. In a group, the participants stimulated each other to provide a range of ideas and perceptions from the different groups (mothers, teachers, children). Although the FGDs followed a guideline for discussion, there was scope for participants to introduce their areas of interest or concern regarding issues that arose during the discussion.

FGDs were also conducted with individuals from households that had constructed new water seal latrines. The final quantitative assessment (Bateman, et al., 1995) indicated that a large number of households in the Model 2 intervention area had constructed water seal latrines since the start of the SAFE initiative. FGDs with members from these particular households were conducted to collect information from this particular group of SAFE participants. It provided a forum for these individuals to discuss the factors that influenced their decision to build the new water seal latrines.

- Group Interviews

An effective approach to interview children is through the use of qualitative methods to avoid a very structured, "test-situation" approach. During the SAFE group interviews with school children, the group members were with their peers. We felt the school children were more likely to respond and discuss what they had learned or believed if they were approached in a more casual manner during interview sessions. Because the child-to-child hygiene education intervention was being implemented only in the Model 2 intervention area, it was important to hold the group discussions in several schools in both the intervention (Model 1 and Model 2) and control areas to compare the perceptions of these groups regarding hygiene education and practices.

A group discussion with SAFE pilot project staff provided lessons learned during the project period. The field staff discussed the different components of the project in a "brainstorming" session that allowed them to express what they had learned during the project period.

- Observation

School observations provided information about changes in hygiene practices and facilities at a sample of the schools in the study area. Direct observations give a relatively unbiased view of the real situation, rather than an individual interpretation of what may be (or should be) happening.

Figure 2 School observation

The use of the tools described above provided information from a variety of sources through a variety of methods. This technique is called triangulation, which requires collecting information from different sources in different ways to validate the data, strengthening the interpretation of results and evaluation of the overall project.

2.4 Sampling for the Qualitative Studies

This section gives a brief description of how individuals and groups were identified and selected for the various qualitative studies for final assessment of the SAFE pilot project.

- Case studies of Key Community Persons (KCPs)

  Discussions with the FEs provided information on individuals who spontaneously acted as a KCP; individuals identified as KCP at the start of the program but who worked less effectively; one male KCP; and one female KCP who worked well. These individuals were selected in the Model 2 intervention area from the list of names provided by the FEs. The project officer and training officer picked a random name from the list. Three case studies were conducted with the identified KCPs.

- Case studies of tubewell caretaker

  The FEs provided a list of names of tubewell caretakers who did not actively participate in the project activities as SAFE courtyard session leaders, and female and male caretakers who worked well. The project officer and training officer picked random names from the list. This provided three case studies of tubewell caretakers.

- Focus group discussions with newly built water seal latrine households

  The final quantitative survey indicated there was a surprisingly large number newly constructed (households with water seal latrines increasing from about 16% at baseline to 52% in the final survey) water seal latrines in the Model 2 intervention area (Anwara *thana*). To further explore this unexpected increase, four focus group discussions were conducted with members of households with newly constructed water seal latrines. Each focus group was comprised of four participants. One of the group discussions included only female participants while the other three focus groups included males.

- Case studies of latrine holders

  Results from the final quantitative survey provided a list of households where new latrines were built, including water seal latrines, pit latrines, and hanging latrines. A sample of five households with newly constructed hanging latrines were selected randomly from the list in the project area. Four households were selected from the list for case studies of newly built pit latrines and water seal latrines.

- Key informant interviews with ring latrine makers and sweepers

  Two ring latrine makers were randomly selected from each of the two project areas. These four ring latrine makers in the two study areas were interviewed.

  All the sweepers that could be located were interviewed. Only three sweepers were found in or near the project area and they were included in the assessment.

- Key informant interviews with NGO staff

  There are four other NGOs working on sanitation programs in the study area. These interviews were conducted with the manager or coordinator of each of the programs.

- Group interviews with school children

  A total of 12 group discussions were held with children from schools in the four study areas. Children from both the control and intervention areas from the Model 1 and Model 2 locations comprised the groups. The groups were stratified by age and sex. The group size ranged from 4 to 9 children, but most of the groups had 6 participants. Table 2 provides information on the composition of the 12 groups.

TABLE 2
Participants in 12 school children groups

Class	Male	Female	Area
3 - 5	1		Model 1 Intervention Area
6 - 8		1	
9 - 10	1		
3 - 5		1	Model 1 Control Area
6 - 8	1	1	
9 - 10			
3 - 5	1		Model 2 Intervention Area
6 - 8	1		
9 - 10		1	
3 - 5		1	Model 2 Control Area
6 - 8	1		
9 - 10		1	

- School Observations

  Three primary schools were randomly selected for observation during June 1994 in the Model 2 intervention area. Three primary schools in the Model 1 intervention area were randomly selected for observation during July 1994. One criteria (for the Model 2 intervention area) for inclusion of a primary school in the sample was that it was a school where SAFE provided latrines. This criteria was not applicable to Model 1 intervention and the control areas. SAFE FEs conducted the school observations.

- Focus Group Discussions with Teachers and Mothers

  Two focus groups with teachers were conducted in two primary schools in Model 2 intervention area. One group was comprised of four teachers while the second group had six teachers. The schools were selected because they were in the Model 2 intervention area where hygiene education sessions were conducted in the schools through didactic and participatory sessions. The FGDs were conducted by the FEs and the project development officer.

  Three focus group discussions were conducted with mothers of school going children and three FGDs were comprised of mothers of children not attending school. From four to six mothers participated in each of the group discussions in the Model 2 intervention area. These FGDs were also conducted by the FEs and the project development officer.

3. RESULTS

3.1 Case Studies with Key Community Persons (KCPs)

The objectives of case studies with the KCP(s) were:

① to get KCP suggestions for improving SAFE's activities and to find out what they think about the SAFE intervention; and

② to identify the factors accounting for why some KCPs participated effectively in SAFE activities while others did not.

