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Social Research Center

WOMEN, WATER, AND SANITATION:

ACTION RESEARCH PROJECT IN TWO VILLAGES

IN LOWER EGYPT

Phase 1

Interim Report For The Period

March 1986-February 1988

Presented by

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## EXECUTIVE SUMMARY

Phase I of the Women, Water, and Sanitation action-oriented research project was completed between February 1986 and March 1988. It was implemented by the Social Research Center of The American University in Cairo, and funded by the International Development Research Center, Canada.

The activities were concentrated in two villages (Babil and Kafr Shanawan) in the Menoufia governorate. A team of anthropologists, sociologists and public health personnel conducted the project. Short-term specialists in related fields were consulted periodically.

Both qualitative and quantitative research instruments were utilized during the project, as to be able to test scientifically and demonstrate approaches and procedures that would help activate community participation in up-grading existing sanitary conditions and promoting health education.

The project aims at:

- I. identifying the existing management of water supply and sanitation facilities;
- II. mobilizing the local level service and community workers to take an active role in working with the villagers towards the improvement of the village sanitary facilities, and
- III. initiating water and sanitation educational programs.

**Identification of Existing Management of Water Supply and Sanitation Facilities.** Policy-makers at the different administrative levels were interviewed on issues pertaining to health and sanitation to understand the mechanism of decision-making in relation to promotion of health and environmental sanitation in the village setting. Results of these interviews revealed that "Environmental Health and Sanitation" per-se is multi-sectorial; responsibility is divided among different directorates and departments at the different administrative levels; and decision-making is generally centralized at the top. The lack of coordination between the different departments and prevailing bureaucratic procedures curtail most

efforts to improve conditions. Inflexibility in decision-making, lack of funds, material resources and trained personnel are viewed by most interviewees as major constraints.

**Attempted Improvements of Village Sanitary Conditions through Local Participation.** It was necessary to focus on the improvement of village sanitary conditions since it would be inconceivable to enforce hygienic practices related to environmental sanitation without improving village surroundings. The most pressing sanitary and environmental problems as viewed by villagers and observed by research team members relate directly to the disposal of solid waste and sullage in both villages, the polluted stretch of the canal that runs through the residential area in one village, and the high ground water table and the lack of sewerage system in the other.

Three specific project activities are herein described: (1) repair of one of the standpipes, an activity initiated by village women; (2) the problem of the polluted canal; (3) and the feasibility study dealing with the high ground water table. These show the amount of effort that had to be invested by the research team in order to encourage and guide villagers and village leaders in developing channels of communication between them and policy-makers at different levels and to promote improvements in environmental sanitation through self-help efforts. To achieve any progress entailed the working out of alternative solutions with villagers and officials and evaluating these with the help of various technical consultants. Findings indicate that much depends on the complexity of the administrative set-up involved and the competence and willingness of the local leadership whether attempts at improving village sanitary conditions are speeded up or slowed down. It was also clear that women's involvement in such efforts seem limited on a formal and public level, especially when these entail working through a complex bureaucratic hierarchy, but they are informally willing and able to participate with ideas, money, time and labor. In fact, repairing the standpipe, an activity initiated and carried out predominantly by women, was achieved in a short span of time since it did not involve any bureaucratic procedures.

**Initiating Water and Sanitation Educational Programs.** An important component of the project is to demonstrate and evaluate the effectiveness of an hygiene education program. This program is pursued by different categories of hygiene promoters, such as service workers (clinic and nursery staff), and formal, informal, and natural leaders, of differing educational and social backgrounds, age groups and marital status.

Four areas were selected as the focus of the Hygiene Education Program based on results of the research that preceded the intervention: (1) hand washing practices; (2) water storage and food handling; (3) latrine maintenance; (4) environmental sanitation.

Training of the different categories of health promoters is divided into two main parts: how to relate to people and communicate messages that are likely to be accepted; and scientific knowledge about disease transmission, sources of microbes, disease prevention and how these relate to poor hygienic practices.

Post-training schedules administered to potential hygiene promoters revealed that the majority were able to retain most of the information delivered during the course of the training program.

Based on periodic evaluation of women beneficiaries of the Hygiene Education Program it became evident that the service workers at the clinics following face-to-face interaction with women or group discussions in conveying hygiene information were the most effective category in respect to women's ability to retain communicated information as well as their readiness to change unhygienic practices. Informal hygiene promoters, on the other hand, especially those working among peer groups (in terms of age, education, and social position) brought about similar positive results.

Upon evaluation the most reported changes expressed by the beneficiaries in respect to unhygienic practices were those that tackled the most visible and obvious behavioral alterations, e.g. maintaining and covering latrine opening, separating the animals within the house compound, covering the faces of infants from flies, and cleaning in front of their homes.

Findings of the monitoring and evaluation of the Hygiene Education Program point out the need to direct efforts towards the recruitment of more hygiene promoters to reach more of the village women, an activity which is in process at the moment. During Phase II of the project, which has already started, the research team is working closely with policy-makers to familiarize them with all the procedures as to be able to carry out similar programs at other health units. On the other hand, efforts are underway to work out a mechanism by which to involve the informal sector as well.



