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SUMMARY REPORT
OF TECHNICAL ASSISTANCE TO
SAVE THE CHILDREN

EGYPT

WASH Field Report No. 454
December 1994

**WATER AND
SANITATION for
HEALTH
PROJECT**

Sponsored by the U.S. Agency for International Development
Operated by CDM and Associates

WASH Field Report No. 454

**Summary Report
of Technical Assistance to Save the Children/Egypt**

Prepared for the USAID Mission to Egypt
under WASH Task No. 548

by:

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May Yacoob

December 1994

Water and Sanitation for Health Project
Contract No. DPE-5973-Z-00-8-001-00, Project No. 936-5973
is sponsored by the Bureau for Global Programs, Field Support, and Research
Office of Health and Nutrition
U.S. Agency for International Development
Washington, D.C. 20523

RELATED WASH REPORTS

Hygiene Education Training Manual: A Skill Development Guide. December 1994. Prepared by Samiha El Katsha, Nirvana Khadr, and Esmet Kheir. (Project on Water and Environmental Sanitation in Some Villages in Upper Egypt.) Cairo: Save the Children.

A Training Guide on Hygiene Education. 1990. Graeme Frelick and Sarah Fry. WASH Technical Report No. 60. Arlington, Va.: WASH Project.

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ACRONYMS

DIP	Detailed Implementation Plan
EFO	Egypt Field Office
EHP	Environmental Health Project
NGO	nongovernmental organization
PVO	private voluntary organization
USAID	United States Agency for International Development
WASH	Water and Sanitation for Health Project

EXECUTIVE SUMMARY

Save the Children is implementing a water and sanitation project in Upper Egypt. The project, funded for three years (1993-1996) by USAID/Egypt, is designed to serve the outlying poorest communities in the governorates of Assiut, Sohag, and Qena. Save the Children's strategy is to focus the project on community development, actively involving the communities themselves in implementation of the project. Save the Children also hopes that, with success, local and international nongovernmental organizations (NGOs) will replicate the project in other areas. The overall goal of the water and sanitation project is to improve the health and well-being of women and children. The project aims to improve the quality of water used in households and thereby reduce the incidence of diarrheal diseases in children.

In late 1992, Save the Children sought technical assistance in developing its own staff capability in hygiene education, one of the major aspects of the upcoming water and sanitation project. To meet this request, USAID/Egypt authorized the Water and Sanitation for Health (WASH) Project to provide staff training in the delivery of health education in villages, to assist in the development of a health education manual for use in the project in Egypt, and to help in collaboration with other NGOs in Egypt and other Save the Children staff in the Middle East to expand the capabilities in village health education efforts. Various delays arose, and the WASH Project eventually provided consultant support in 1994. This report describes the array of services and technical assistance which WASH provided to Save the Children/Egypt.

To meet the purpose of the project, WASH consultants assisted in four health education interventions:

- March-April: Review and revision of the Detailed Implementation Plan; facilitation of a hygiene education workshop for Save the Children staff. (Result: outline of suggested health education training manual)
- May: Conduct a team-building workshop for newly recruited Save the Children staff
- November: Conduct a field-level review of the draft Health Education Training Manual
- December: Assist in design and facilitate a workshop for Save the Children staff and representatives of other NGOs on Integrated Water, Sanitation, and Health Education (integration of hygiene education into overall project activities)

Major outcomes of the WASH consultant activities include the following:

- A common agreement was arrived at for Save the Children's needs in hygiene education. This agreement led to the production of a hygiene education manual specific to the needs of Save the Children field staff.

- With the consultants' help and discussions at the workshops, Save the Children staff became more aware of gender issues surrounding household water and sanitation—both specific household tasks and broader decision-making powers within families. In Egypt (as in any country), issues around gender sensitivity have an important bearing on the design and implementation of hygiene education activities. As a result of discussions on this topic, Save the Children is actively recruiting male health educators and female engineers.
- Hygiene education training around water and sanitation expanded the awareness of project field staff so that they observed that intestinal as well as hook worms are a serious problem in the project communities. Thus hygiene education activities in the project were expanded to include the washing of vegetables and disposal of household wastewater into the septic systems.

Through the services of WASH technical consultants, Save the Children field staff were provided with a strategy for implementing an effective, integrated water, sanitation, and health project. The overall goal of the WASH interventions was met: better integration among the three project elements--health education, community development, and construction.

Chapter 1

INTRODUCTION

1.1 Background

In 1992, Save the Children was well underway in planning a water and sanitation project to serve the outlying poorest communities in the governorates of Assiut, Sohag, and Qena and Aswan in Upper Egypt. The project had 3-year funding from the United States Agency for International Development (USAID/Egypt). Save the Children's strategy was to use the Water and Sanitation Project for promotion of community development, including the communities in implementation and working toward linkages with local and international nongovernmental organizations (NGOs) to replicate the project.

The goal of the Water and Sanitation Project was to improve the health and well-being of women and children. To reduce the incidence of diarrheal diseases among children, the project aimed to improve the quality of water used in households. Save the Children director, Dr. Attallah Kuttab, an environmental engineer, and USAID engineer, Mr. James Fanckiewicz, reviewed and tested a number of technologies for use in households. They decided on sand filters for water and septic tanks for wastewater and excreta disposal.

Save the Children and USAID were very clear that meeting the objective of health improvements required more than just using appropriate technologies. Hygienic health behaviors were recognized as an important aspect of the project. In response to this need, WASH staff members held extensive discussions in 1992 with USAID/Cairo and the Save the Children director to outline three workshops to build the capability within the Save the Children project for hygiene education in water and sanitation:

- *Project start-up workshop.*
- *Training-of-trainers workshop* (to train village-level workers in techniques of planning and managing an entire training event).
- *Hygiene education workshop* (to provide the content and the process for determining hygiene improvements at the community).

1.2 Project Activities

Various delays, on the part of Save the Children and WASH, lasted almost 12 months. During this period, Save the Children hired a consultant to develop a Detailed Implementation Plan (DIP), but the configuration of the activities changed over the course of the project. By the time WASH Project staff and consultants became directly involved, in 1994, the primary focus of the activities had shifted to training in hygiene education for Save the Children staff, with the principal output being a hygiene education training manual. As Save the Children's needs shifted with time, the design of WASH's technical assistance was also reconfigured. (See Appendix A for the January 1994 Scope of Work for WASH activities.)

The four activities of the health education component, with WASH assistance, were short-term interventions designed to increase the skills that Save the Children staff needed to carry out hygiene education activities. WASH also provided assistance in development and review of the hygiene education manual.

- *Review and revision of the Detailed Implementation Plan (DIP) and hygiene education workshop.* This WASH technical assistance consisted of a number of elements: assisting in preparing for a public presentation of the revised DIP; reviewing Save the Children's needs in hygiene education and developing an outline for a hygiene education manual appropriate for Save the Children's staff; planning and conducting a ten-day workshop in basic hygiene education for Save the Children/ Egypt staff, other NGOs, UNICEF, and hygiene educators from other Save the Children projects in the region.
- *Team-building workshop for Save the Children staff, newly recruited to the project.* This week-long workshop built a common understanding of the project and its objectives and strengthened the ability of Save the Children staff to work as a team. The workshop also helped in the transition from Dr. Kuttab to the new director, Dr. Mary Fontaine.
- *Field-level review of the training manual.* This week-long technical assistance provided field-level review of the draft manual, with local staff members recommending changes and reaching agreement on the final product and its use.
- *Integration of hygiene education into project activities.* This one-week workshop brought together the methodology learned in the hygiene education training and its incorporation into overall project construction activities. The workshop included, in addition to Save the Children staff, staff from the NGOs that will be implementing water and sanitation activities in the same governorates as Save the Children.

The table below shows the consultants involved with each workshop and the dates for the workshops.

TASK	CONSULTANTS	DATES
DIP Review and Hygiene Education Workshop	Ron Morgan and Ed Douglass	April 1994
Team Building Workshop	Ron Morgan	May 1994
Field-level Review of Training Manual	Ed Douglass	November 1994
Workshop on Integration of Hygiene Education into Project Activities	Ed Douglass and Bob Gearheart	December 1994

Chapter 2

DIP PRESENTATION AND HYGIENE EDUCATION WORKSHOP

2.1 Detailed Implementation Plan

As the Water and Sanitation Project evolved during its implementation, the Detailed Implementation Plan needed to be revised. Three days of discussions with the director of Save the Children, Dr. Attallah Kuttab, and the staff training officer, Ms. Yola Wissa, addressed this need. The meetings in April 1994 were facilitated by WASH consultant, Ron Morgan. WASH also hired two Egyptian anthropologists, Samiha El Katsha and Nirvana Khadr, to provide the needed advisory support to the WASH consultants.