Three case studies were done with the key community persons. The KCPs who were viewed by SAFE project staff as effective KCPs were very supportive of the SAFE pilot project. They were all considered to be in the lower middle to middle range of economic status in the village. They felt that since the project began, there were less feces found along the roadside. One of the KCPs built a pit latrine where he had previously used a hanging latrine. He said he used no money for construction of his latrine. Another KCP mentioned that when some religious people tried to resist the work of the SAFE project, he tried to help them understand the work and its benefits. When asked about the best time for their involvement with the program, they answered that the morning was a good time for their SAFE activities. The KCPs felt the folk songs and pictures were most effective, as well as enjoyable, during their training.

Two of the KCPs interviewed plan to continue dissemination of information after the SAFE project is finished.

- I will give the information that I learned. Your work will not be stopped after your departure.

- I will discuss with the village people about diarrhea prevention. I will talk with them jointly or separately.

The third KCP was a very poor woman who hawks (sells) goods in the village. Her family depends on the income she earns hawking goods and it is not possible for her to give her time for the SAFE project. She wants a job. She also was not able to answer many of the questions during the case study and was considered less effective as a disseminator of SAFE interventions.

3.2 Case Studies with Tubewell Caretakers

The objectives of case studies with the Tubewell Caretakers were:

① to get Tubewell Caretaker suggestions for improving SAFE's activities, and to find out what they think about the SAFE intervention; and

② to identify factors accounting for why some Tubewell Caretakers participated effectively in SAFE activities while others did not.

Three case studies were done with the tubewell caretakers. The two effective tubewell caretakers were from the low and the upper-middle economic groups. One of the TWC was a man, and the other a woman. Both had tubewells adjacent to their house. The woman was selected by the other villagers when CARE first went there for sinking the tubewell, while the man was selected by the Department of Public Health Engineering (DPHE) as the TWC. The man felt that sometimes the SAFE project work interfered with his time, especially his agricultural work. The woman TWC said the CARE session time sometimes hindered her household work. She felt that afternoon meetings (2:00-5:00 p.m.) were better for joining the meetings and returning home. Both of these TWCs constructed pit latrines at a cost of 100-150 taka ($2.50-$3.00 U.S.). Both felt that CARE should provide some latrines to the community as well as new health information to help the residents of their community. Both said they would continue to give information (what they learned from SAFE) after CARE pulls out of the area. The female TWC said she could meet the village women when they come for water collection from the tubewell in the evening. She plans to show the pictures she has during these sessions.

The less effective caretaker had a monthly income of 2500 taka ($62 U.S.). She was selected as a TWC because the tubewell was in front of her house and "everybody counts me as respectable." She said "SAFE health knowledge is not good." She did not feel good about sitting in meetings. Conversely, at the end of the interview, she said that the CARE people were better than other NGOs because "they give advice to the people to keep diseases away."

She said "CARE should provide ring latrines with the meetings then the community people would feel more interest." She felt work related to income generating activities would be better. One barrier to her effective work as a TWC is illustrated by her statement, "Due to my family problems I am not always able to help because my husband does not like it."

3.3 Case Studies with Latrine Holders

3.3.1 Pit Latrines

The objectives of case studies with the pit latrine holders were:

① to identify who built these latrines and what were the costs;

② to explore their perceptions of the benefits of building pit latrines; and

③ to explore their future plans for when the latrines fill up.

Two case studies of newly built (after SAFE project began) pit latrines provided more in-depth information about these households. Both had hanging latrines before construction of their pit latrines. One important point is that both of the latrines were dug by women of the household, not men. One man did provide instructions to the women. The decision to build the latrine was discussed in the household but actual labor was provided by women. When the women were asked why men did not help in the construction, they said the men would lose one to two days for construction and lose wages for those days. Thus, it was cost effective for women to dig the latrine and men to provide assistance at times that did not interfere with their work.

Both households said they built their latrines at no monetary cost. They had made their decision to build latrines after they learned through the SAFE project the risk of using hanging latrines. The demonstration provided by SAFE on how to build the latrines seemed to be instrumental in their initial decision to build their pit latrines. Although other organizations had told them the benefits of building a pit latrine, they did not demonstrate how to build them.

There were some reasons mentioned for continued motivation to use pit latrines:

1) They believe that their families, especially the children, now suffer less from diarrhea. One family said they spend less money on diarrhea medicine and for doctor's treatment now.

2) Both households feel they have gained respect from their neighbors and friends by constructing a pit latrine. They feel "honored by their relatives and neighbors "

3) There is less odor now that they have pit latrines.

One of the household heads is a shop owner who now tells his customers to build pit latrines because he is pleased with his latrine and its benefits to his family.

When they were asked what they would do when the pit latrine was full, the answer was, "Build a new one." One man planned to fill the old pit latrine with soil and plant a tree there because it would grow quickly.

3.3.2 Hanging Latrines

The objectives of case studies with the hanging latrine holders were:

① to understand why people built unhygienic latrines instead of hygienic latrines;

② to explore whether people are aware about the effects of unhygienic latrines; and

③ to examine whether SAFE's interventions were disseminated.

A small number of households (five) in the SAFE intervention areas had constructed hanging latrines during the project period. When the SAFE FEs went to these five households for the case study interviews, they found that members of one of the households had constructed a sanitary latrine two months prior to the visit; a second household had constructed a water seal latrine the previous month; and a third household had built a pit latrine beside the hanging latrine. Members from these three households (in addition to the two households still using hanging latrines) were asked about the hanging latrines they had constructed during the project period. Two of the respondents felt that it was better to use a fixed site than to defecate in an open area. The hanging latrines also helped them maintain privacy. This was in fact, partially consistent with SAFE behavioral goals, where the project promoted the use of any available latrine, as better than no latrine, and also focussed on the benefits of hygienic over hanging/unhygienic latrines. Also, two respondents said the toilets drain into a ditch and the feces are "mixed up with the land water so it does not harm health or the environment." Since the feces drain into the ditch, there is not a problem with odor.

Cost was cited as a basic constraint to construction of sanitary latrines by two of the households. "My relatives and neighbors told me about the benefit of a water seal and pit latrine. I replied (to them) that a sanitary latrine is good but I have nothing (money). How shall I install a good latrine?" A member in the second household said, "If the government helps us, we can build a latrine. It is not possible without the help of the government." These households knew the benefits of pit and water seal latrines including, "The cocks do not come in touch (contact) with the feces. Feces does not come in touch (contact) with the foot. Disease can't occur. Odor does not come." Although they knew the benefits, the cost of building a sanitary latrine was perceived as being prohibitive.