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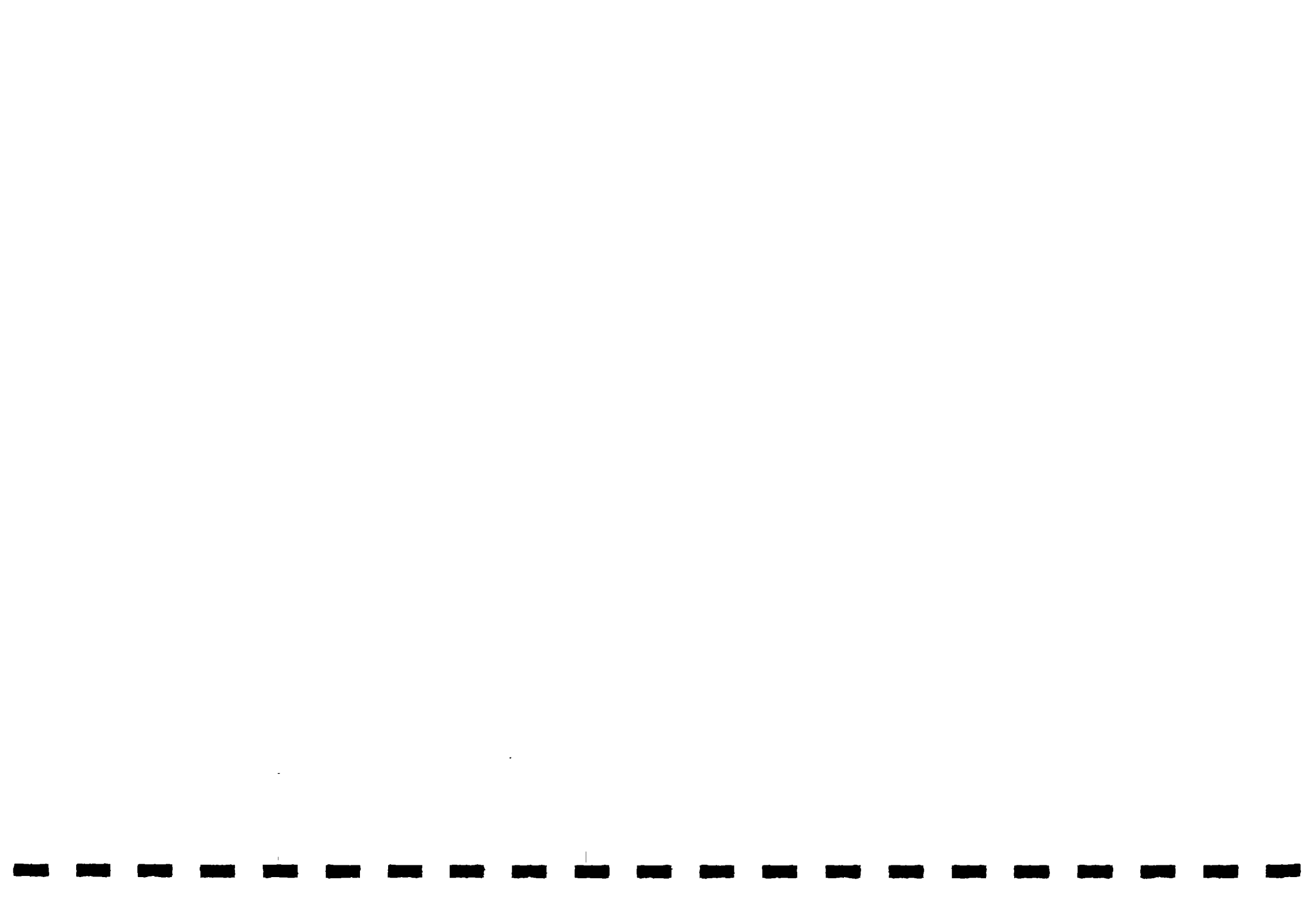
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## WOMEN, WATER AND SANITATION

### Introduction

Recently, great concern has been expressed by policy-makers about poor sanitary and health conditions in most of rural Egypt. Several interventions have been made to improve existing environmental sanitation services and practices, namely combating bilharzia, introducing reliable piped water and excreta and waste disposal systems, and promoting health education. The task is enormous and difficult to achieve due to the limited financial resources and skilled man-power in the country. The planners, therefore, realized the urgent need to mobilize community members and leaders to assume greater responsibility in supporting and implementing low cost solutions to improve and maintain local sanitary conditions.

Funded by IDRC, the "Women, Water and Sanitation" project, is an action/research project attempting to address the above problems, through testing scientifically and applying demonstration approaches and procedures aiming at activating community participation in the up-grading of environmental and sanitary conditions. It also attempts to promote health education.

The project is being carried out in two villages in the Menoufia governorate in Lower Egypt. These two villages are located approximately 45 miles North of Cairo. Kafr Shanawan has a population of approximately 4,000 and Babil has 5,000.

The villages are considered representative of rural areas in the Delta with respect to population size of the villages, education and occupation of villagers.

Findings of the initial interdisciplinary research project, "Women, Water and Sanitation", (El-Katsha 1986)<sup>1</sup> undertaken in the same villages between (1984-85) served as the basis for the implementation of this project.

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<sup>1</sup>Women, Water, and Sanitation, El-Katsha, Samiha, October 1986, Social Research Center, The American University in Cairo. (Unpublished Report)

## Background Information

The following is a brief account of relevant characteristics of both villages. In both villages inhabitants have access to three water sources, i.e. piped water through house connections or standpipes, hand pumps and canal water. There are no sewerage, solid waste or sullage disposal systems. The majority of houses have electricity. In Kafr Shanawan, most of the houses are constructed with red brick; in Babil adobe houses predominate. In both villages pit latrines within the house compounds are poorly maintained. Animal sheds are more common in adobe houses. Canals continue to be used by women for laundry and washing of kitchen utensils, particularly in Kafr Shanawan which has a problem of high water table.

Both villages have a village council, part of the local government system, and access to public services. They have health and social units, primary schools, and agricultural cooperatives.

## Profile on the Role of Women in Rural Areas

The rural women's primary role is the care of their families as well as looking after the livestock, fetching water or getting rid of waste water, washing clothes and kitchen utensils, preparing meals, cleaning the house and helping in cultivation. These tasks take up most of the day. Women's social activities are centered around visiting the sick, receiving out-of-town visitors, attending or helping in weddings or funerals.

It was evident that the majority of women, especially in Babil, do not share in any activities related to community development, nor do they feel an obligation to do so. They feel that men should act as mediators between them and the responsible bodies (El-Katsha 1986).

A village council representative said:

"The Village Council does not ask women their opinions and does not even consider their requests if they make any. The men do not pay much attention to what women say because we know what is the best; women must abide by our decision".

Despite this prevailing attitude, when women were given the opportunity to voice their opinions and to act collectively to meet a pressing need, they proved themselves a very effective and competent group (See Case Study No.1).

As stated in the proposal,

"it is strongly believed that bringing about a real change in village sanitary conditions and hygiene practices necessitates both the active local participation of the villagers, specifically women, and the genuine cooperation of the various authorities responsible for basic village health, education and social services."<sup>2</sup>

The study clearly suggested that the process of changing the thinking patterns and habits of rural people can only be achieved when they themselves become more deeply involved in the critical analysis of their own situation, and when they become conscious of their role and assume the responsibility to improve and maintain their environment.

#### Project Objectives

This report covers findings of both the research and action components for the period March 1986-February 1988 according to proposed set goals of the project:

- I. to identify the existing management of water supply and sanitation facilities;
- II. to mobilize the local level service and community workers to take an active role in working with the villagers towards the improvement of the village sanitary facilities, and
- III. to initiate water and sanitation educational programs.

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<sup>2</sup>Proposal; Women, Water, and Sanitation: An Action Research Project, submitted to the IDRC March, 1986, by SRC, AUC.

## Methodology

Both quantitative and qualitative research instruments were utilized during the course of the project.

### Quantitative Data:

- Several interview schedules, guide lists of questions, follow-up and evaluation forms, and census sheets were designed, pre-tested, and administered at different intervals of the project (See App. 1 for list of all forms).
- Data was computerized and analyzed as an on-going process during the field work to allow for continuous feed-back, up-grading and evaluation of the field situation.