The revised DIP contains all the issues relevant to a water and sanitation for health project. It outlines the objectives, coverage targets, and indicators for assessing some of the potential effects from water and sanitation. The first technical assistance activity requested from WASH was to assist Save the Children in the review and the presentation of the DIP to the donor and NGO community active in water and sanitation. This three-day activity created an awareness of and support for Save the Children's Water and Sanitation Project. As a result of the workshop, the DIP was revised and an agreement was reached about the goals and indicators by all participants. (See Appendix B, the revised DIP and list of participants in DIP workshop.)

2.2 Workshop Design and Methodology

Also in April, a workshop was held in Luxor to provide health education training to newly recruited Save the Children staff. (Representatives from other NGOs also attended.) It was facilitated by Ron Morgan, and Ed Douglass provided the hygiene education approach that fit within the outline of the proposed training manual. The workshop units were designed around an experiential learning approach intended to engage the participants directly in the subject matter. Learning was participatory and hands on. (See Appendix C for a list of participants at the Hygiene Education Training Workshop.)

2.3 Hygiene Education Manual

Before the implementation of the workshop, Save the Children's director wanted WASH Technical Report No. 60, *A Training Guide on Hygiene Education*, to be adapted and translated for use in Save the Children's water and sanitation projects throughout the Middle East region. After assessing the staff needs in hygiene education, the consultant team made the following recommendations regarding use of Technical Report No. 60 as the primary document for hygiene education in Egypt (and throughout the Middle East):

- The translation and adaptation of WASH Technical Report No. 60 is not appropriate for Save the Children's needs. The WASH training guide is designed for delivery in a 10-day workshop setting. Save the Children needs a manual for field workers, more like a job guide, for use on a daily basis with households.
- Save the Children's desire to interest other donors and private voluntary organizations (PVOs) in its project by inviting representatives to its training courses will continue to result in an ever-changing group of participants. An adaptable, flexible document which could be amended and augmented for specific training needs would be more useful.
- Technical Report No. 60 was designed using a number of assumptions that do not hold for the participants or the communities in which Save the Children is working. Additional modules will need to be added so that it responds to Save the Children's field-level needs.

An agreement was reached to develop a collection of training modules and technical assistance aids that would meet Save the Children's field staff training needs. A list of modules was developed (see Appendix D).

Chapter 3

TEAM-BUILDING WORKSHOP

3.1 Background

A staff team-building workshop, held from May 14 to 19, 1994 in Hurghada, was designed, facilitated, and implemented by WASH consultant, Ron Morgan. The workshop was co-facilitated with Save the Children's training coordinator, Yola Wissa. Participants included all Save the Children's staff, including Dr. Mary Fontaine, who had just been recruited to replace Dr. Kuttab as director.

3.2 Rationale and Objectives

The workshop strengthened team work and clarity of purpose among all segments of the Egypt Field Office (EFO) staff of Save the Children by developing a common vision and set of strategic objectives for the subsequent 18 months. The objectives of the workshop included the following:

- Develop a shared understanding of the Save the Children/USA strategic plan and its implications for Egypt.
- Identify major needs and opportunities in EFO's external program environment for 1994 and 1995.
- Identify key constraints and resources affecting EFO's operations for 1994 and 1995.
- Agree on the special qualities and capabilities of Save the Children/EFO that affect its choice of program approach and type of projects.
- Clarify the common values and operational philosophies that guide what should be done (program objectives) and how it is done (management practices).
- Establish strategic Save the Children/EFO goals for 1994 and 1995, develop program and management agendas to support these goals.
- Strengthen team work among all segments of the Save the Children/EFO staff by establishing shared goals and values, agreeing on program priorities, and identifying collaborative management and program practices to support these goals and values.

Chapter 4

HEALTH EDUCATION TRAINING MANUAL

4.1 Background

The transition period between Save the Children directors took place from the spring until early September 1994. This long transition period created a lack of staff available to monitor and support (through regular review) the production of the hygiene training manual. Activities on this product started in full force at the end of September with the visit of the WASH technical manager, May Yacoob. During that visit, the original outline was reviewed, new information was incorporated, and local Egyptian consultants who participated in the DIP and original hygiene education workshop, Samiha El Katsha and Nirvana Khadr, along with Esmat Kheir as research assistant, were hired to write the manual. They produced a draft at the end of October in time for the field review scheduled for the beginning of November.

4.2 Review Comments of Draft Manual

4.2.1 Field-level Review (General Comments about the Revised Draft)

From November 1 to 7, field staff of Save the Children reviewed the manual. (See Appendix E for a list of participants at this meeting.) Their discussion was organized around the following three criteria, with their comments following each of the criteria.

- **ACCURATE:** It is good for personal use, but further work is needed on the reorganization of the text boxes. One person thought the vocabulary was a little too demanding for village people. The reviewers reported no other problems with the accuracy of the draft.
- **COMPLETE:** The manual needs a section about how to select, train, and motivate volunteers. It also needs a more consistent and detailed treatment of qualitative study techniques. Save the Children staff would like any additional materials on health education that the WASH Project can get for them. These materials could be included with the manual simply by adding them as references.
- **USABLE:** Not everything is immediately understandable to the beginner; therefore, beginners will need help. The more experienced staff will have to assist the new staff in learning to use the manual. The manual is a guide to staff development; it is not suitable for use by the villagers.

The reviewers also agreed on some additional aspects of the manual:

- Keep the present sequence of the parts.
- Use highlighting to improve the format. The manual contains too many boxes and not enough white space.
- Create a different title for the manual.
- Use sequential page numbering.
- Locate appendices after each part and create sub-indexes for each part.
- Print the manual on paper heavy enough to withstand field use; use a loose-leaf binding system so that any section can be taken out for use in the field.
- Use some device to direct readers to additional health education learning materials.

4.2.2 Comments from the Authors

The field staff officer from Luxor then asked the staff if they would use the manual. They replied positively. Recommendations of the staff were noted by the authors and were incorporated into the revised draft. The authors made the following points:

- References to additional health education (training) materials have been added.
- A few of the staff's illustrations have been added to the manual.
- At this stage in their professional development as health educators, the staff tends to think too narrowly about what they are doing. The authors hope that through additional training and experience, they can extend themselves and adapt what is in the manual.
- The staff helped a great deal with language and vocabulary, especially the technical terminology. They were able to agree on expressions appropriate for field workers, recognizing that the scientific terms needed to remain.
- The authors attempted to integrate gender sensitivity into the manual. They advised the staff to continue to define the extent to which they are going to press for gender equality. The definition they choose will shape the way they will approach the villagers and the health education messages they will create, which are appropriate not only for the existing division of labor within households but also for a revised division that reflects greater gender equality.

In the Team Planning Meeting at the end of October in Washington and again in the consultant's meetings with the field officer from Luxor on November 1 and with the authors on November 2, all agreed it was not realistic to attempt to work in a village using the manual to guide training activity, given the time available and the condition of the draft. Thus, a full-blown field test of the manual was not conducted. However, everyone thought it might be possible for the field staff

to do some activity such as role playing as a test of the manual's efficacy. This would give the field staff a "hands-on" sense of the training approach and information contained in the manual. As it turned out, all of the time (November 1-7) was needed for reading, discussing the draft in small groups, and then giving feedback to the authors about needed revisions.

There was concern initially that because of the senior status of the authors in Egypt, Save the Children staff might be reluctant to voice suggestions for changes to the manual. The authors were very clear with the staff, in the introductory session and at other points during the two and a half days of review, that staff members' criticisms and suggestions would be welcome and that they had nothing to fear and everything to gain from being vigorous and frank in their comments and suggestions for improvements. In response to the authors' invitation, the staff worked diligently in going through the draft—literally word by word—offering many suggestions to make the manual useful for themselves and Save the Children/Egypt.

The staff realized with pleasure that the manual had been prepared for their use, *written initially in Arabic by Egyptians*, and that a translation had been made *to* English. Furthermore, they were pleased that they had had the opportunity to review and modify something they were going to use. (The usual pattern in Egypt would be simply to provide a manual to the staff and tell them to use it.)

The staff of Save the Children are still in the process of learning to be health educators. Some have had a year or two of field experience; others are new employees of Save the Children. As of November, the training in health education being provided by the WASH Project was only half-completed. The suggestions made to the authors were necessarily based on the staff's knowledge and experience. Frequently, the suggestions were at a very specific level of detail (e.g., choice of terms and vocabulary) rather than on the larger scale, i.e., the flow of the process of health education.