Two of the case studies had hanging latrines that drained directly onto the open ground. They said that odor was a problem and some of their neighbors complained about that. Also, the "chickens walk in the feces, then spread the feces and create diarrhea."

One of the women interviewed had not attended any of the SAFE-CARE health education sessions. She said she did not attend "because she had many tasks in her hands" but her neighbors said her mother-in-law did not allow her to attend the sessions.

3.3.3 Water Seal Latrines

The objectives of case studies with the water seal latrine holders were:

① to identify the costs and reasons behind building water seal latrines;

② to explore ways to encourage others to build hygienic latrines; and

③ to understand their plans for dealing with filled latrines.

Two case studies of newly built water seal latrine holders were conducted. Both of the households previously used hanging latrines they had constructed, but decided to build new water seal latrines after the wives of the household heads attended SAFE meetings. One man said the reason he built the latrine was because of the strong odor, embarrassment when relatives came to visit and because chickens spread the feces lying under the hanging latrine. The other household head said they constructed a water seal latrine after his wife told him that hanging latrines caused diarrhea in their family. Both men were convinced by their wives to build the new latrines.

The cost of the basic water seal latrine was about 600 taka ($15 U.S.) for the two households. One of the families built a tin and wood enclosure for the latrine which cost an additional 900 taka ($21 U.S.), including paid labor.

Both of the case study households said the feedback was positive from their neighbors. They were praised by their relatives and neighbors because the new latrines decreased the odor and the chickens spreading the feces from the previous hanging latrines. Members from one of the households had previously had a quarrel with their neighbors due to the spread of feces and the odor from their hanging latrine. The head of that household said, "Now my relatives and neighbors praise me and my wife for this water seal latrine."

Both of the case study households felt that the incidence of diarrhea was decreased in their families since they built the water seal latrines. There are no sweepers in either of the villages to empty the water seal latrines when they become full. One of the men said he would contact a sweeper if available at the *thana* headquarters to empty the latrine. He also thought that it might be less costly to install a new latrine rather than hire a sweeper. The other man plans to hire a sweeper from another area, about 6 kilometers from his village. He believed it would cost from 250-300 taka to have the sweeper clean out the feces. One of the men expressed his thanks to CARE (SAFE) because "they taught my wife about the necessity of the (sanitary) latrine and prevention of diarrhea and many other things. Before the CARE SAFE project, nobody came here to teach them about sanitation and hygiene. I can also see that open defecation by children beside the road is being reduced."

3.4 Discussions and Interviews Regarding Newly Built Water Seal Latrines

Preliminary analysis of the final quantitative assessment showed that there was a surprisingly high number of water seal latrines constructed in the Model 2 intervention area during the intervention period (Bateman, et al., 1995). The SAFE team felt it was important to investigate in more depth this interesting finding to determine if there were other inputs into the Model 2 intervention area extraneous to the SAFE program that influenced the construction of water seal latrines.

3.4.1 Focus Group Discussions - Newly Constructed Water Seal Latrines

The objectives of the FGDs with the newly constructed water seal latrine holders were:

① to understand why these households decided to build water seal latrines;

② to explore if there were ways to encourage other households to build them; and

② to explore what they plan to do when the latrines fill up with feces.

Four FGDs were conducted with newly constructed water seal latrine holders. Before these households constructed the water seal latrines, they all used an open latrine where a wooden log was placed over a ditch, drain, or hole. The advantages of using this type of open latrine was that there was no cost and, "After some years, you could plant a tree there like coconut or betel nut and the tree would grow very quickly." They were able to list several disadvantages during the discussion groups:

- During the rainy season, the latrine broke and the feces mixed with the water.
- Younger children are not able to use the open latrine.
- We felt embarrassed if any relative came to us.
- The open latrine was a main cause of diarrhea. It had a strong odor.
- The open latrine was difficult to use because insects came out. Insects grow in the feces.
- Chickens can go in and spread the feces.
- During the rain, frogs went into the latrine.

The group participants gave many reasons for building the new water seal latrines for use by their household members:

- The feces now can't come out and mix with the water.
- Children will not be attacked with diseases.
- Now, we do not feel shy when our relatives visit.
- Shahin Apa, Mahatab Bhai (from CARE) taught us why we should use a latrine. Children from school also told us to build a latrine.
- The water seal latrine takes less space and it doesn't create odor.

In all of the focus groups, the participants said they received their information about water seal latrines from SAFE staff. In one of the group discussions, they mentioned that they heard from their school children that latrines should be built to prevent diarrhea and keep the environment clean.

Regarding decision-making, there were many different individuals involved in the process of building the latrine. Many of the men said they took the decision after thorough discussion with their wives. Their wives had told them about the water seal latrines and encouraged them to build one for their family. One man said that his children insisted that he make the decision to build a latrine. From the focus group discussions, the wives seemed to be the most influential person on the decision to build the latrines. All members of the focus groups said it was a joint decision to begin construction. All focus groups mentioned that SAFE staff influenced their decision to build the latrines by teaching them about the problems associated with open latrines and open defecation.

The rings and slabs for the water seal latrines were purchased in Anwara and cost from 450 to 600 taka ($11.25 to $15.00 U.S.). The rings were transported to their homes by push cart at a cost from 50 to 100 taka ($1.25 to $2.50), depending on distance from the shop in Anwara. There was wide variation in the amount of additional money spent on enclosing the latrine and adding a roof. The costs ranged from 50 taka ($1.25) for bamboo and straw, to 1000 taka ($25.00) for 4 wooden pillars, tin and bamboo.

During the FGDs, the participants were asked why they thought other community members were not installing water seal latrines. They felt that lack of knowledge and money were the main reasons for not constructing the latrines. Also, some of the people just do not care or do not bother. Suggestions for ways to encourage people to build water seal latrines included that CARE should: 1) give them money, 2) provide latrines, and 3) give them knowledge. One group felt that building awareness in people regarding diarrhea prevention through the use of latrines would be the best way for CARE to help other community members.