### Qualitative Data:

Information gathered through anthropological field observations and intensive open-ended interviews were systematically recorded in relation to environmental issues, and the monitoring and evaluation of the Hygiene Education Program (H.E.P.). The field notes have been coded and cross-filed to allow for content analysis. This complements and enriches the interpretation of the quantitative data.

### Project Team Composition

Phase 1 of the project lasted from March 1986 to February 1988. The research and the action were implemented by a team of sociologists and anthropologists from the Social Research Center, of The American University in Cairo - Mrs. Samiha El-Katsha, principal investigator; Mrs. Awatef Younis, co-principal investigator; Miss Hanan Sabea, student fellow; Mr. Esmat Kheir, field researcher; and Mr. Fikri Abdel Wahab, operation manager. Dr. Kamilia Mohamed Salem from El-Azhar Medical School, Public Health Department, is also a member of the research team and is the resource person for the public health education and training components. Local interviewers assisted the team whenever necessary.

Short term specialists in the area of public health education, group dynamics and training, and environmental engineering were consulted as the field situation required (See App. 2 for List of Consultants).

## SECTION I.

### IDENTIFICATION OF EXISTING MANAGEMENT OF WATER SUPPLY AND SANITATION FACILITIES

It was recognized that behavioral patterns relating to water use and sanitation could be improved without changing the prevailing unsanitary conditions within the village environment.

Hence, it was necessary to interview policy-makers/executives (22 cases) at the different administrative levels of the governorate, markaz<sup>1</sup> and village to understand the decision-making process in relation to the promotion of health and environmental sanitation in the village (See App. 6 for a list of policy makers/executives interviewed).

The existing governmental administrative structure responsible for environmental health and sanitation is in charge of the following: installation and maintenance of piped water sources; disinfection of irrigation canals; sullage, excreta, and solid waste collection; hygiene education, and training of health personnel.

Results of the interviews with policy-makers point out the following: "Environmental Health and Sanitation" per se does not come under one sector. The responsibility is divided among different directorates and departments at the governorate, markaz, and village levels; and decision-making is generally top down (See Charts 1, 2 & 3 pp.9-11).

Most officials at the governorate level viewed their role as policy-makers for the entire governorate. They pointed out that, ordinarily, there is more direct interaction and communication between the officials of the respective departments at the markaz level and the Executive/Popular Village Council<sup>2</sup>. Nearly all village services are administered under the

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<sup>1</sup>Markaz = county.

<sup>2</sup>Executive Village Council members are appointed government employees, therefore they are not necessarily residents of the village they serve. However, the Popular Council members must reside in the village they represent.

supervision of the Village Council. Different local service units take action on issues that can be dealt with locally and which fall within the domains of their responsibilities as determined by the policy-makers at the governorate level. Hence, the support of the Village Council is essential for the promotion of village sanitary conditions.

Decentralization is practiced minimally on issues pertaining to environmental sanitation. Due to limited budgets and inflexibility in decision-making, the existing environmental problems are viewed to extend beyond the administrative powers of local institutions, e.g. village councils.

Bureaucratic procedures and lack of communication between the concerned departments in the area of environmental health and sanitation slow down attempts to improve conditions. Often important and relevant information pertaining to hygienic conditions are not reported to the villages concerned, e.g.: a) results of the periodic examination of irrigation canals to detect the presence of bilharzia snails are reported directly to the Health Directorate in the governorate and to the headquarters in Cairo. The concerned village units are never notified about these results even if the canals in their areas are infested; and b) results of analysis of water samples are not communicated to responsible personnel in the village such as the Health Unit doctor.

There is a consensus among interviewees that the constraints policy-makers in managerial positions encounter are mainly the lack of material and financial resources, and the incompetence of personnel (lack of qualified manpower, trainers, etc.). The following examples illustrate this point:

a) One of the health education personnel stated that lack of facilities and resources curtail their ability to carry out educational programs in the village. Most of the learning aids, except for a few films on family planning, are outdated. A member of the mobile government health team commented:

"There is a monthly work plan set by the Director of the Preventive Health Care Unit at the governorate. However, because there is no vehicle for transportation, the plan is

never followed. If there is a school within walking distance to the department, we carry our equipment and walk. This is about all we can do."

- b) The number of sanitarians and school health visitors and the resources available to them are insufficient.

The Director of the Health Department commented:

"Where are the sanitarians? Most of them are from distant towns and cities and they arrive at the villages very late. In most cases, they do not go to the villages at all except when there are emergencies".

As to the school health visitors, he was of the opinion:

"There are not enough school health visitors to do an effective job. In Menoufia, there are 1,200 schools. That means that each school health visitor is assigned to several schools. Hence, she can not properly supervise all of them".

- c) Lack of funds, coordination with other departments and shortage of skilled personnel result in improper operation and negligence in maintaining the available utilities.

As the Head of the Health Directorate explained:

"The work plan could not be implemented because the other departments and their policies run counter to our plan of Preventive Health Care. There is no money to fund our projects; the employees are cramped in their offices and receive very low pay. So why should they care about their work?"

Intra- and inter-sectorial collaboration is deemed essential for solving pressing sanitary problems in rural Egypt.

The need to strengthen the existing institutions in the environmental sanitation and public health sectors is recognized to be a long term process requiring policy change. Even though this was not the focus of the project, it was necessary to identify the roles and areas of responsibility of different local bodies so that any proposed interventions could be chan-

neled through the existing administrative hierarchy. There was a consensus among interviewed policy-makers about the poor sanitary conditions that prevail in most of the villages; and they were willing to cooperate with the research team to improve the environmental sanitary conditions as far as their limited resources would allow.



CHART NO. 1  
ADMINISTRATIVE ORGANIZATION IN RESPECT TO WATER SUPPLY FROM PIPED SOURCES AND HAND PUMPS \*

**GOVERNORATE LEVEL**

**Executive and Popular Council**

- Sets the policy & plan of work for the entire governorate
- Receives regular reports from departments at markaz level
- Allocates funds from the governorate yearly budget or from grants to cover the different planned activities
- Receives regular reports from all the related directorates

**Housing Directorate**  
-Sets plans for the entire governorate  
-Builds and maintains water reservoir

**Water Utilities Direct.**  
-Supplies villages with water meters

**Health Directorate**  
-Tests & analyses water samples obtained from all village reservoirs  
-Supplies villages with disinfecting chemicals for reservoirs

**Transportation Directorate**  
-Sets policy & plan of work  
-Issues permits for the installation of pipe lines through main paved roads

**MARKAZI LEVEL**

**Executive & Popular Council**

- Executes work plan set at governorate level
- Reports back to directorates of gov. level
- Monitors execution of work plan at village level
- Receives money allocated by gov. to carry out related programs