4.3 Issues Identified during the Field Review

4.3.1 Perceived Health Needs Versus Project Technologies

From the point of view of the villagers, the greatest health need with respect to their water supply cannot be met by the filtration technology the project presently offers (household sand filters). The primary concern of villagers is the saltiness of the water. The filters cannot remove the dissolved minerals. Engineers on the staff are searching for an appropriate technology that could be added to the slow sand filters to remove some dissolved minerals. To date, no satisfactory solution has been found.

The choice of a septic system for household wastewater is meeting a felt need. The water filters are meeting a need, but not the greatest water need the villagers feel they have.

4.3.2 Promoting Gender Equality

The project has as one of its objectives the promotion of greater gender equality with respect to the work and decision-making responsibilities in the home associated with water and sanitation. The project hopes to reduce the workload on women and girls, especially as it applies to the supply of household water. There is also concern for bringing women more into the decision-making process with respect to the acquisition of filters and septic systems. Traditionally, women and girls bear the entire burden of carrying all water for the household and for maintaining the sanitation conditions. Yet, by tradition, they have little say in decisions such as whether to acquire a water filter or a septic system.

To the chagrin of the Project Director and her staff, it appears that introduction of the filters and septic systems is increasing the workload of women and girls; they are now fetching greater quantities of water. However, two things should be pointed out. First, the project also has as one of its objectives to increase water consumption in project homes to at least 40 liters per person per day. Second, studies show that there is a positive correlation between the health status of the people in a household and the amount of water used by the occupants.

The project is attempting to integrate the idea of greater gender equality into the promotion of the slow sand filters and septic systems. One way of doing this is to integrate gender sensitivity into the language and text of the training manual. Promoting greater gender equality is a daunting undertaking in Egyptian culture. As an indication of the challenge the project faces, consider the fact that there is no word in Arabic that is the equivalent of the English word *gender*. As a solution, the staff use the word *gender*, pronouncing it as if it were an Arabic word and then explaining what the word means.

The staff of Save the Children appear to be trying to define more precisely what gender sensitivity means in terms of their project as well as in terms of their personal and work lives. Because they have grown up in this culture, greater gender equality represents for each of them a change in perspective and in mode of expression. They have attended gender sensitivity workshops in an attempt to apply this sensitivity to the internal workings of their organization as well as to the project.

The definition of *gender sensitivity*, or *gender equality*, could have an important bearing on the design of health education messages to encourage village people to acquire and use the sand filters and septic systems. The staff will have to agree on what these terms mean before they can communicate clear and consistent messages to the villagers.

Save the Children is not trying to change the male/female division of labor in the communities of Upper Egypt, but there are behavioral implications associated with the filters and the septic systems that apply to men as well as women. For example, the advantage of the water filter can be completely negated by anyone in the household who fails to keep the filter covered. To this

extent, men have to receive health education in the care of the household water supply, an area of responsibility that traditionally has belonged entirely to the females.

There are behaviors that men must now also perform with respect to these technologies if they and their families are to get the health benefits that the technologies offer. Insisting that men perform work that has usually been done by women, in the name of gender equality, would probably be met with such resistance that the health objectives of the project would be thwarted. On the other hand, encouraging a man to be a little more sensitive to the views of his wife in a decision about the location of the filter in the home might achieve a greater measure of gender equality without threatening the existence of the project in the household.

4.4 Newly Identified Water-Related Problems

The staff of the project have observed that intestinal as well as hook worms are a serious health problem among the villagers. The villagers, on the other hand, do not regard worms as a serious problem. The staff believe that a significant number of people contract worms through the vegetables and leaves of vegetables they eat. The project filters are useful in stopping the spread of the worms if all produce is washed with filtered water. Washing removes the eggs of the worms, which have been laid on the surface of produce. Thus, promotion of the filter accompanied by an emphasis on washing vegetables provides an added health benefit. People, especially children, also get hook worms by walking barefoot. Disposal of shower, bath, and kitchen wastewater in the septic systems, rather than on the ground, reduces the breeding opportunities for these worms.

The staff feel strongly enough about these two additional health issues that they are devoting some of their health education energy to encourage the washing of vegetables, the disposal of household wastewater into the septic systems, as well as encouraging parents to buy shoes for their children.

If parents are not very concerned about intestinal or hook worms, their motivation for acting on these recommended behaviors is low. Awareness may have to be generated first in order to create demand or motivation in behavior change. Attempts to persuade people to buy filters and septic systems and to adopt the necessary, appropriate behaviors in order to avoid worms are likely to be ineffective if the villagers do not believe they have a problem.

Chapter 5

HEALTH EDUCATION WORKSHOP

5.1 Workshop Goals

A one-week workshop, entitled "Integrated Water, Sanitation, and Health Education," was held in Luxor, Egypt, from December 11 to 14, 1994. While WASH's main purpose was to serve the needs of the staff of Save the Children, the objectives of the workshop were not drawn so narrowly that the workshop would not have relevance for the staff of any other NGOs attending.

Initially, the workshop facilitators planned to achieve two major goals. However, project managers and previous consultants felt that project technicians tended to work in isolation from the community mobilizers and health educators. Even though the project managers worked to achieve a greater level of integration, they reported that a satisfactory level had not been achieved. Therefore, Save the Children directors and the WASH Project consultants decided to add a third goal for the workshop. The following goals mandated the design of the workshop:

- To provide Save the Children field staff with a strategy for implementing an effective and integrated water, sanitation, and health project
- To complete the health education training process that had been started in April 1994
- To achieve a greater level of integration among the three elements of health education, community development, and construction

Once the goals were established, the facilitators and Save the Children staff adjusted the workshop schedule to place more emphasis on working with volunteers and less emphasis on developing a three-month activity plan. They felt that the implementation schedule could be developed after the workshop if the necessary activities were identified during the sessions.

5.2 Summary of Workshop Sessions

After an official welcome from Save the Children staff, the participants worked through a series of ice-breaking and team-building activities. These initial activities uncovered the array of talent and experience represented by the participants (see Appendix F for the workshop schedule and list of participants):

- They had worked for the government, NGOs, and international organizations.
- They shared a strong, common interest in children. They had worked with women's groups, children, crippled and handicapped children, child-to-child programs, and maternal health programs.
- They represented a variety of disciplines. The participants noted that there were no representatives from the communities in which they were working: the beneficiaries and volunteers.

In subsequent sessions, participants worked in groups to identify the elements of a successful water, sanitation, and health project; to implement the five-step health education process using social marketing techniques; to develop activities and the timing for the activities for a water, sanitation, and health project. They critiqued current health education materials and decided that print materials could better control the consistency of the health messages. One of the most important sessions provided the participants with information about selecting, training, and motivating volunteers to help implement the project. Community volunteers are an important human resource because they spread the technology and the associated health education and behavioral messages needed for a successful project.

The closing session comprised a workshop summary, a formal workshop evaluation, and the presentation of certificates.

5.3 Observations

5.3.1 Planning

There was extensive planning for this workshop since it was a continuation of WASH activities over the last year. As the workshop drew closer, significant changes occurred in the field. It appeared to the consultants that Save the Children staff did not fully review the proposed workshop schedule nor did they articulate their real concerns and issues early enough to take full advantage of the consultants' time before the workshop.

The overriding issue during the planning phase for the workshop was the effectiveness of the water filters and the new disaster relief proposal that was being designed at the same time as the workshop. The time constraints imposed, due to the ending of the WASH Project on December 31, 1994, and the schedules of those involved, did not allow the consultants enough time to adjust to the needs of Save the Children.

On the positive side, the timing of the workshop was such that about one half of the participants had at least six months' field experience working on an integrated health education, water supply, and sanitation project. Additionally, workshop logistics were handled efficiently by Save the

Children/Luxor staff. Secretarial support allowed the participants to have an Arabic copy of the workshop outcomes by the end of the workshop.

5.3.2 *Workshop Proceedings*

Before the start of the workshop, USAID/Cairo decided not to have the previously planned session to develop a three-month workplan. A session on training and motivating volunteers replaced this session.

As many sessions as possible were designed to have group activities with the highest possible individual interaction. Lecture and seminar kinds of presentations were kept to a minimum. It was obvious from the start that many participants have the ability and desire to assist in workshop facilitation. Every attempt was made to take advantage of these talents during the course of the workshop.

5.3.3 *Workshop Outcomes*

The participants were hardworking and dedicated during the workshop. Dr. Douglass observed that those who attended the workshop in April had grown in knowledge, depth of experience, and insight into their work during the interim. All of the participants felt strongly that the selection, training, and motivation of community volunteers was the best way to achieve replication of the project technologies and sustainability in the long run. Documentation of the workshop and its outputs in Arabic by Samiya Abu Elwafa with assistance from the translators, especially Maha Tawfik Ragab, were the best either facilitator had ever seen.