Disposal of feces when latrines fill up was also discussed in the FGDs. Many of the households had no experience with a filled latrine and were not sure what they would do. Others said they pick up the slab of the latrine and dispose of the feces with a bucket in a ditch. Some of the women felt males should do this job because they (women) are busy cooking. In one group, they said you can dispose of feces by using a bucket and putting the feces in a hole. The hole must be covered by mud. One man said he "puts lime on the feces and thus the feces convert to mud. The feces water is absorbed by the mud and the latrine becomes empty." Another individual planned to make a hole near the latrine and let the feces drain out. After a few days, he would then seal the hole and the latrine would be empty. None of the participants in the focus groups knew of a sweeper who could empty the latrines. Some felt that sweepers only work for the government in town, not for private individuals.

Few of the participants were aware about lifting the latrine rings and slab for reinstallation. One man said the slab could be lifted but not the rings because they would be broken. It also requires time and cost for lifting the rings and slab.

3.4.2 Key Informant Interview - Newly Constructed Water Seal Latrines

The objectives of the key informant interviews with the newly constructed water seal latrine holder were:

① to identify the reasons and costs of building water seal latrines;

② to identify ways to encourage others to build hygienic latrines; and

③ to explore their plans for when the latrines fill up.

One man from the Model 2 intervention area who was interviewed individually, had received his water seal latrine at no cost from CARITAS. They transported the latrine to his house and he installed the latrine. He did not know why other people were not installing latrines and could not mention any disadvantages of using a water seal latrine. He said that when the latrine was full, he would "spray one kind of powder on the feces and the feces (amount) will go down. Then it is possible to reuse."

3.5 Interviews with Ring Latrine Makers and Sweepers

3.5.1 Key Informant Interviews with Ring Latrine Makers

The objectives of the key informant interviews with the ring latrine makers were:

① to gather information about the production of ring/slabs, status of the customers, installation problems, reasons for increase in their business;

② to get suggestions for emptying filled latrines; and

③ to review what they knew about the activities of NGOs in their areas.

Key informant interviews were conducted with four ring latrine makers. They can each produce from 100 to 300 rings and from 20 to 40 slabs per month. Their customers usually purchase a set of four or five rings and one slab. Each of the ring makers served different groups of clients. A ring maker in Model 1 intervention area served primarily poor villagers who are members of the Grameen Bank. The other ring maker interviewed provided rings in the Model 1 intervention area and said middle class people were his main customers. In the Model 2 intervention area, one ring maker said his customers were those with some land while the other said his customers were those who had the money to make the purchase. All of these men felt their business was increasing. Demand has increased due to increased knowledge regarding availability of rings and slabs and disease prevention.

Three of the ring makers did not mention any problems with installation of latrines, while the fourth ring maker said there can be some problem if the land for the installation is low-lying (high water levels). The main problems cited by the ring makers were the problems associated with emptying the latrines. The major suggestion they gave their clients was that a sweeper could empty the latrine when it is filled with waste.

Figure 3 Ring/slabs are made locally in the communities

When they were asked if the rings could be reinstalled, two of the ring makers suggested that it is best to stop using the latrine for 2 months. After that period of time "the feces will become mud, then it will be easy to remove the rings and reinstall them." One of the ring makers advises his customers "to make a hole and connect the latrine to the ditch by a pipe, by which they can use it for a long time." The final ring maker suggested that people could install another five ring latrine and connect it with the main latrine with a pipe to handle the overflow when the original latrine is full.

Two of the ring makers were aware that NGOs (CARE and CARITAS) were working in his area on sanitation and hygiene. Only one of them was aware of some of the specific activities of the NGOs. Most of the ring makers said their business had been increasing and thought it could be due to the work of CARE/SAFE or other NGOs in their area.

3.5.2 Key Informant Interviews with Sweepers

The objectives of the key informant interviews with the sweepers were:

① to know the availability of sweepers in project area and their cost to customers;

② to explore ways to use sweepers in communities; and

③ to identify the problems in emptying filled latrines.

The job of sweepers is to clean out feces from latrines and septic tanks. Because one of the problems related to latrine maintenance is disposal of feces, the sweepers were important key informants for assessing options for emptying filled latrines.

Three key informant interviews were conducted. No sweepers could be located in Anwara *thana* (Model 2 intervention area) but two were found in the Model 1 intervention area of Sitakunda. A third sweeper was interviewed in the adjacent *thana* of Patiya.

One of the sweepers was a man of 70 years of age who had been a sweeper for many years. He worked primarily for the nearby government officers' housing. The other 2 sweepers were younger, and were willing to travel further (with additional cost) and expand their services to empty latrines in villages of other *thana*.

The older sweeper (70 years of age) said there were no sweepers in the villages because there was no work in the village. His father had worked in Comilla town as a sweeper before him. He removes the feces by bucket from latrines and then buries the feces nearby the latrine.

Each had emptied from three to twelve latrines in the preceding 6 months. Their charges were from 200-500 taka ($5.00-$12.50) for emptying water seal latrines, to 1000-2000 taka ($25-$50 U.S.) for emptying a sanitary latrine and safety (septic) tank.

When the sweepers were asked what problems the villages have to reuse water seal latrines one said:

- People need money to reinstall new latrines. We (sweepers) take 200-300 taka for emptying and that's why it's difficult for villagers to reuse latrines.

None of the sweepers actively search for customers. One of the sweepers said, "I stay in the market. When any people need me, I go there." None of the sweepers were aware of any NGO sanitation activities in their area.

3.6 Qualitative Assessments of the School and Child-to-Child Program

3.6.1 Focus Group Discussions with School Teachers

The objectives of the focus group discussions with the school teachers were:

① to understand the views of school teachers on SAFE activities; and

② to get suggestions for improving SAFE's child-to-child approach.

Two focus group discussions were held with the teachers in two of the schools in the Model 2 intervention area (Chaturi Union). From four to six teachers participated in each of the FGDs These discussions helped SAFE staff assess the effectiveness of the child-to-child component of the project.

The teachers were asked about their views on CARE's sanitation program. The teachers were very supportive of the SAFE approach to education because it involved the children in the program through their child-to-child approach. Specific statements made by the teachers include:

- Other NGOs are not involved with the school. Children from six to seven years can learn hygiene education and use it in their day to day work.
- Earlier mothers did the teaching Now the children can teach The children are now themselves doctors.
- We (teachers) have learned after we were grown but they (children) have learned (about hygiene) at young ages.