**Housing Department**  
-Builds, maintains & repairs village reservoir  
-Supervises village reservoirs disinfection

**Dept. of Roads & Bridges**  
-Receives requests to install pipelines through main paved roads

**VILLAGE LEVEL**

**Executive & Popular Council**

- Installs pipe lines within village & piped home connections
- Installs water meters in the homes
- Builds, maintains & repairs water standpipes
- Collects fees of water use

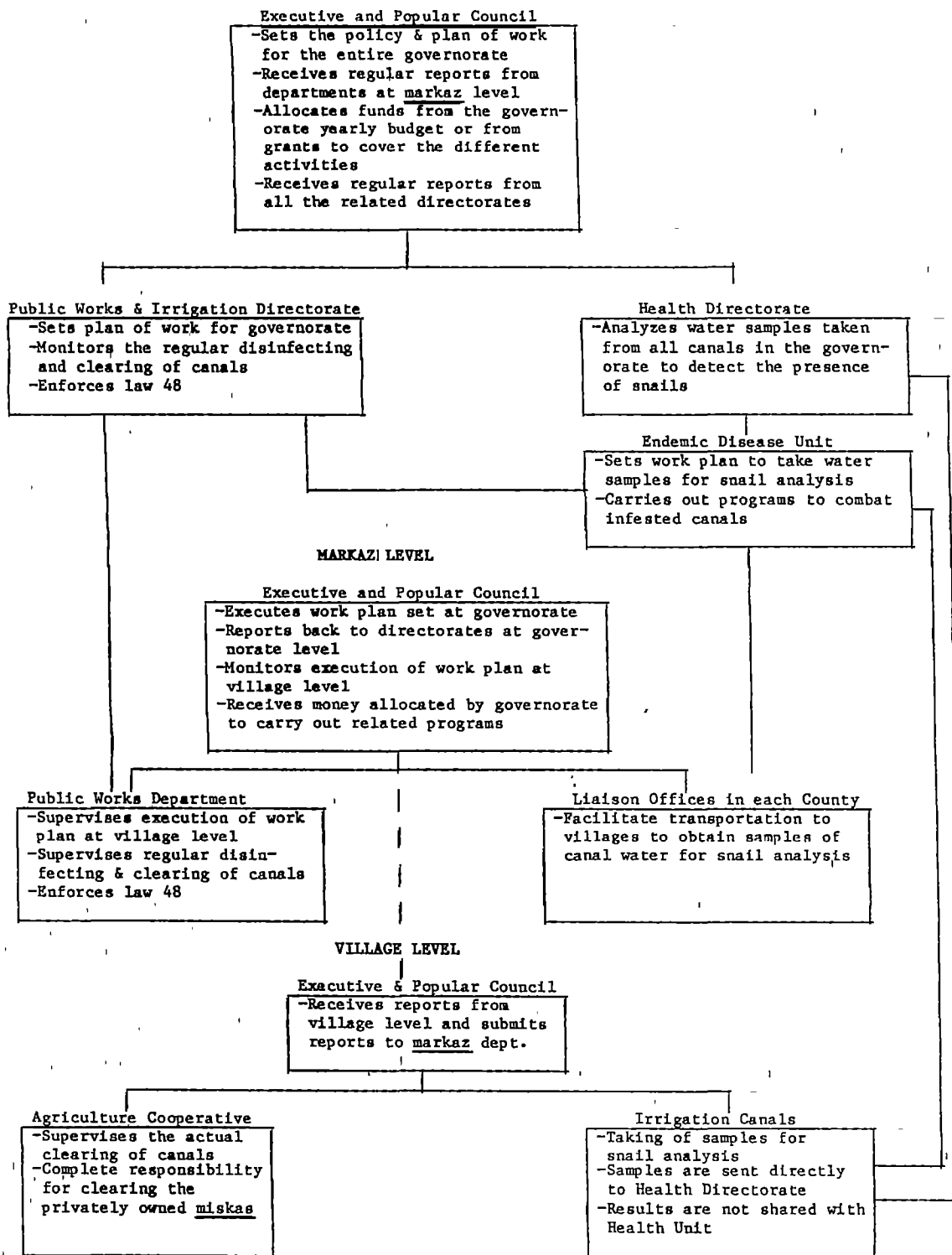
**Village Reservoir**  
-Local staff maintains & repairs village reservoir

**Health Unit**  
-Takes water samples from reservoir  
-Periodic disinfection of reservoir

Hand pumps are privately owned and maintained. Owners can request water analysis of their hand pumps from the Preventive Health Care Unit at the governorate level; in practice this rarely takes place - there have been no reported cases so far.

CHART No.2  
ADMINISTRATIVE ORGANIZATION IN RESPECT TO IRRIGATION CANALS AND MISKAS

GOVERNORATE LEVEL



\* Miskas: Miskas are small irrigation branches that receive water from the main irrigation canal network. They are privately owned by a group of farmers whose land is at a distant to the main canal, in turn they are responsible for its maintenance.

CHART NO. 3

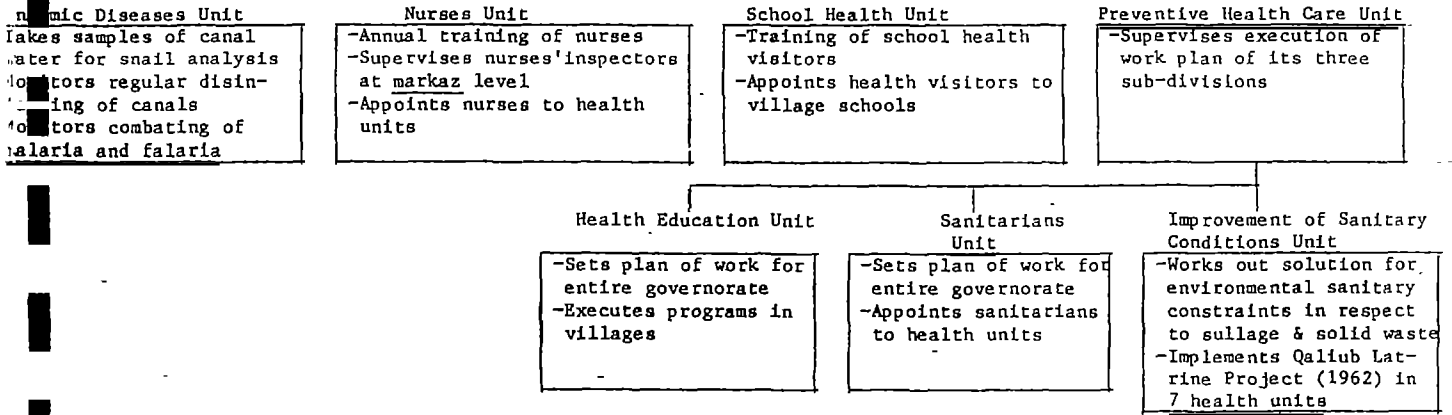
ADMINISTRATIVE ORGANIZATION IN RESPECT TO HEALTH SERVICES, EDUCATION AND TRAINING IN THE AREA OF HEALTH PROMOTION

GOVERNORATE LEVEL

Executive & Popular Council

Receives reports from Health Directorates to coordinate activities with various dept.