Save the Children staff use few teaching or motivation materials in their health education activities. Instead, they rely heavily on demonstration techniques and the use of scale models, especially in septic system construction and the assembly of the water filters. Dr. Douglass noted that the participants were aware of a wide range of channels of communication and types of health education materials that could be used in health education activities. To explain this paucity of training aids, Save the Children staff explained that the process for getting approval to create materials is slow.

5.4 Recommendations

5.4.1 *For Save the Children*

Save the Children has the experience and ability to implement an integrated water, sanitation, and health education project. As it moves into partnerships with other PVOs, it becomes critical that Save the Children develop documented procedures, methods, and approaches for implementing these projects. The documentation should take several forms:

- Technologies
- Health education content
- Health behavior priorities
- Motivational hooks

With the prospect of additional grant money coming to Save the Children, the director is already planning to acquire new computer hardware and software, as well as new photocopiers. The facilitators noted that the productivity of the staff was reduced by the slow operation of the existing computer equipment and shortage of other labor-saving devices.

The Cairo office library of literature related to Save the Children projects has recently been organized by a temporary staff person. While well organized, it is rather thin in terms of content. It seems that no systematic effort had been made to acquire resource materials for the projects. The facilitators recommend that the Egypt Field Office find out if the U.S. office has a librarian or access to a librarian who could do literature searches and acquire more materials for the projects.

Project planning is made difficult in Egypt by what might be referred to as a fluid environment. Long-range planning is probably of limited use except to define the eventual targets clearly. The facilitators recommend that the Cairo office serve as a buffer to protect the field offices from the shifts in the prevailing political winds of change. They also recommended that the timeframes for objectives be kept short (three months or less).

5.4.2 For USAID

The USAID Mission should satisfy itself about the reliability of the tests conducted in the field laboratory. Save the Children gave clear indication that it will draw double samples and have analysis done by another professional laboratory. The USAID Mission should encourage the project to take water samples from households to verify that the field laboratory is not for some reason atypical. Again, Save the Children recognizes this need and has agreed to find a sample of households and establish a collection procedure that will not alarm the household residents and neighbors into thinking that there is something wrong with their water.

Previous Mission reports reflect misunderstandings about the science of slow sand filters and septic systems. These misunderstandings tend to call into question the efficacy of the filter and septic system technologies. These questions also undermine the confidence of the staff. This could seriously hurt the effectiveness of health education and community mobilization activity. Now that Dr. Gearheart has pointed out the incorrect information and explained that the technologies are well suited to the conditions in Upper Egypt, both in terms of theory and the laboratory results, it would be in everyone's interest that the engineering office "correct the record" in its report of the December 15, 1994, debriefing. (See Appendix G for a review of the technologies used by Save the Children/Egypt.)

5.4.3 For WASH/EHP

The Environmental Health Project, which had assumed many of the WASH Project's elements, could continue to be a technical assistance resource for the Water and Sanitation Project in Egypt. In addition to workshops, there are other ways of helping the project: provide a resource person who would work in the field with the staff to develop some kind of health education product and, through that process, develop the knowledge and skills of the staff; fund internships for activities, such as operational research or practical scientific experimentation; and respond to information requests from field staff on health education, community development, and technical matters.

Chapter 6

LESSONS LEARNED

6.1 Introduction

Lessons learned are sometimes about the good things that have happened, either by plan or serendipity. Other lessons come from mistakes. There was a time when water and sanitation projects were rather too well known for supplying a technological fix to problems without consideration of human behaviors that had to be performed to take full advantage of what the technological solution had to offer. Fortunately, water and sanitation engineers now pay much greater attention to the cultural context in which they are working and to methods for motivating people to behave in ways that maximize the benefits of improved water supply and sanitation systems. The Water and Sanitation in Rural Egypt Project is a case in point. This is a very young project. As this paper was being written at the end of December 1994, the project had been underway only 18 months. The following lessons learned will help the project reach its goals.

6.2 Maintaining the Planned Direction

A well-designed project should be kept on track unless the circumstances surrounding it have changed so much that its original design is no longer appropriate. Knowing when to allow a change in direction is a classic management problem. Consider the following forces of change that have buffeted this project during its first 18 months. The directorship of the Egypt Field Office of Save the Children changed in mid-1994. Each of the directors has remarkable talents, but they are very different people in education, background, personality, style, and ambition. At a minimum, the project will change in the way it implements its work.

Changes have occurred in personnel in the Engineering Office at the USAID Mission in Cairo. The engineers share responsibility for overseeing the project with the PVO office. The effect on directional stability from changes in oversight personnel is exacerbated by a second circumstance. This project is very small in terms of dollars when seen in light of the total USAID portfolio for Egypt. It is not surprising that the project receives attention sporadically rather than steadily. Bursts of sudden interest by new people are not good for the project's directional stability.

Egypt suffered terribly in 1994 from flooding that destroyed homes and disrupted water supply and sanitation systems in many communities in Upper Egypt. Because Save the Children is now seen as an organization with considerable talent in the health education field, the project staff are being asked to help out in disaster relief. The request was accompanied by a considerable amount of money from USAID. It appeared politically and economically wise for Save the Children to answer the call. But by responding, the original project goals, objectives, and performance targets are now open for reconsideration.

6.3 Realistic Performance Targets

In its design and underlying philosophy, the project is a community development project. It is characterized by its participatory approach to communities, its attempts to encourage water use and healthful sanitation behaviors, its use of local volunteers, its intent to remain in villages for no more than six months, and its plan to use or develop local leadership structures and volunteers to carry out replication of the technologies and health education. While the construction of filters and septic systems can take hours or a day or two, the health education and community mobilization efforts require longer-term involvement with the community.

This kind of approach to water and sanitation projects is becoming much more common. It is now widely accepted that the introduction of technologies without accompanying health education leads to rather poor results. The performance targets for this project look more like those that would be set for a water and sanitation project that is chiefly concerned with the development of infrastructure. Not surprisingly, at this writing, the project is behind on its performance targets (numbers of filters and septic systems installed).

6.4 Introducing Greater Gender Equality

One of the philosophical underpinnings of the project is to introduce greater gender equality with respect to water and sanitation in the homes of project villages. Women and girls carry out all of the work of fetching water for the household. They are also responsible for using the water for food preparation and keeping the home and its occupants in a clean and sanitary condition. This is the traditional division of labor in Upper Egypt. Men tend to direct the women and make all of the economic decisions, such as whether to have a water filter or septic system. The project's emphasis on gender issues has generated a number of unanticipated issues for the project.

6.4.1 Gender Bias: Save the Children Staff

Save the Children has realized now that the composition of its own staff reflects the very gender bias that it seeks to change in project communities. All of the engineers are men, and all of the health educators are women. Save the Children is now actively in the process of correcting this imbalance as it recruits additional staff.

Save the Children staff have spent a large amount of time applying the notion of greater gender equality to their personal working relationships with each other, to their personnel policies, and to their approach to the villagers. This has been difficult for them, if for no other reason than that they have all grown up in the Egyptian culture and have been influenced by the gender biases of their own culture. While there is a nearly constant good-natured patter of verbal jostling over gender issues, some serious clashes have occurred as well. Adjustments to greater gender equality in the work place has come at some expense to project outputs.

As they have become converts to greater gender equality personally, the staff are finding that their new attitudes toward the appropriate roles for men and women are now in conflict with their work in the villages. As Save the Children adds female engineers and male health educators to its staff, it may not be able to deploy staff strictly according to their new-found notions of gender equality. Save the Children wants to have models to display in the villages which show people that technical matters are not the exclusive province of men and that matters of health are not the sole concern of females.

However, by tradition, only women can talk to women about many health topics, and only men can talk to men on certain subjects. Even if Save the Children hires male health educators, on some topics at least, Save the Children will still have to use their female health educators talk to women. The rules regarding the separation of men and women according to topics are just too deeply ingrained in the culture to be changed in the near term.

6.4.2 Gender Bias: Village Men

Initially, the gender equality focus was on women and on their roles in water and sanitation practices. Now the staff find that men, also, must receive health education on the use and care of the filters and septic systems. The staff recognize that out of ignorance men can negate the health benefits of the filters and septic systems by their un-informed behavior. This means that village men need to be encouraged to adopt health behaviors that cross over into what has traditionally been women's business in the home.