Figure 4 Children learn by discussing amongst themselves in school sessions

Teachers in one of the schools felt the SAFE hygiene program should be formally added to the school syllabus. Currently, they are discussing the SAFE interventions with the students during the social science classes.

Before the SAFE project, the children usually defecated in the open areas in the fields or along the roads. Now, most of them use the latrines. In one of the schools, the key is kept in the library so the students must take the key and soap from there. In the other school, there is no soap or ash available and the students are using mud to clean their hands after using the latrine.

The feedback from the students included notifying the teachers of other students (by name) who had defecated in an open place. The children also say that due to financial problems, their families cannot install a latrine and it makes it difficult for them to follow the SAFE informations.

Regarding drinking water, the teachers said that all of the children drink tubewell water at the school now and use a glass for drinking instead of their hands. For hand washing, teachers in one school said the children never eat at school so they had not observed hand washing before eating. In the other school, the teachers noticed that the children do not wash their hands when eating peanuts but do wash their hands before eating rice. The students in one school had observed one of their teachers eating and said, "Why are you eating your pickle without washing your hands?"

The teachers felt the key persons to teach children hygiene behavior were the parents because they spend the most time with them. The mother was felt to be more important because she is closest with her child. Teachers in one of the groups felt that teachers were the second important key person to communicate hygiene messages for behavior change.

The teachers said the SAFE materials used in the schools were very attractive and effective. One group of teachers said that using Bhulu and Pushi and flash cards were very good methods. The other group of teachers said that the devil and elf pictures might also be effective because, "children are afraid of devils."

The two groups of teachers had several suggestions for improving the SAFE program:

a) It would be more effective if you conduct a meeting with the children and their mothers in a fixed place each month. The children must accompany their mothers.

b) CARE should hold discussions with teachers at the thana level. Then they could all start conducting sessions in their schools.

c) CARE staff need to come to our school from time to time.

d) When we (teachers) go to the villages to call for the students, then they can provide messages to their mothers. We can go with a group of students and the students could conduct the groups with the villagers.

3.6.2 Focus Group Discussions with Mothers of School Children

The objectives of the focus group discussions with the mothers of school children were:

① to know how children disseminate SAFE information to their mothers and others;

② to identify what behavior they (children) changed; and

③ to know mothers' views on SAFE's child-to-child program.

Three focus group discussions were held with the mothers of school children. All of the mothers in the three focus groups approved of the SAFE program and had learned how to prevent diarrhea. The mothers in all the focus groups heard feedback from their children about the information they were learning at school from the SAFE program.

- After coming from school, the children told us to defecate in the latrine and wash our hands before eating.

- Our children told us in their school they drew pictures of covered kolshis (water container) and tubewells. The children also told us how to clean the latrine and told us to stay clean.

- They told us about a funny game. They have a dog and cat. The dog is doing bad but the cat is doing good and doesn't get diarrhea. The children got this information after observing pictures.

In two of the groups, the mothers said the children were discussing what they had learned in school with their other siblings as well as their parents. All three groups mentioned changes in the sanitation and hygiene habits of their children.

- Little children defecate in a fixed place. Other (older) children defecate in the latrine.

- Children know how to use the latrine, how to wash their hands with soap or ash after defecation and why children should defecate in fixed place. You taught them, and that's why children know many things.

- Children have changed their habits. One girl told us she saw her younger sister defecating outside the latrine but the elder sister pulled her to the latrine.

The mothers in the discussions felt that children learning through games was a very effective approach for sanitation and hygiene education. The children not only learned, but also enjoyed the activity.

3.6.3 Focus Group Discussions with Mothers of Non-School Children

The objectives of the focus group discussions with the mothers of non-school children were:

① to know how children disseminate SAFE information to their mothers and others;

② to know what behavior they (children) changed; and

③ to get mothers views on SAFE's child-to-child program.

All of the mothers in the three focus groups knew about the SAFE program. Two groups said their children received the hygiene education information from the SAFE project. In one of the focus groups, the women said their children did not learn from SAFE but they (the mothers) learned from the FEs and then taught their children. One woman in that group mentioned that they learned the hygiene education from the CARE FEs (nobody else), and now males and females are sitting together to discuss among themselves.

Figure 5 Focus Group Discussion with mothers

Their comments about the SAFE program were:

- Previously, we did not know how to build pit latrines. (Now) mosquitoes, flies and chickens cannot come into contact with the feces.
- They (SAFE) tell children to cover rice and curry, to wash hands with soap or ash after using the latrine, to wash their hands before eating, and to dispose of feces in the latrine. Now we all follow these correctly. Now we do not have diseases.
- Children also told other children to wash their hands before eating and after defecation.
- My child has built a pit latrine.

The mothers said their children are sharing the informations they learn with their parents at night and with other children when they are playing together. Sometimes the children demonstrate good and bad works (practices) to teach others.

The mothers agreed that the sanitation and hygiene behavior of their children had changed since the beginning of the SAFE project.

- Earlier children defecated in open places. Now they defecate in the latrine. After defecation they are washing their hands. We (mothers) have also changed our habits.

- Previously they (children) were not clean. Now they stay clean and keep their clothes clean. They wash their hands with soap and water after using the latrine and wear sandals when they go to the latrine.

Only members of one of the focus groups knew about the child-to-child program of SAFE. They said the SAFE staff used the ludu game (snakes and ladders) to teach their children about using the latrine, washing their hands after defecation, and covering food to prevent diarrhea. The other two groups did not know of the child-to-child program and said they taught their children what they had learned from SAFE.

3.7 Group Discussions with School Children

The objectives of the group discussions with the school children were:

① to find out whether SAFE's child-to-child approach was effective; and

② to find out the knowledge and attitudes of children toward SAFE interventions.

Children in each of the group discussions were shown a picture of Julekha and her little brother, Rahim. They were told that Rahim wants to eat but their mother is busy. What should Julekha do? In total 12 group discussions were held with the children.