HEALTH DIRECTORATE



MARKAZI LEVEL

Executive & Popular Council

Receives reports from Health Department

HEALTH DEPARTMENT

-Representatives of all Units are to:  
 -execute work plan set at governorate level  
 -report back to units at governorate level  
 -monitor execution of work plan at village level

VILLAGE LEVEL

Executive & Popular Council

Supervises activities of different units

HEALTH UNIT

in Mother Village

-Carries out national vaccination campaigns  
 -Maternity and child care  
 -Outpatient clinic  
 -Bureau of vital statistics

School Health Visitor

-Supervises food distribution among students  
 -Supervises cleanliness of classrooms, latrines & yard  
 -Refers to health unit cases of sick students  
 -Organizes health teams in each school

Sanitarian (All Male)

-Isolates infected persons in cases of endemic diseases  
 -Analyzes samples of potable water in respect to bacterial infestation  
 -Inspects food vendors  
 -Implements national vaccination campaigns  
 -Carries out hygiene education  
 -Charges fines for disposal of sullage and heaping manure in the village streets

Qaliub Latrine Project

-Manufacturing hygienic latrines at health units  
 -Latrines' actual cost is LE 45 and it is sold to people at LE 3/unit (not found in research villages)

## SECTION II.

### ATTEMPTED IMPROVEMENTS OF VILLAGE SANITARY CONDITIONS THROUGH LOCAL PARTICIPATION

"What rules among the people is personal interests. Nobody cares about communal needs. People are not used to have someone come and discuss with them their village problems. They only meet to further personal goals and to acquire monetary or material incentives. They are used to having the government solve all their problems without consulting them".  
(A quote from local leader interviewed by the research team)

Parallel to the hygiene education program, it was necessary to focus on the improvement of village sanitary conditions since it is inconceivable to enforce hygienic practices related to environmental sanitation without improving village surroundings. It is recognized that environmental health problems in rural Egypt are especially severe in the areas of waste water and excreta disposal and solid waste collection (El-Katsha 1986).

This section presents an actual demonstration project, where villagers and village leaders were encouraged and guided in developing channels of communication between them and policy-makers with the aim of promoting environmental sanitation through self-help efforts.

Group meetings with villagers, observations, and interviews with individuals from different social categories in the community revealed that there is a great deal of homogeneity in their perceptions of environmental sanitary conditions (See Table 1). In Babil, the polluted stretch of the canal (PC) that runs through the residential area, disposal of sullage and solid waste in the streets, and the lack of an appropriate sewerage system were frequently cited. In Kafr Shanawan, the high ground water table, lack of a sewerage system, disposal of solid waste and sullage in the streets, and the spread of swamps and stagnant water were ranked as the major unsanitary conditions.

Table 1

Sanitary Problems in Babil and Kafr Shanawan  
as Perceived by Interviewees  
(N = 39 Cases in Babil and 43 Cases in Kafr Shanawan)

| Problem  | Kafr Shanawan | Babil   |
|--|---------------|---------|
| - Disposal of sullage and solid waste in streets | 21(49%)       | 29(74%) |
| - Improper septic tank evacuation                | 15(35%)       | 22(56%) |
| - Lack of sewerage system                        | -             | 16(41%) |
| - Polluted canal in middle of village            | -             | 13(33%) |
| - Many swamps & stagnant water points            | 10(23%)       | -       |
| - High ground water table                        | 8(19%)        | -       |
| - Frequent breaks in piped water networks        | 8(19%)        | -       |
| - Frequent water cut-offs                        | 7(16%)        | 11(28%) |

It was obvious in both villages that most inhabitants expressed their dissatisfaction with present environmental conditions. Disposal of sullage and solid waste in streets ranked the highest in both villages: 49% in Kafr Shanawan, and 74% in Babil; while improper septic tank evacuation ranked the second highest in both villages: 35% in Kafr Shanawan, and 56% in Babil. However, villagers did not take any steps to solve these problems, since they feel that it is the duty of the government to improve the village sanitary conditions.

The solution to sanitary problems are perceived to be the responsibility of the governmental institutions in charge. The role of the villagers, as one of Babil residents stated, "is limited either to submitting petitions and complaints and/or contributing money upon the request of the Local Council".

The head of the social unit commented:

"Village problems cannot be solved through discussions and gatherings, but rather with money. If we have funds, we can do

something. If there are no funds, the problems will never be solved".

Women expressed their concern at a group meeting held along side the polluted canal:

"The canal has been polluted for the past seven years and this is the first time that anybody has come to discuss this problem with us. Yes, of course, we are aware and dissatisfied with the situation. This is the breeding place for mosquitoes and flies, not to mention the bad odor. But what can we do as women; we can only tell our husbands to complain to the Village Council, but it seems nobody listens to their complaints".

In meetings with several villagers in both areas similar views were expressed concerning the poor sanitary conditions.

"We keep writing complaints over and over to the Village Council, and sometimes even to the authorities in the governorate; but because of the routine, nothing moves fast. We usually receive the traditional answer from responsible bodies: 'For the time being there are no available funds', or else they say that the yearly budget plan of the governorate does not take note of these issues".

Others were of the opinion: "Depending on how concerned and active the Village Council is, complaints will be looked into and, at least partial solutions are sought". Another informant added:

"Some villages have rich people or politically powerful members who can influence the Village Council to take immediate action, since they can help in raising funds and/or suggest feasible solutions".

It is obvious that the present village organization, especially in Babil, is characterized by lack of communication between villagers and decision-makers. Hence, nothing has been accomplished to improve the existing poor sanitary conditions. It is also apparent from observations and discussions during interviews with the Executive Village Council (VC) that they did not perceive these conditions as a severe problem that might have a direct bearing on the villagers' health.

It was surprising that both the village physician and the head of the Village Council in one of the villages were unaware of the severe pollution of the canal running through the residential area, since they do not reside in the village. In fact, they first saw it with the research team. It is clear that the main problem seen by the Executive Village Council is lack of material resources. Moreover, they were unaware of the importance of communicating with and winning the support of villagers, who can participate in the process of solving sanitary problems by raising funds, or contributing their own effort. Another handicap is the lack of awareness as to the need for competent technical assistance to reach the most feasible and cost-effective solutions.