There is a delicate balance that must be struck here, however, between those behaviors that must change or be adopted by men in order to get the health benefits of the technology, and those that can be changed or adopted by men to achieve greater gender equality (but which are not strictly necessary to obtain the health benefits). Insisting that men perform work that was formerly done by women, in the name of gender equality, will probably be met with such resistance that the health objectives of the project would be thwarted. On the other hand, encouraging a man to be a little more sensitive to the views of his wife in a decision about the location of the filter in the home might achieve a greater measure of gender equality without threatening the very existence of the project in the household.

In the villages, there is the tendency for traditional male/female roles to influence the formation of groups needed for community action or health education. Immediately this has the effect of dividing responsibility for decisions regarding water and sanitation and the elements of the project along sex lines. This is not what the project would like to see, but Save the Children recognizes that it cannot reform the rules of gender in Arabic society.

Engineers in the project tend to do only engineering-type work and leave the health education to the women. Project staff have learned several things that have changed their work behavior. They have found out that the introduction of the filters and septic systems has been consistently more

successful when the hardware has been accompanied by health education. This has caused a perceptible change in attitude on the part of the Save the Children engineers.

6.5 Use of WASH Technical Assistance

Technical assistance by the WASH Project was designed to help the staff of Save the Children realize that the technical and health education components of the project must be carried out in an integrated way. The health education training activities stressed the critical interrelationship between the technologies and health education messages.

As an example of the interconnectedness of issues, is the water from the filters merely cleaner than well or canal water, or is the water safe to drink? The answers to these questions come from the engineers. The difference between cleaner water and water that is safe to drink has a powerful effect not only on the self-confidence of the project staff as they promote the filters but also on the attractiveness of the filters and effective use of the filtered water by the villagers.

The technical assistance offered in the December workshop attempted to do two things. One was to place substantial instructional emphasis on identifying and sequencing the elements of a successful water, sanitation, and health project. A second was to model the integration of water and sanitation engineering and health education concerns in a single, male workshop facilitator.

6.6 Development of the Health Education Training Manual in Arabic

Several important lessons were learned in the process of developing the Health Education Training Manual for Save the Children. Most technical assistance projects translate training materials from the language of the donor country into the language of the recipient. Usually, some adaptation of the material is done, as well, to make the material culturally relevant.

An entirely different course was taken in this project. From his observations, the WASH health education training consultant believed that the content for most if not all of the modules for a training resource package already existed in Egypt. Such material would be culturally relevant and in Arabic. Two Egyptian consultants hired by the WASH Project to assist with the first health education training workshop confirmed that this was so. They were engaged to prepare a training resource package based on the available Egyptian material.

Once the draft manual was developed, the field staff of Save the Children were asked to spend three and a half days reviewing it with the authors. The staff made many substantive suggestions to make the manual useful for their work. Had the more typical approach been taken, the staff would have been given the manual and told to go and use it.

The staff clearly recognized that for the first time in their working lives, their training manual was written in Arabic, by Egyptians, out of material generated from Egyptian experience. Furthermore, they truly appreciated the opportunity to react to the draft training manual. It seems

reasonable to expect that the staff will have a sense of ownership in the manual and for this reason are likely to use it.

The health education consultant strongly recommended that the manual be prepared on compatible computer hardware and with the same software that Save the Children uses in Egypt. This was so that the manual could be easily revised in the future as the Save the Children staff grew professionally. (The initial computerized draft was prepared in the U.S. using hardware and software that were incompatible with the equipment at Save the Children.) The final version of the manual was produced using hardware and software programs available to Save the Children. An English translation was subsequently prepared in Cairo so that non-Arabic speakers who have a concern for the project could appreciate what the authors and the staff have devised.

6.7 Understanding Training in the Egyptian Culture

Training in the Egyptian context involves some concepts that are different from those found in the Western setting. Participants are insistent in their demand for a detailed schedule of a training exercise such as a workshop. Such a schedule should be produced in advance and be included in the documentation of the workshop. However, keeping to a detailed schedule is not very important for most participants.

Egyptians are willing to spend large resources on the documentation of the workshop. This process involves the services of a secretary with a word processor, printer, and photocopier at hand. For an Egyptian, *documentation* means a historical record of the workshop, preferably in a polished format so that it can be presented to one's supervisor to demonstrate what the trainee experienced. A Western trainer is inclined to regard the secretary and the recording and copying equipment not as a means to record history but as a means to turn the outputs of the day's group work into handouts to stimulate the next day's learning activities. From this perspective, speed of producing the summaries and issues of the day is more important than polished appearance or the final "package." What the Western trainer discovers is that the workshop staff's deadline for typing and reproducing the outputs is, at best, the last day of the workshop.

6.8 Selecting Technologies

This project reflects the tendency in technical assistance of offering technologies that the donor is sure will provide benefits without going through the exercise of asking the recipients to describe their health problems related to water and sanitation. This problem is often described as donor-driven rather than community-driven technical assistance.

Had this been done in Upper Egypt, the villagers would have complained volubly about the high mineral content of their well water. They would have reported that their shallow household wells were terrible. The water from the government wells that provided piped water at public taps some distance from their houses was somewhat better. The water from the Nile had the best taste, but

they feared drinking it because they knew it was badly polluted. The actual basis for these judgments of water quality is the water's effect on making a good glass of tea. The safety of the drinking water is not nearly as important as the taste of the tea.

Had the designers of the project conducted in-depth interviews and focus group discussions to find out what concerned villagers about the water and sanitation conditions in their villages as the villagers saw the problems, they would have discovered that the villagers' top priority was for drinking water with lower dissolved minerals. However, the project probably could not have helped with the salinity problem. This is a low-budget, appropriate technology project. Removing dissolved solids from drinking water is expensive, technically complicated, and has the potential for adding even more salts to the groundwater if the ion-exchange process is used.

The project staff are extremely sensitive to the daily reminders they get from villagers that they are not helping them with their greatest perceived water problem—high level of minerals and salinity. The staff are not yet comfortable saying, "Sorry. We cannot help you with the saltiness of the water. We can only help you make it safe to drink."

One side effect on health education occurs when the choice of technologies is not based on an assessment of the villagers' needs. Choosing technologies for the villagers tends to put the staff in a selling mode rather than a marketing mode. In other words, the health educators see their job as one of convincing people to buy water filters and to adopt healthful behaviors associated with the filters for reasons that are important to the staff. It was the technology and behaviors chosen by the staff for the benefit of the villagers that were to be promoted. Had a health needs assessment been done by the staff, they would have some insights about the reasons the villagers might want the filters and be willing to adopt the associated behaviors. In other words, they would have discovered some motivational hooks by which they could market the filters and behaviors.

The health education training has attempted to give the staff assessment skills by which they can discover motivational hooks. In fact, the staff found an important hook on their own. Women, they discovered, are impressed with the convenience that the filters bring. Of course, they will get safe drinking water as—from their point of view—a side benefit.

6.9 Sustainability Issues

Everyone working on this project hopes that the technologies of slow sand filters and septic systems, as well as the behaviors that allow villagers to achieve the full health benefits these technologies afford, will be adopted and practiced forever. Whether this happens or not depends on how these technologies and behaviors look to the people of the villages. Their decision to sustain the project initiatives will depend on a calculation between the real and imagined benefits of the filters, septic systems, and the associated behaviors on the one hand, and the real and imagined monetary, time, social, and psychological costs the villagers will have to expend on the other.

This package of technologies and behaviors does not exist in isolation from the rest of the lives of the villagers. If, for example, other disease vectors exist in their communities which cause them to get sick just as much as before they "bought" the package, their calculation is likely to yield a negative number. Interest in the package will drop. The project will be judged to have been a failure even though there was nothing wrong with the technologies, the behaviors, or the effectiveness of their promotion.

Substantial time in the December workshop was spent on helping the staff to take a marketing approach to the village people. The staff were encouraged to look to see what was attractive about the package they had to offer from the point of view of the villagers and not just from their own perspective. They were urged to consider how they could increase the real and perceived benefits of the package (within the bounds of truthfulness). They were also taught to think of ways of reducing costs. The staff were prolific during the workshop in thinking about ways to motivate volunteers.

What are the rewards of these technologies and the necessary, associated behaviors? Can villagers maintain the filters and septic systems so that they do what they are designed to do? Are the benefits great enough to encourage villagers to maintain the correct behaviors, enough to entice others in the project communities to use these technologies, or enough to provide a livelihood for business people who want to sell and install filters and septic systems for a profit?

6.10 Conflicting Project Objectives

One of the project's objectives is to increase the consumption of water in the home to at least 40 liters per person per day. Yet, another project objective is to reduce the workload on women and girls with respect to water and sanitation. Evaluations of the project's effects show that the workload on women and girls is rising, not falling. The females are carrying additional quantities of water to their homes.