In all of the intervention groups in both Models 1 and 2, the children knew Julekha should wash her hands before feeding her brother. The children in the control groups said Julekha should feed her brother, but two of the groups did not mention washing her hands first.

The children were then shown a picture of children bathing in a pond with a cow also bathing in the water and an open latrine beside the pond. A child is also defecating beside the pond. All of the groups thought it was bad to do what was happening in the picture. They knew the latrine should not be built next to the pond and most knew the animals should not be bathed in the same pond the children were using for bathing. They felt the contaminating effects should be removed so the children could continue bathing safely in the pond. All of the groups, except one in the Model 2 control area mentioned that the latrine should be moved away from the pond.

Children in the groups were then shown a picture of children drinking from the tubewell directly from their hands. When they were asked what they should do before taking the tubewell water, all of the groups knew the behavior was "bad" but only the children from the two intervention areas linked this behavior as a cause of diarrhea.

All of the group discussions with children in the intervention areas knew about pit latrines and felt it was the responsibility of their parents to build the latrine. In the control areas, only one group out of six mentioned that they knew what a pit latrine was. The children in the group discussions in the intervention areas were aware of who was responsible in their household to clean the latrines. The individuals who they said were responsible for cleaning the latrines varied from parents, to mothers, older sisters, themselves, as well as a total family responsibility.

A picture showing a mother instructing children to defecate in a fixed place was shown for discussion. The children in the groups from the intervention areas felt the advantage of using this fixed location prevented the spread of feces and disposal was easier. They felt the mother or an elder sister should take the child to the fixed defecation site. Children in the control groups understood the picture but could not explain any advantages except there was no need to clean the site.

Regarding who in the household is responsible for family hygiene (covering food, covering water, washing hands), children in the intervention groups felt it was the job of older siblings as well as a joint family responsibility. Older students (high school) tended to think it was the mother's and elder sister's responsibility, "a part of their basic work." Some did not feel it was the father or elder brother's responsibility since they do not serve food to family members. Children in the control areas viewed family hygiene as the responsibility of only the mother or elder sister.

3.8 Observations in Schools

The objectives of school observations were:

① to find out whether the water and sanitation facilities were accessible to the students; and

② to find out the effectiveness of SAFE's school programs.

Observations at schools in Model 1 and Model 2 intervention and control areas provided direct observation of hygiene behaviors at the schools. The observations began at the start of the school day and continued until the last class ended. FEs noted occurrences of specific behaviors related to sanitation and hygiene during the specified observation period.

All of the 12 schools (primary and high schools) had at least one sanitary or water seal latrine. Only three of the schools had locked latrines and two of these were schools where there were two latrines. In the schools with two latrines, the locked latrine was the one used by the teachers, and the students used a separate latrine that was unlocked. One school in the Model 2 control area had a locked latrine that was not used by students or teachers during the observation period.

Nine of the schools had tubewells on the school grounds but two of these were not functioning. It is important to note that one of the tubewells that was not working was in Model 1 control area where 20 students, 3 teachers and 4 outsiders (from a nearby store or tea stall) used the latrine with no facility to wash their hands. Soap or ash was available for hand washing in all three schools in the Model 2 intervention area and one school in the Model 1 intervention areas. None of the other schools had soap or ash available. The Model 2 intervention area is the only area where children were observed washing their hands with soap or ash after using the latrine, instead of just water or no hand washing.

In two of the schools in the Model 1 intervention area and one of the schools in the Model 2 control area, children were observed washing their dirty hands after playing. None of the children in the other nine schools washed their hands after playing. Similarly, in the Model 2 intervention schools, the children were observed more often washing their hands before drinking tubewell water than in the other schools.

Open feces were observed inside of the school area in only one of the twelve schools. This school was in the Model 2 control area. Open feces were not observed lying near the latrines in any of the 12 schools during the observation periods.

Lastly, it is interesting to note that sanitation posters were only displayed in the three Model 2 intervention schools. No sanitation or hygiene posters were observed in the other nine schools.

3.9 Interviews with Key Individuals of other NGOs Working in the Study Areas

The objectives of the interviews with the key individuals of other NGOs working in the intervention areas were:

① to identify existing hygiene education activities of NGOs and their implementation problems;

② to find out ways to forge partnership activities; and

③ to know their views on how to deal with filled latrines.

Four interviews were conducted with the people of 4 NGOs. The manager of Young Power in Social Action (YPSA) was interviewed. YPSA provides shallow tubewells with the assistance of the NGO Forum. They find that space is the problem in sinking tubewells. They operate in the Model 1 study area of the SAFE project. They plan to soon begin producing and distributing water seal latrines through the Village Sanitation Centre (VSC) of the NGO forum. They are "providing a few primary health care messages and are motivating people to use sanitary latrines." They are trying to develop their education, follow-up and monitoring system with the help of the NGO forum. For disposal of feces when the latrines fill up, they suggested using sweepers.

An individual in charge of the Community Development Centre (CODEC) said they are sinking tubewells that are provided by other organizations (NGO Forum, DPHE). They are also providing health education and health messages to their beneficiaries but are not using training materials. As mentioned by YPSA, they also have trouble finding space for sinking tubewells. They also have problems with individuals breaking the water seal latrines when the goose neck becomes clogged. They did not know how a latrine could be emptied but suggested leaving the latrine open for a few days so the feces become mud; then, the feces can be disposed of easily or the upper ring and slab can be reinstalled. CODEC does not have a monitoring system but believes it is essential. They think that the SAFE monitoring system is excellent.

The coordinator of Sarbik Manob Unnayn Sangathan (funded by CARITAS) said their organization provides primary health care education focussed on diarrhea and immunization Their staff provides training to group members in the credit and other program activities. They have provided 20 tubewells to their beneficiaries and provide water seal latrines at 20% of the cost, with CARITAS supplies the remaining 80% Some problems they face are that the beneficiaries leave the ring and slabs in the yard without installing them. Also, because they are involved in their credit program, it is difficult to pay more attention to health training. For emptying latrines, they felt it is more expensive to hire a sweeper than to build a new latrine. They suggest waiting until after the rainy season, which would make it easy to pick up the ring and slab from the dried latrine. They would like to sit with other NGOs to coordinate planning and activities related to water and sanitation.