It was within this framework that the research team formulated the following work plan to help improve the sanitary conditions in both villages:

- 1) Meetings are held with villagers to motivate and encourage their participation in activities relating to environmental sanitation and hygiene issues, especially with regard to water usage.
- 2) Efforts are focused on women to inform them about prevailing sanitary problems, and to develop with them awareness for their participation in problem solving.
- 3) Channels of communication and interaction between the villagers, on the one hand, and their representatives at the Popular Village Council (PVC) on the other, are being developed to be able to work out solutions for the improvement of village sanitary conditions.
- 4) Effective coordination between the villagers and the local government are being fostered through transmission of the needs of the people to the higher levels of authority so that appropriate solutions for environmental sanitary problems may be found.
- 5) The experience and expertise of consultants working at national or international agencies and universities is being called upon, whenever the need arises, to provide technical advice on proposed solutions to environmental sanitary problems.
- 6) The research team and representatives from the research communities visited other neighboring villages where similar projects have been implemented, in order to be guided by these experiences while planning similar projects in the project villages.
- 7) A self-help system where the villagers assume responsibility for the maintenance and continuous improvement of the hygienic conditions of

their environment is being developed with various groups of villagers that include men, women and youth.

The role of the research team in this respect focuses on:

- 1) establishing an improved channel of communication on issues relating to the improvement of environmental sanitary conditions between the villagers and local government representatives at the village, markaz and governorate levels. Hence, the project is attempting to act as a catalyst in bringing together these two groups to identify, discuss and work out specific solutions to pressing sanitary problems;
- 2) working out alternative solutions with villagers and officials;
- 3) examining and evaluating these proposals with the help of various technical consultants.
- 4) Establishing a model to guide similar efforts in other villages across the country.

Three specific cases are presented as illustrations:

- 1) Repairing one of the standpipes, an activity initiated by village women
- 2) The problem of the polluted canal (P.C.)
- 3) Feasibility study to deal with the problem of high ground water table.

All the processes undertaken were recorded to enable the research team to identify common denominators that will help in delineating the most appropriate strategy for involving both the decision-makers and community members within the existing institutional organizations.

Because of the hierarchical organization and the interrelationship in decision-making in the area of water and sanitation, the research team anticipated that these tasks would be time-consuming and require working through the various administrative organizations to get the new ideas adopted.



FRAME OF IMPLEMENTATION: DIFFERENT STEPS AND PROCEDURES UNDERTAKEN IN RESPECT TO:  
 FIXING THE STANDPIPE (SP) IN BABIL  
 AN ACTIVITY INITIATED BY VILLAGE WOMEN

Account below demonstrates the actual steps and procedures undertaken, as well as, the time span required to fix one village standpipes, which has been articulated by women as a pressing problem at the time.

|       | Villagers' Participation  | Role of Policy Makers | Issues Discussed   | Follow up   | Comments   |
|-------|---|-----------------------|--|---|--|
| 2/87  | Seven women attended a meeting held at a house overlooking polluted canal (PC) & SP.  |                       | <ul style="list-style-type: none"> <li>-One of the women raised the problem of closing down the SP in consequence to the breaking of the water pipe.</li> <li>-Women explained that the VC will not fix the SP as it is not included in its work plan.</li> <li>-As the SP is basic to women as a major source of water, efforts will be concentrated to raise money to repair the SP and increase the number of taps.</li> <li>-A near-by resident (a University student) objects to the repair of the SP due to the noise women make while fetching water. RT stressed to women that they are the ones to take action and to participate collectively in solving their problem.</li> </ul> | <ul style="list-style-type: none"> <li>-RT arranged for a meeting the coming week to further discuss the issue.</li> </ul>  |  |
| 3/87  | Eight women attended a meeting with RT & consultants at one household overlooking PC. |                       | <ul style="list-style-type: none"> <li>-Women reported that the student approved the repair of the SP.</li> <li>-Husband of midwife will consult a plumber as to the expenses of fixing SP</li> <li>-Consultant suggested that each household contribute LE.1 including RT who are now village residents.</li> </ul>   | <ul style="list-style-type: none"> <li>-Information about SP expenses will be reported to RT.</li> <li>-A woman will be in charge of raising money from households. Results will be shared with RT.</li> </ul>  |  |
| 13/87 | A group of women met at PC.   |                       | <ul style="list-style-type: none"> <li>-Women informed RT about role of RPVC.</li> <li>-RPVC explained that total cost will reach LE.100 to cover: a) install 4 taps; b) construct a fence around SP; c) renovate tap standing; d) rebuilt SP floor with tile.</li> <li>-A total of LE.40 have been raised so far.</li> <li>-Women reported to RT that they went to RPVC to notify him about activities. He contributed money in his capacity as a village member and told other neighbors to participate in the effort as well.</li> </ul>  | <ul style="list-style-type: none"> <li>-More money is required to meet expenses and this necessitates approaching households which did not yet contribute.</li> <li>-RT will arrange for a meeting with women to further discuss activities.</li> </ul> | <p>One of the women notified RT that a fight broke up between the host of these gatherings, and those who were against repairing SP, as she accepted the meeting at her place. Despite that the woman insisted to hold the coming meeting at her place. The midwife defended the project and the woman explaining that all this is to the benefit of the village and its people.</p> |



## SE STUDY No. 1 (Continued)

| Date  | Villagers' Participation   | Role of Policy Makers | Issues Discussed   | Follow up  | Comments   |
|-------|--|-----------------------|--|--|--|
| /1/88 | RT met a group of women in Halayla neighborhood.   |                       | The women explained that 3 of their women neighbors have been moving around the households collecting money to fix the taps of the SP & to build cement standings to put the water containers on them while using SP.  | RT will meet these three women to know details of activity.              |  |
| /1/88 | <p>-Meeting with women residents of the Halayla area who helped raising money</p> <p>-Several meetings with RPVC at his home to get approval &amp; labor requirements to fix SP.</p> |                       | <p>-Women reported to RT that the people living next to SP took the chance of the water cut-off at the SP due to piped network renewal &amp; submitted a petition to VC to cancel the SP.</p> <p>-Women went to RPVC in reaction to the petition &amp; asked for the VC help in repairing the SP by sending a worker to fix the taps.</p> <p>-A sum of 4.50 LE has been collected so far from Halayla women. This money will be used to pay the worker. More contributions will be needed to build the cement standings.</p> | RT will follow-up with Halayla women results of their meeting with RPVC. | Commenting on their action one woman said: "We couldn't stand still until they close down the SP. It is basic to us & we have worked hard to repair it last time. We cannot give up easily."   |
| /1/88 | Meeting with a group of women in Halayla.  |                       | <p>-Women reported to RT that the RPVC has sent the worker &amp; the equipment to fix the taps.</p> <p>-The collected money was paid to this VC worker.</p> <p>-Women with the help of a man cleaned up the area around SP &amp; the opening to the canal.</p> <p>-The ground level was elevated, a fence was built to prevent water overflow, &amp; the ground was rebuilt with cement.</p> <p>-The SP was set back into operation.</p>   |  | Women are very proud of their ability to bring the SP back to work. They have learned the mechanism of how to get their ends meet. A group of interested & energetic young women took the initiative & guided the activity. They are foreseen as the nucleus of community organization and action. |