Project management and field staff were initially concerned about increasing the workload on women, something for which they have a great deal of sympathy. They are becoming more comfortable with the increased workload on women as they have become aware of the general finding that as water consumption in a home goes up, so also does the health of the family. This correlation has been found in many studies throughout the world.

6.11 Integrating the Three Elements of the Project

The project paper identifies three main elements of the project: technical aspects, community mobilization, and health education. The project paper does not emphasize the importance of integrating these elements in project implementation. It was probably assumed by the project designers as the natural way someone would approach project implementation. In fact, the integration efforts by people specialized in these three elements of the project has begun only

recently. It has taken effort on the part of the technical assistance teams to help the project staff and management to achieve integration.

In retrospect, this does not seem surprising. The project began with a group of people hired for the project who had never worked together. Naturally there would be a period of adjustment to the work, to the organization, and to each other before they could realize a degree of integration. The technical people, among the three sets of skills, initially were the best trained for the specific work of the project. Understandably, they "took off" early and tended to leave the others behind. The staff in the other two skill groups needed more training and more experience to begin to do their jobs well enough for their own satisfaction.

6.12 Recognizing Health Education Training Problems

A number of problems were uncovered in the process of training the staff of Save the Children and three other partner organizations.

6.12.1 Language Differences

The concept of feedback is important in health education. There appears to be no word in Arabic that is exactly equivalent to the word *feedback* in English. This is a serious problem in that the term is an important one in understanding the communication process. The closest the staff have been able to come is the Arabic word that means *echo*. *Echo* in English does not capture the meaning of the word *feedback*. An echo is sound that bounces back from some surface but there is no sense that the reflected sound has any controlling effect on the source of the sound.

Save the Children staff have spent a lot of time trying to find an equivalent term in Arabic. They have considered the word that means *reaction* in English. In a hilarious attempt at translation, the staff came up with an Arabic word that, in English, literally means "to eat your own vomit." The word *feedback* in English is a manufactured word, a piece of jargon in the lexicon of communication. It is not surprising, therefore, that an equivalent word in Arabic does not exist.

6.12.2 Qualitative Research Techniques

A pervasive problem that affects health education exists in most if not all countries. The problem is that university graduates rarely receive enough training in qualitative research techniques. These techniques include, particularly, in-depth interviews, focus group discussions, and behavior observations. To do an effective job of getting people to adopt and maintain healthful behaviors, a health educator must understand the people to be helped and try to determine plausible motivations for their adopting healthier behavior patterns. This can be achieved only through qualitative studies. Quantitative techniques, such as survey questionnaires, cannot reveal what the health educator needs to know to discover what will motivate people.

The staff of Save the Children and its partner organizations were well versed in quantitative study techniques. Their training in qualitative studies was limited to one short course in rapid appraisal research techniques. Part of the course content covered the use of focus group discussions, although some of the participants described a focus group discussion as a kind of group in-depth interview. If further training is envisioned for the future, more time should be allowed for qualitative study techniques.

6.12.3 Writing Objectives

Finally, the health education training activities revealed serious shortcomings in the staff's ability to write an outcome objective and specify a method for measuring whether the objective had been reached. A serious attempt was made to increase the staff's ability in this area, but the problems were so fundamental that the workshop facilitators were not confident that they had succeeded in helping the staff achieve satisfactory ability. It was unfortunate that this problem was discovered so unexpectedly and so late in the life of the WASH technical assistance activities.

Appendix A

SCOPE OF WORK

January 5, 1994

ASSISTANCE TO SAVE THE CHILDREN'S "WATER AND
SANITATION IN RURAL EGYPT" PROJECT

STATEMENT OF WORK

BACKGROUND:

USAID has agreed, with the concurrence of the GOE, to provide financial assistance to Save The Children's project under a Cooperative Agreement arrangement. This project will be incrementally funded over a three year period. The project agreement was finalized in July 1993 and is now in the implementation stage. The project is designed to provide improved health and well-being of women and children in rural communities in the governorates of Assuit, Sohag, Qena, and Aswan through improved water and sanitation facilities.

To enhance the benefits from this program, Save The Children will obtain input from outside technical expertise in the areas of planning, scheduling, training, and hygiene education.

OBJECTIVE:

The objective of this "Buy In" is to provide technical services to Save The Children's project as noted above in order to insure sustainability of the project. Technical services will consist of the the following three workshops:

- A. Schedule/Implementation Workshop
- B. Training of Trainers Workshop
- C. Hygiene Education Workshop

STATEMENT OF WORK:

Liaison requirements

USAID contact office for liaison will be the HRDC office located in Cairo Center, Cairo Egypt. However, primary work requirements will require close coordination with Save the Children as the project implementor.

Schedule

The tentative schedules for the workshops are:

- First Workshop---mid January 1994
- Second Workshop--late January 1994
- Third Workshop---late March 1994

Tasks

To accomplish the objectives outlined above, "Buy-In" teams will be

fielded on three different occasions to conduct workshops as outlined below. Specific details of each workshop will be provided by the "Buy-In" team and approved, in writing, by USAID. It is anticipated that workshop dates and local coordination with participants will be arranged by Save The Children before arrival of the "Buy In" teams. The first workshop will be held in Cairo, while the second and third workshops are anticipated to be held in Luxor. The first workshop will be conducted in English. It is not expected that participants for the second and third workshops will be proficient in the English language; therefore these workshops will be conducted in Arabic or in English with Arabic translation.

Each team shall be composed of two US expatriates and two Egyptians. All team members shall have as a minimum an MS from an accredited university with a minimum of 8 years of relevant experience. Acceptable relevant experience shall include planning, managing, and implementation of projects, teaching/training in similar workshops, and workshop course development to meet the needs of workshops as outlined below.

A. Schedule/Implementation Workshop

This workshop shall be the first of three. Workshop duration shall be a maximum of four (4) training days with approximately 30 participants from Save The Children, USAID, GOE officials, and others as may be invited. The workshop shall cover the following items:

1. Project background, scope, purpose, schedule and progress to date;
2. Implementation techniques and issues including sound scheduling and problem anticipation and resolution;
3. Project outputs and establishment of appropriate measurable performance indicators; and
4. Roles, responsibilities, agreements, and commitment of all parties.

B. Training of Trainers Workshop

This workshop will focus on upgrading training skills of trainers who will subsequently train village level workers to implement activities associated with the Save The Children project. Planning and managing skills development will be emphasized as well as skills needed to design and deliver training modules.

Participants will be composed of approximately 20 persons with a limited knowledge of subject matter in which they will be training others. This workshop will cover a ten (10) training day period and cover the following subject

matter:

1. Principles of adult learning;
2. Framework development for preparing and conducting a training module;
3. Skills development in designing and delivery of training modules; and
4. Skills development in planning and managing a training module.

C. Hygiene Education Workshop

This workshop shall improve the participants awareness of the importance of public hygiene and improve the skills of participants in implementing community hygiene education activities. Emphasis will be placed on activities that influence behavior that maximizes the health benefits from water and sanitation improvements.

Participants will be composed of approximately 20 individuals involved in planning and implementing hygiene education activities in selected villages in Egypt.

The workshop will cover a ten (10) training day period and will have as its main focus the upgrading of participants' skills to assist local organizations carry out hygiene education activities.

WORK SCHEDULE:

A total of ten (10) work days in the US will be allowed for development of workshops agendas, handouts, visual aids, schedules, final report, and other workshop materials as may be required. Two (2) work days at the beginning of each workshop and one (1) work day at the end of each workshop will be permitted for organizing workshops, pre workshop meetings, and exit interviews with USAID and Save The Children staff.

DELIVERABLES:

A draft report (5 copies) covering workshop activities shall be submitted within seven (7) work days of the completion of each workshop. Within 10 days of receiving USAID's comments on the draft report for each workshop, a final report shall be submitted for USAID's approval. Draft and final reports shall be completed in the US.

Appendix B

SUMMARY OF REVISED DETAILED IMPLEMENTATION PLAN

LIST OF ATTENDEES-DIP PRESENTATION MEETING

March 31, 1994

APENDIX B
SUMMARY OF THE REVISED DETAILED IMPLEMENTATION PLAN

PROJECT GOAL Over three years, to improve the health and well-being of women and children in 30 outlying communities in Aswan, Qena, Sohag, and Assiut governorates.