The assistant project coordinator of Village Education Resource Center (VERC) said his organization installs tubewells and they later plan to distribute water seal latrines. They are teaching hygiene education along with providing loans. They "motivate people to build sanitary latrines and ditch latrines." They face the problem of the villagers breaking the water seal latrines. They did not know how to dispose of feces from filled latrines but felt the slabs could be reused. They are interested in discussing collaboration with the SAFE program.

3.10 Lessons Learned and Feedback of the Project from SAFE Staff

The objective of this exercise was to review, document and analyze the important lessons learned from SAFE pilot initiative.

A group discussion with SAFE staff at the end of the implementation project period (June 1994) provided some lessons learned during the SAFE pilot project. The SAFE staff felt the strong points of their project were:

Figure 6 Focus Group Discussion with field staff

- Through the use of qualitative techniques during the project, they learned the reality of hygiene behavior from the community members. They learned needs of the community through FGDs, in depth interviews, observation of behaviors and case studies.

- They were able to pre-test the messages with the FEs and caretakers who provided valuable input and comments regarding the interventions (i.e., washing hands with ash or mud).

- They were very encouraged by the innovative approach of their SAFE child-to-child activities, particularly with school going children.

- SAFE staff felt monitoring of the project activities by assessing the improvement or impact on the beneficiaries was an effective approach. Instead of assessing staff performance, they learned qualitative monitoring of the sanitation and hygiene behavior of the community members. Another important point was the community members were also involved in the development of monitoring tools as well as the monitoring process.

- SAFE staff felt that in the pilot project, capacity of all level of staff improved because they were using new techniques and approaches that involved the grass root level staff up to the supervisory level. They felt open discussion between all levels of SAFE strengthened the project.

4. CONCLUSIONS AND RECOMMENDATIONS:

4.1 Conclusions:

Using Quantitative and Qualitative Assessments:

The quantitative and qualitative assessments complemented each other well, and provided information to answer specific and clearly defined questions for evaluation of the project. Qualitative assessments were an ongoing and very useful component of the SAFE pilot project, and allowed SAFE staff to use a variety of simple methods to assess project progress and problems. This process allowed SAFE staff to become more involved in the project cycle, including project development, revision, monitoring, and evaluation. Through the use of these methods, field staff were able to provide useful insight into problems being faced, and to develop realistic solutions with community members. This clearly encouraged their continued interest, and active involvement in the project. Responses from a few project participants indicated that there may be a perception of SAFE delivering "messages" on hygienic education, despite the fact that SAFE seeks to emphasize a participatory process of hygiene behavior change based on understanding the relationships between health and behaviors. This issue will need to be further examined with SAFE staff.

Experience with qualitative assessments encouraged field staff to informally observe and collect information on an ongoing basis. Findings were regularly shared and discussed with other staff, and with community members. Staff recorded their observations in a notebook, and may have benefitted from a simple guideline or basic framework to give structure to these ad-hoc observations. For the planned assessments (quarterly and final qualitative assessments), external support from an anthropologist was useful in framing the questions and developing the methodology and tools. Field staff also needed close guidance on how to record and synthesize information, and how to process the findings for further improvement of the intervention. It helped to have systematic technical guidance for the qualitative assessment component of the project.

Use of Multiple-Channels for Communication:

The use of multiple channels to disseminate interventions in communities appears to be an effective approach, which can support and build upon efforts made by the tubewell caretakers. The assessments described in this report suggest that the tubewell caretakers and key community persons viewed as "effective" by SAFE project staff, devoted extra time to disseminate hygiene education into their communities, or took special initiatives such as helping to dispel religious opposition to project activities or building hygienic latrines for their personal use. While these individuals can play an important role in creating a positive environment for hygiene behavior change in their communities, it is important to recognize and plan for time constraints or other factors that may limit their involvement in these efforts. In general, the assessments suggest that importance was given to the opinions of neighbors, where respondents were pleased when other community members recognized their efforts to maintain a clean environment.

Activities targeting children in communities and schools appeared to be quite effective, and were strongly supported by the teachers, and enjoyed by the children. However, formally adding these components into the school curriculum may not be practical or possible, given the complexity of making such changes within the Government's Ministry of Education. Mothers of school children were impressed with the feedback from their children; but mothers of non-school children did not appear to receive as much reaction from their children about the hygiene education they received in the courtyard sessions. It is important to note that, compared to children in non-intervention areas, children in the intervention areas were able to discuss in more detail the unhygienic behaviors portrayed in the pictures, and were better able to link specific unhygienic behaviors with diarrhea.

Since ring/slab makers for latrines have direct contact with clients purchasing latrines, it may be important to also include them in hygiene education initiatives. Ring/slab makers appear to be doing good business in the areas interviewed, which may be the result of the SAFE project creating community demand for hygienic latrines. Not surprisingly, most of the ring/slab makers thought that building new latrines was the easiest way to deal with the problem of filled latrines. Some of the ring/slab makers promoted unhygienic disposal of feces from filled latrines (e.g., making a hole in the latrine for feces to drain out in the open), and others believed that sweepers were available to empty the latrines. However, it also appears that sweepers may not be affordable, and are not readily available to community members, to help them deal with the problem of filled latrines.

Latrine Access and Use:

The case studies showed that though the decision to build a latrine was discussed in the household, the actual labor was often provided by women. The case studies also suggest that the decision to build a hygienic latrine was made after these community members had learned about the risk to health posed by hanging latrines. Also, the demonstration provided by SAFE on how to build the latrines seemed to be instrumental in their initial decision to build the pit latrines. Although other organizations had told community members about the benefits of a pit latrine, they did not actually show them how to build one.

Even though many of those interviewed said they had built their hygienic latrine at little or no cost, some cited cost as a barrier for building a pit or water seal latrine. Interestingly, a few community members had built hanging latrines (again, saying that cost was a factor in this choice) after exposure to the SAFE intervention, since they believed it was preferable to open defecation by household members. The SAFE intervention emphasized incremental improvements moving from a situation of open defecation, to the use of any available latrine, and ultimately to a situation where all family members use a hygienic latrine. It is therefore important that in cases where households may be able to build a new latrine, that community members fully understand the advantages and options for building a hygienic latrine, (rather than an unhygienic latrine) with a similar level of investment. Households with water seal latrines often had problems with the goose-neck, and broke it or added a pipe to drain the feces into a nearby ditch.