SE STUDY No. 1 (Continued)

| Date  | Villagers' Participation                        | Role of Policy Makers | Issues Discussed  | Follow up | Comments   |
|-------|---|-----------------------|---|-----------|--|
| 12/87 | Meeting with 3 women in the neighborhood of SP. |                       | <p>-The woman explained that after the 2 weeks of water cut-off due to renewal of piped water network, people realized the importance of the SP.</p> <p>-A man took the responsibility of collecting money. He raised 70 LE and most people did pay because he was using religious incentives as a motivation. The money will be used to connect SP into the renewed piped water network, to fix the 4 taps &amp; if there is money left a fence around SP will be erected.</p> |           | The role of women this time was limited to contributing money, rather than taking part in the effort itself. |
| 1/88  | Meeting with the man who collected the money.   |                       | <p>-The man reported to RT that he used the collected money to buy the taps and pay the worker.</p> <p>-The VC was not approached because "it wastes a lot of time without getting anything implemented."</p> <p>-The SP is set into operation</p>  |           |  |

After nine months of fixing the Halayla standpipe, action was triggered again as a consequence of the Village Council's failure to renew the piped water network. This time, the Halayla inhabitants, primarily women, depended on themselves in mobilizing to address their need, approaching the local authorities and acting collectively. The role of RT was limited to observation and moral support to Halayla women who felt proud of reporting back to RT what they have been and are doing and their experience with them.



SP STUDY No. 1 (Continued)

| Date  | Villagers' Participation   | Role of Policy Makers | Issues Discussed   | Follow up  | Comments  |
|-------|--|-----------------------|--|--|---|
| '8/87 | -Meeting with a woman in another neighborhood where another SP is located. |                       | -Women voiced their request to have the RT help them fix the SP in their area by adding 4 taps. "We have seen how you helped fix the Malayla SP. Our SP has only one tap and we need to fix it soon".<br>-RT made the point clear that people were the ones behind fixing the Malayla SP & RT role is only as a catalyst. The same will apply to their SP. | The woman will test the grounds as to people's willingness & ability to coordinate efforts to fix the SP.  | Some of the women in that neighborhood said: "Let the people from the University fix our SP." Such attitude is the one RT aims at changing. Villagers should take more action to solve their problems without relying on an outside body. |
| '8/87 | -Meeting with the woman in the other neighborhood.                         |                       | -The woman explained that she has approached people and they are ready to help fix their SP.<br>-She selected 2 other women to help in fund raising to fix SP.<br>-She will approach her husband & a friend of his to involve men in the activity as well.<br>-People will approach VC to see what it can offer.   | Three women will start collecting money from households in that neighborhood.  | Some of the women already showed reluctance to cooperate in the effort claiming: "We have water connections in our homes, so why should we care about the SP?"  |
| '9/87 | -Meeting with women in neighborhood of SP.                                 |                       | The three women did not collect anything, as people refused to pay. One man, while they were collecting the money, said that the repair of the SP does not need all that money & that people should not pay. The women felt offended & the operation was halted.   | RT told the women whenever there is a will among the neighbors to act collectively to fix their SP, they can approach us to help them articulate their ideas and implement action. |   |

, further action took place with regard to fixing that S.P. for four months, when finally activities were triggered by the Village Council's effort at renewing the piped water network of the village. The water was cut-off for not less than 2 weeks on the whole village and women had to depend on handpumps to satisfy their needs of water for their different domestic





## CASE STUDY No. 1 (Continued)

| Date | Villagers' Participation   | Role of Policy Makers  | Issues Discussed  | Follow up   | Comments |
|------|--|--|---|---|----------|
| /3/7 | -Meeting with 4 women who helped cleaning up the SP & who are residents of Halayla area. |  | -Women explained that they have participated in raising the necessary funds & cleaning the SP because they are the ones who make most use of it. Hence, they will make all efforts to keep it clean.  |   |          |
| /4/7 | -Meeting with a group of women at SP.  |  | -The women explained that the SP is functioning well. The problem now is the ground of the SP that needs to be re-constructed with tile, since the muddy ground when mixed with water becomes very dirty.<br>-One woman's husband offered his labor to re-construct the ground. | Arrangements will be made with RPVC and the laborer to fix the floor of SP. |          |
| /4/7 |  | RPVC met with RT. The ground of SP was re-constructed with tile with the help of one woman's husband who was paid LE.7 |   |   |          |

After fixing the standpipe of the Halayla, women users made a point of keeping it clean, took on the responsibility of its upkeep and felt the strength of their collective effort in meeting one of their pressing needs. The Halayla standpipe became a model of collective action in the community, especially that of women. Efforts to replicate that incidence of community participation are illustrated in the following case of fixing another standpipe in the village four months later.



|       | Villagers' Participation,   | Role of Policy Makers   | Issues Discussed  | Follow up  | Comments  |
|-------|---|---|---|--|---|
| /3/77 | <p>-Meeting with the family who oppose fixing S.P.<br/>                     -Meeting with the woman responsible for fund raising.<br/>                     -Meeting with a group of women</p> | <p>-Head of VC explained that he approves the repair of S.P. &amp; that he told one of RPVC to provide all needed equipments (taps &amp; pipes)<br/>                     -RPVC explained that he did not receive anything &amp; that he has been after head of VC but in vain.<br/>                     -RT shared with RPVC renovation needed at SP as articulated by village women.<br/>                     -RPVC explained that villagers have raised LE.53 which are not enough.</p> | <p>-Discussing with family opposing fixing SP its importance to village women. Villagers should cooperate to solve their problems.<br/>                     -The woman raising money for SP explained that she faced lots of problems collecting more money as some people are antagonistic.<br/>                     -Women are notified about activities so far. Residents of other neighborhoods explained that after fixing this SP efforts should be concentrated to repair the one located in their neighborhood. One of the women is willing to be in charge of collecting money and supervising the SP in terms of up-keep. A supplement of LE.13 has been collected.</p> | <p>-RPVC will consult about renovation costs of SP.<br/>                     -Arranging for coming week meetings with women</p>                                | <p>-One man told the woman in charge of collecting money; "Why don't you mind your own business. This SP belongs to the gov. &amp; they should fix it. I will not pay a penny for it". His wife later approached the woman &amp; gave her LE.1 without telling her husband.</p> |
| /3/77 | <p>-RT met with women from Halayla neighborhood who have benefitted the most from the SP.<br/>                     -Men, women &amp; youth gathered at SP while it is being cleaned up.</p>   | <p>-RT went to see head of VC but he was not there.<br/>                     -RT met with Head of Piped water network &amp; presented the issue. The latter explained that he is willing to do the job on condition that the SP be cleaned from all mess in it.<br/>                     -RT met with RPVC at Tala to discuss what can be done.<br/>                     -RPVC and head of piped water network gathered at SP.</p>  | <p>-Women cleaned up the SP area and dug the drain the canal from SP.<br/>                     -RPVC promised to supply bricks &amp; sand to level the ground &amp; build a fence.<br/>                     -RT discussed with women the importance of their efforts to maintain the SP.</p>  | <p>-RPVC will supply material to complete renovation of SP.<br/>                     -Women promised to be responsible of maintenance &amp; up-keep of SP.</p> | <p>-Women came to realize the importance of the SP in their lives and their ability to act collectively to solve pressing need: "The SP belongs to us all. We cannot spare it another time. We suffered a lot during the last period when it was broken."</p>                   |