PROJECT STRATEGY To achieve the Project goal by:

- Improving hygiene practices and reducing the work load related to water and sanitation activities of women and children
- Providing appropriate technologies and promoting hygiene education
- Assisting village organizations to sustain and replicate Project activities

PROJECT OBJECTIVES AND KEY INDICATORS

1. To increase the availability of water in households, and to promote the safe use of water

Key Indicators:

- Number of households properly using and maintaining filters (compared to number installed);
- Number of beneficiaries of hygiene education activities;
- Total amount of water used (average weekly consumption) in Project households before and after the intervention (compared with the internationally recognized standard of 40 liters/per capita/per day);
- Amount of filtered water used for drinking, dish washing, personal hygiene, and food preparation

2. To promote the availability and correct use of wastewater systems and latrines

Key Indicators:

- Correct installation and maintenance of septic systems (80% of systems installed and maintained with proper siting and drainage to reduce contamination of ground water);
- Number of septic systems installed compared to Project target

3. To encourage the adoption and sustained use of appropriate hygiene practices related to water and sanitation

Key Indicators:

- Correct use, maintenance, and cleaning of filters;
- Hand washing with soap before food preparation;
- Washing vegetables which will be eaten raw with filtered water;
- Drinking only filtered water;
- No cup sharing;
- Safe storage of filtered water;
- Washing hands with soap after toileting;
- Proper disposal of household wastewater

4. To promote the construction of household water filters and wastewater systems, built with locally available materials and maintained by the user

Key Indicators:

- Water filters and septic systems are built and maintained properly by the users (50% of Project units);
- Demand for construction booklets from other households

5. To promote the well-being of women by reducing their work load related to water and sanitation tasks.

Key Indicators:

- Time spent collecting water before and after the intervention;
- Reduction in distance of Project households and water source;
- Percent of water disposed in the household sanitation system;
- Level of satisfaction of women with respect to household water and sanitation activities before and after the intervention

ATTENDEES AT MEETING TO DISCUSS
REVISED DETAILED IMPLEMENTATION PLAN

March 31, 1994

Mr. Alvin Newman, Head of Institutional Development Division, USAID
Mr. Fred Guimont, Head of Urban Administration Development Division, USAID
Mr. Karim Gohar, PVO Officer, USAID
Mr. Albert Cates, Engineering Officer, USAID
Mr. James Frankiewicz, Engineering Officer, USAID
Ms. Suzie Greiss, FSU Manager, CIDA
Prof. Samia Galal, HIPH
Mr. Ali Kerdani, Senior Technical Advisor, DANIDA
Dr. Magdi Helmy, CARITAS
Dr. Fatma Al Gohary, National Research Center
Dr. Alfred Yassa, Regional Health Advisor, Near East Foundation
Dr. Addison Richmond, Director, Egypt PVO Dev. Office
Eng Youssef Sa'aoud, WES Officer, UNICEF
Ms. Abeer Al Tohamy, WES Assistant Officer, UNICEF
Ms. Mary Asa'ad, Consultant
Eng Nagy Zaher, Social Fund (Cairo)
Eng Magdi Zaki, Consultant
Mr. Kamal Al Qashishi, MOLA
Ms. Hala Al Kholy, Program Manager, ICA
Mr. Rashed Morris Mina, Sohag Governorate
Mr. Abdel Fattah M. Ali, Qena Governorate
Mr. Ashraf Al Fouly, Assyut Crippled Children Association
Mr. Emad Adly, Project Officer, Catholic Relief Services
Dr. Angeline Eichorst, Consultant HRDC, NSCE

WASH Consultants (Egypt)

- * Dr. Samiha Al Katcha, American University of Cairo
- * Dr. Nirvana Khedr, American University of Cairo

WASH Consultants (USA)

- * Dr. Edward F. Douglass
- * Dr. Ronald D. Morgan

Save the Children Staff

- * Dr. Atallah Kuttab, Director, Save the Children
- * Ms. Nancy Nielsen, Program Officer, SC/Minya
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APPENDIX C

HEALTH EDUCATION TRAINING WORKSHOP

April 1994

APPENDIX C
HYGIENE EDUCATION TRAINING WORKSHOP
April 1994

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Appendix D

OUTLINE OF HYGIENE EDUCATION TRAINING MODULES

April 14, 1994

SAVE THE CHILDREN PROJECT
Water and Sanitation in Rural Egypt

Training Resources Package

Introduction to the "Package"

Purpose

Intended Use

Target Audience

Who will be the trainer

Understanding the Save the Children Water & Sanitation Project

Relationship of Hygiene Education to the Rest of the Project

Planning a Training Workshop: A Checklist

How to Conduct Periodic Workshop Evaluations

Ideas for Workshop "Energizers"

Opening Ceremony and Introduction to a Workshop

The Interrelationship Between Water, Sanitation, Behavior, and Health

Purpose and Components of a Hygiene Education Program - Overview of a Five-Step Method of Hygiene Education

Step 1. Assessing People and their Community

Useful Information from Other Sources

Techniques for Entering a Community

Quantitative Study Techniques

Prioritizing Behaviors for Better Health

Survey Studies for establishing baselines and for evaluation (sampling, questionnaire design, data analysis using standard computer packages such as EPINFO)

Behavior Observation

Qualitative Study Techniques

Individual In-Depth Interviewing

Focus Group Technique

Behavior Observation

Setting Communication Plan Objectives

Step 2. Planning the Communications Program

Selecting the Target Audiences

Defining the "Product" to be Promoted

Describing the Desired Behaviors

Communication Channel Selection

Training Strategy

Save the Children Staff

Teachers, Youth Leaders, etc

Village Health Promoters (Recruiting, selecting, training, managing, and monitoring)

Message Strategy

Content

Appeals

"Tone"

Source of Information

Maintaining Message Consistency

Message Delivery Strategy

Step 3. Pretesting Components of the Communications Plan

Message and Materials Testing

Behavior Trials

"Product" Testing

Step 4. Communications Plan Implementation: Delivering the Messages

Production and Delivery of Materials

Hygiene Education Skills

Step 5. Monitoring the Results of Hygiene Education

Detecting Message Delivery

Measuring Behavior Change

Re-Planning the Communication Plan

Monitoring a Village After Leaving It

Workshop Evaluations and Closings

How to Coordinate with Other Donors in the Field

How to Leave a Village

The Project Technologies: Sand Filters and Septic Systems

Appendix E

HEALTH EDUCATION TRAINING MANUAL:
A SKILLS DEVELOPMENT GUIDE

Participants in Field-level Review

November 1 - 7, 1994

LIST OF PARTICIPANTS

SAVE THE CHILDREN FIELD STAFF:

Hossam Aziz, Project Coordinator, Sohag
Hanaa Awed, Assistant Project Coordinator, Sohag
Ayman El Gendy, Project Coordinator, Luxor
Hala Ghosheh, Project Manager, Upper Egypt
Ashraf Khadr, Field Coordinator
Sorya Khourday, Assistant Project Coordinator, Luxor
Jakleen Morris, Assistant Project Coordinator, Luxor
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AUTHORS (Health Education Training Manual):

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Esmat Kheir, WASH Research Assistant

SUPPORT STAFF, LUXOR:

Samiya Abu Elwafa, Secretary
Ayman Haggaad, Finance/Administrative Coordinator

Appendix F

**INTEGRATED WATER, SANITATION, & HEALTH EDUCATION WORKSHOP
SCHEDULE AND LIST OF PARTICIPANTS**

LUXOR

December 11 - 15, 1994

APPENDIX F
 INTEGRATED WATER, SANITATION, & HEALTH EDUCATION WORKSHOP
 SCHEDULE AND LIST OF PARTICIPANTS

Workshop Schedule

	8:30 - 1:00	2:00 - 5:30
Sunday 11 Dec.	Ia: Introductions; Workshop Objectives and expectations	Ib: Integrated Components of a Successful W/S/HE Programme
Monday 12 Dec.	Iia: Interviews with Volunteer in SC Office	Iib: Continuation of a Successful W/S/HE Programme; Sequencing of Activities
Tuesday 13 Dec.	IIia: Continuation of Five-Step Health Evaluation Process	IIib: Develop Typical 3-month Implementation Plan; Developing Village Volunteer Training Strategy and Guide
Wednesday 14 Dec.	IVa: Continuation of Village Volunteer Training Strategy and Guide; Motivation of Volunteers	IVb: Develop Reporting and Critique Current Health Education Materials
Thursday 15 Dec.	Va: Summary of Workshop: Outputs and Things Learned; Workshop Evaluation; Closure	

List of Workshop Participants, Support Staff, Facilitators, and Visitors

Save the Children - Luxor

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Hala Yahya Ghosheh

Ashraf Abdel Hamid Khedr

Soraya Elnoby Khodry

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Ahmad Mostafa, Deputy Director, SC

Samy Yacoob, Engineer, USAID

Karim Gohar, PVO Project Director, USAID

Ernie Rojas, Engineering Officer, USAID

Appendix G

REVIEW OF TECHNOLOGIES USED BY SCF/EGYPT

Prepared by Bob Gearheart

Produced at request of AID

APPENDIX G
REVIEW OF TECHNOLOGIES USED BY SCF/EGYPT

Slow Sand Filters

The community members obtain their water supply from several sources at the present time. Some communities receive their water supply from surface water supplies directly, some receive their water from groundwater (shallow or deep wells) directly, and some from groundwater via deep water wells, storage, distribution and standpipe. The technical intervention for this project is a household sand filter which filters the drinking, cooking, and washing water for a household of approximately eight people. If the filter is built to specifications it would hold approximately 150 liters of water to the level of outflows which is located above the top of the sand layer. The filter is usually placed in a central convenient location with the living area. Bricks, concrete base, or a mound of sand is initially layed down prior to placing the zinc cylinder.