In general, the hygienic disposal of feces, including how to deal with filled latrines, remain a challenge. Also, the available technology (e.g., goosenecks) needs further improvement to best suit the needs of communities. These areas will need to be further examined so that viable solutions can be developed and tested with community members.

4.2 Recommendations for CARE:

a. SAFE is a good example of a process where NGO field staff, with relatively little or no previous experience with qualitative methods, can be trained to use a variety of simple field-based techniques to develop and improve program approaches. This is an important learning for CARE, and should be applied in other health projects.

CARE could provide technical assistance to help NGOs in the SAFE project area develop and improve hygiene behavior change programs relevant to their projects. This technical assistance to NGOs would be a logical next step for CARE, given its experience and success with these approaches. It would also complement the NGO activities, since most are involved in simply providing latrines and/or tubewells to communities. These NGOs have also expressed interest in collaborative work with CARE in hygiene and sanitation activities.

b. Further examination is needed to assess with SAFE staff the "process" approach used in SAFE of focussing on behaviors instead of messages. Since some respondents viewed SAFE as a "message delivery" project, a review of SAFE project staff understanding and perceptions of the hygiene behavior change process may be helpful. It may be useful at this point to re-visit and discuss the approaches used in SAFE, and the related objectives and rationale, as compared and contrasted with the more usual and prevalent "message dissemination" approaches used in other hygiene education programs.

Related to this, field staff may benefit from more orientation on the planning, follow-up, and processing of findings from the qualitative assessments. This may help to increase their understanding of how this component contributes to the approach of examining relationships between behaviors and health.

c. Further exploration is needed to determine the effectiveness of involving KCPs in intervention dissemination into communities. Though the KCPs were identified by other community members, there is a need to examine how KCPs are perceived by their neighbors in terms of their role in information dissemination. If this approach is used in future programs, the objectives and expectations of the KCPs will need to be clearly stated and understood by the KCPs, CARE field staff, and other community members before including this approach in future programs.

d. CARE should continue to promote the approach of working through multiple information dissemination channels at the community level. Further examination is needed regarding the timing of activities (such as group education meetings), and the burden they may place on specific community members.

e. Discussions with ring/slab makers should be carried out to further explore their ideas for addressing the problem of filled latrines. Also, in-depth interviews and observations with ring/slab makers could be carried out to assess their possible role as disseminators of hygiene education to their customers. It may be important to target ring/slab makers for hygiene education, to prevent the spread of misinformation to their clients, particularly with regards to the disposal of feces from filled latrines.

f. Further assessment and analysis is needed with regards to the appropriate disposal of feces from latrines that have filled. This should be carried out with community members, to identify realistic community-based solutions. Some specific ways in which this may be done could include:

- identifying community members who have successfully tackled this problem, and conducting in-depth interviews with them to determine how they had resolved this;
- conducting group discussions with community members who have built and are using hygienic latrines, to assess how they plan to practically address this issue; and follow up with observations to gain insight into what actually happens in these cases; and
- exploring with community members feasible alternatives to using sweepers to empty filled latrines. At this point, sweepers do not seem to be a viable option given the fact that they are few in number, and not readily available or affordable to the villagers.

g. Given the importance of the opinions of neighbors, the focus on community health benefits of a clean environment should continue to be emphasized. In addition, the construction and use of hygienic latrines in communities can be encouraged by:

- using peer educators to present their experiences with constructing and using a pit latrine to other community members without latrines;
- sharing the experiences of individuals who built their latrine at very little or not cost, to promote discussions with community members who say that economic problems prevent them from building a pit latrine; and
- continuing to increase the awareness of women regarding the benefits of a pit or water seal latrine, along with their role in influencing family members to change their hygiene behaviors (since women seem to be very influential in the family decision to build new latrines, and often provided the labor to construct the latrine).

h. In the school program, latrine use and hand washing after use, are areas needing additional focus and study. More specifically:

- o further discussion with students and teachers is needed to identify and develop strategies to improve the access, use, and maintenance of latrines in schools; and

- o Teachers would also benefit from technical assistance on how to conduct the hygiene education sessions, to ensure that children enjoy these interactions, and better understand the important relationships between specific hygiene behaviors and health.

i. The child-to-child approaches to promote hygiene education amongst children should be continued. This channel of education seems one of the most important, and may, ultimately have a long-term effect on hygiene behavior change. This strategy may be improved by:

- o conducting informal monitoring of behavior changes in children, to assess if there is a transfer of this knowledge into action.

- o exploring how to promote an active exchange between children and their parents in terms of what children have learnt; and examining how children can influence behavior change at the household level.

4.3 Recommendations for Other Health Projects:

a SAFE provides a good example of how qualitative methods can be tailored to a community-based project. Grass roots fieldworkers can be trained to use these methods within the project time constraints to improve the project in an ongoing and iterative fashion. If the project staff are not experienced in these methods, they may learn from SAFE about how qualitative methods can complement quantitative assessments to provide an ongoing cycle of improvement of program activities. Limited external technical assistance may also help build field staff skills in particular areas; and in the case of SAFE, CARE hired the services of a social anthropologist for a total of about four weeks, to provide technical guidance on the application and analysis of qualitative methods.

b An important benefit of using qualitative methods during project design, implementation and evaluation is that project staff are in direct contact with community members. This direct contact helps to develop rapport and build mutual respect between the community members (project beneficiaries) and project staff. It also provides more opportunity for input by community members in the development and implementation of a project. An additional benefit is that a high level of project staff involvement in key areas of project planning and improvement builds the commitment and interest of staff members in project strategies and activities.

c. Including qualitative assessments as part of a flexible behavior-based monitoring and evaluation system, can ensure that project interventions are modified to meet the expressed needs of the community. Some of the methods and tools used during the SAFE project that could be applied in other health projects include participatory rural appraisal, focus group discussions, in-depth interviews, case studies, direct observations of behaviors, as well as casual observations by project staff. These can provide important information, which can result in modifications of approaches and activities. The result is a program that is responsive to the needs of the beneficiaries.

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