The filter is composed of a thin walled zinc-metal container (1.4 meters high and 0.6 in diameter). The filter has a welded seam in the cylinder and a welded zinc bottom plate. An outlet bottom comes off the filter a couple of centimeters off the bottom and comes back up the cylinder to an elevation a few centimeters above the sand layer. This outlet design ensures that the filter media always remains wetted. The filters have been developed and tested through a UNICEF project. The filter has a 8-10 cm layer of large gravel (1 cm in diameter), and a 10-15 cm layer of smaller gravel (0.3 to 0.5 cm in diameter) and a 0.6 meter column of filter sand on top of the smallest gravel. Water from the various sources is poured into the top of the filter, usually twice a day, to supply water to a household of eight people. The water column above the sand layer holds about 150 liters per day. This is enough water for 3-4 people per day or half the water for a family of 6-8 people at 40 liters/capita/day. The filter is designed for a household use and supplants water storage in a communal pottery vase which holds approximately 25 to 50 liters.

Example of Drinking Water Quality

	TDS	Fecal Coliform	Turbidity	Hardness	Iron
WHO	1000	<2.2	5	500	0.3
EEC	-	<2.2	4	1500	0.2
USEPA	500	1	1	-	0.3
CANADA	500	1	5	500	0.3

	Raw Data	Filter Data
Save the Children Fecal Coliform		FC/100ml
2 Groundwater Source	>16	2.8
4 Surfacewater Source	10	3.5

The groundwater source for the pilot project is a highly contaminated source where surface water enters directly into the opening to the shallow groundwater source. While the turbidity was low in the groundwater the filter showed excellent performance in producing a coliform level of 2.8 MPN/100ml. This represents a worst case scenario in terms of groundwater quality. It is demonstrating the ability of the bio-film in the slow sand filter to reduce coliform levels. The fact that the testing methodology does not allow for detecting coliform levels above 16 MPN/100ml.

Surface water filtration produced coliform levels of 3.5 MPN/100ml. Nine out of twelve samples were less than the 2.2 MPN/100ml standard. Two samples, one at .16 and one at 9.2 MPN/100ml affect the average. Under normal conditions the results from this testing shows that the sand filters are effective at removing fecal coliforms from surface water. The surface water influent fecal coliform was less than the groundwater influent, ranged from 2.2 to >16 MPN/100ml.

Cost of SC Technologies

	LE	\$
Septic Tanks	700	250
Slow Sand Filter	150	50
Addition to Filter	<u>50</u>	<u>10</u>
	900	310
Average Income	1500	500
W/S Investment/Income Ratio	0.6	
# of months to pay for investment	7.2 month	
# of years to pay investment if beneficiaries could pay 10% of annual income.	6 to 7 years	

Technique Issues

Slow Sand Filter Design

It appears that considerable R&D has gone into the design of this filter. UNICEF funded the original design and testing. This consultant did not have access to any of the design criteria or research results. The only information available to the consultant was testing data, 4 sets, from the pilot projects. Results of this data indicates effective treatment of two sources of water. The filters are meeting water quality standards on a regular basis. The slow sand filter is a proven technology and the SC design appears to follow standard design criteria. What is not known about the filters is the sand size distribution. Based upon coliform removal levels, though, it is working up to international standards.

Testing should be done on filters presently being used by beneficiaries. A typical sampling program should include the following criteria for selecting filters to sample.

1. Age of filters - take a range of filters put in place over the project period.
2. Types of sand used in filters.
3. User types - large families.
4. Water source types - different communities.

Some of these factors can be found at the same household. The other consideration is to identify a minimum of 10-12 filters for each factor listed above. This would allow for the use of small number statistics to characterize the filters.

Another consideration is to sample a selected few filters on a continuing basis. For example choose 4-10 filters to sample on a weekly basis to determine temporal effect on the sample filter.

All of the filters sampled should have the following use data collected.

- # if members in household
- liters/day added to the filter
- uses of the water
 - drinking
 - washing
 - etc.

Turbidity measurements through the slow sand filters showed significant removals in the case of the surface source. The average turbidity in the surface water influent was 8.4 NTU with a filtration effluent value of 0.29 NTU for 30 samples. This is showing excellent removal of colloidal and suspended solids. Turbidity is the best one measurement for filter efficiency. Removal of oocysts, bacteria, and viruses can be correlated with turbidity removal.

The groundwater source turbidity was 2.5 NTU and after filtration was reduced to 0.29 NTU. In the case of groundwater this site is atypical. Normally groundwater has low turbidity. The groundwater turbidity at the pilot project site ranged from 1 to 6.6 NTU for the six sets of samples.

In both cases at the pilot project, the filters are being used to treat water which is much more contaminated in terms of turbidity and coliform, then normally expected in a piped water system from a groundwater source. This performance data should serve as positive results for the effectiveness of this technology. SC staff should have confidence that this technology is producing a drinking water which meets all International standards.

The total dissolved solids (TDS) in the groundwater was 1473 mg/l with a minimum reduction through the filter, 1449 mg/l and 1464 mg/l respectively. The surface water sample influent was 597 mg/l with filtration effluent values of 429 to 533 mg/l.

The septic tank/adsorption field system appears to be an appropriate technology for these regions in Egypt. The tank is designed to hold solids for 15-20 years, from my calculations. The tank is over designed from a treatment standpoint. The tank could easily be reduced by 2/3 in volume and still effectively removed settleable and suspended solids and allow for a 3-5 year solids accumulation. The adsorption field area/trench length would not be affected. Assuming a 50-80 liters/capita/day water use and a 3 to 4 day retention period, and a household size of 8 people, the volume of the septic tank could be 1.6 m³ instead of the 4 to 5 m³ tank presently being prescribed for a household. The tank construction appears to be of high quality, minimizing the possibility of hydraulic failure (leakage). If concerns still exist for the construction techniques for septic tanks then asphaltic paint can be applied to the internal surfaces of the tank.

Measuring the inflow and outflow of several tanks could be easily done to determine hydraulic continuity of the tanks.

Some operational research could be done at sites where minimal areas exist to install smaller tanks and more creative ways of using the septic tank effluent for subsurface irrigation of trees and non-edible crops for humans, such as forage, etc..

The one missing component of the septic tank system is the development of any capacity to empty the tanks. The assumption is that the solids holding period is long enough that the project

will not have to deal with this ultimate disposal issue. I personally think this strategy should be reviewed by SC staff. Theoretically approximately 3 times as many septic tanks could be constructed for the same amount of money (over sized tanks) and capacity for emptying the tanks could be developed. The ultimate disposal of sewage solids needs to be thought out at sometime by someone.

Chlorination of the Filters

There is no reason that I could see, in my short review of the system, to chlorinate the filter. A slow sand filter naturally develops a bio-film which is necessary for the normal operations of the filter. Chlorinating the filter will cause this bio-film to slough, which itself is a problem. It will also leave the filter biologically dead.

Filter changing is done by removing the top 0.5 to 0.7 cm of filter sand plus accumulated material, when filtrate volume has been reduced to a low rate. All of these are covered by SC O&M procedures.

Water Quality

SC/E has a water quality laboratory located in Luxor at the SAVE office. This laboratory is stocked with standard media, equipment, and procedures for determining total coliform, fecal coliform, turbidity, and specific conductance/salinity. Field equipment is used to measure flow and temperature. An inspection of the equipment showed that the equipment was operated as specified in the standard methods. The incubator was working at the specified temperature, the positive tubes in the MPN method were been read correctly, and the turbidimeter was calibrated and working correctly. At the present time this laboratory has sampled about a year of testing on pilot project filters located in Hagaza. This pilot project is located at a volunteers household. Two sources of water are loaded to filters which have different types amount of Shallow groundwater () is added to two filters and surface water is added to six filters. These filters have different combinations of sand and gravel for purposes of optimizing the design.