## LESSONS LEARNED FROM CASE STUDY No.1

### WOMENS INVOLVEMENT

Women's active involvement on issues pertaining to environmental sanitation is essential, especially on those issues that have a direct bearing on their daily activities.

- \* Village women were the first group to be approached to act collectively in solving a pressing need, i.e. fixing the standpipe which operates as one of the major public water facilities for women. The problem of the broken standpipe represented a main constraint on women in carrying out daily household chores. Thus, they were the group of most vested interest in solving the problem.
- \* It is necessary to have women participate in the process of solving environmental sanitary problems from the very start. This was achieved through group meetings where women had the chance to think of alternative solutions, discuss different steps that need to be taken and finally implement what has been decided upon.
- \* The process of getting women involved and interested to act as a group, was gradual and based on rapport that developed between them and the research team. This is due to the fact that most of the women are suspicious toward outsiders, and are not accustomed to be approached by any responsible body to solve communal problems. The several meetings that were held with women could be considered as a learning experience for them, during which they were trained to think as a group for a collective interest.
- \* Women showed willingness to share with time, labor and money, once they understood that the proposed intervention addressed a pressing need for them. They were eager to find a channel through which they can express their concerns.
- \* Women were able to take the lead in materializing a communal need if the activity at hand does not run counter to the prevailing socio-cultural

and ideological constraints that limit women's activities to the private, household domain. In this case, no complex administrative organization was involved, which in its turn gave women the flexibility to be responsible for the activity. This case from the start was identified as women's concern.

- \* It was important to get different categories of women join in discussions, planning and implementation, whether the difference be one of age, status or seniority. A mixed group of women widened up circles of discussion and added a multitude of dimensions to the holistic approach as how best to cope with the situation. Thus, middle-aged women were enthusiastic to share with ideas and labor, while senior women took the role of suggesting practical solutions based on previous experience. When it came to implementation, middle-aged and younger women took over the responsibility and helped with their labor power.
- \* Contacting a large group of women allows for identifying potential leadership who eventually are expected to take the leading role in guiding and monitoring the activity. Once this leadership has been recognized, it becomes easier to work through these groups, whenever need calls for that.
- \* Since the objective of this case from the beginning was concrete, simple and reflected a pressing and urgent need, it was easy to use it as a model of female group action that can be followed by other women in the village. In this case, the ability of women to get organized and fix the standpipe stimulated other women in a different neighborhood to pursue the same model.
- \* Starting with a pressing need, enabled the research team to raise issues that extended beyond that need, to others related to healthful living and the need to maintain the sanitary conditions of the environment at large. Once the women felt the positive consequences of the first activity together they were ready and willing to listen and discuss broader concerns.

## INVOLVEMENT OF MEN

From the start men's involvement on issues pertaining to health and sanitation was seen essential

- \* Despite the fact that the activity was identified by the community as women's responsibility, men's involvement was necessary to gain their support and to get them share in group action which addresses communal welfare. One of the complaints of women was how to get their opinions and concerns across to village male leadership. They also pointed out that they need male support to help purchase the material needed for repair and to supervise the technical fixing of the standpipe. This was achieved by encouraging male informal leaders to participate in the activity.
- \* Having the men share in the responsibility by helping in purchasing the needed material and following-up the construction gave them a sense of involvement.
- \* The process of fixing the standpipe gave the research team as well as community members the opportunity to identify and recognize informal male leadership, who were encouraged to assume the role of guiding collective activity for other communal concerns.

## COMMUNITY PARTICIPATION

To activate community members to be responsible for addressing their sanitary problems was basic to the whole process.

- \* Despite the fact, the villagers are reluctant to initiate action if it involves a public facility since it is considered government responsibility, the process of having villagers - both women and men - share in solving the public standpipe problem set the basis for self-help action. Both contributed with ideas, time, money, and labor which developed their sense of belonging to the community as well as self-reliance.
- \* In order to activate villagers, they had to clearly understand and be convinced of the direct benefits to them, and their involvement in

improving village sanitary conditions was the only way to achieve such benefits.

- \* Given the diverse nature of the community and the specificity of the sanitary problems to each location, it was important to contact and work out solutions only with those villagers who are concerned. Other villagers in neighborhoods with other sanitary problems could not perceive fixing the standpipe as their prime concern and hence, refrained from participation.

#### POLICY MAKERS

Any efforts aiming at improving village sanitary conditions should gain policy-makers' support and consent

- \* Despite the fact that fixing the standpipe did not require much of policy-makers intervention it was perceived crucial to gain their support. Research team, village women and men informed the representatives to the Popular Village Council about procedures and called upon the technical assistance of appointed Village Council members and laborers.
- \* One of the main achievements was getting women for the first time approach members of the PVC to seek their help in fixing the standpipe. Male informal leadership helped women unofficially to reach out to formal village authorities.

#### RESEARCH TEAM

- \* It was seen that project members had to be able to work as facilitators and catalysts, especially between women, male leadership and village formal authorities.
- \* The presence of female members on the research team was basic especially since the project's main target are women. This enabled the project team to relate to women and win their support.



- \* The presence of male members on the project team was also important to activate male leadership to support women's activities.
- \* Research team learned never to impose their own ideas. Rather, discussions with concerned village members helped in shaping up ideas that fit the needs and met the interests of the people.
- \* Research team learned to be flexible enough to accommodate to all villagers' needs and suggestions.
- \* Patience and continuous guidance were basic traits for project members, given the fact that they were trying to change practices and attitudes that prevailed among villagers, especially women, for years. It is a learning-by-doing process where villagers start assuming the leading role in solving village problems. This process is time-consuming, but on the long run has fruitful effects.

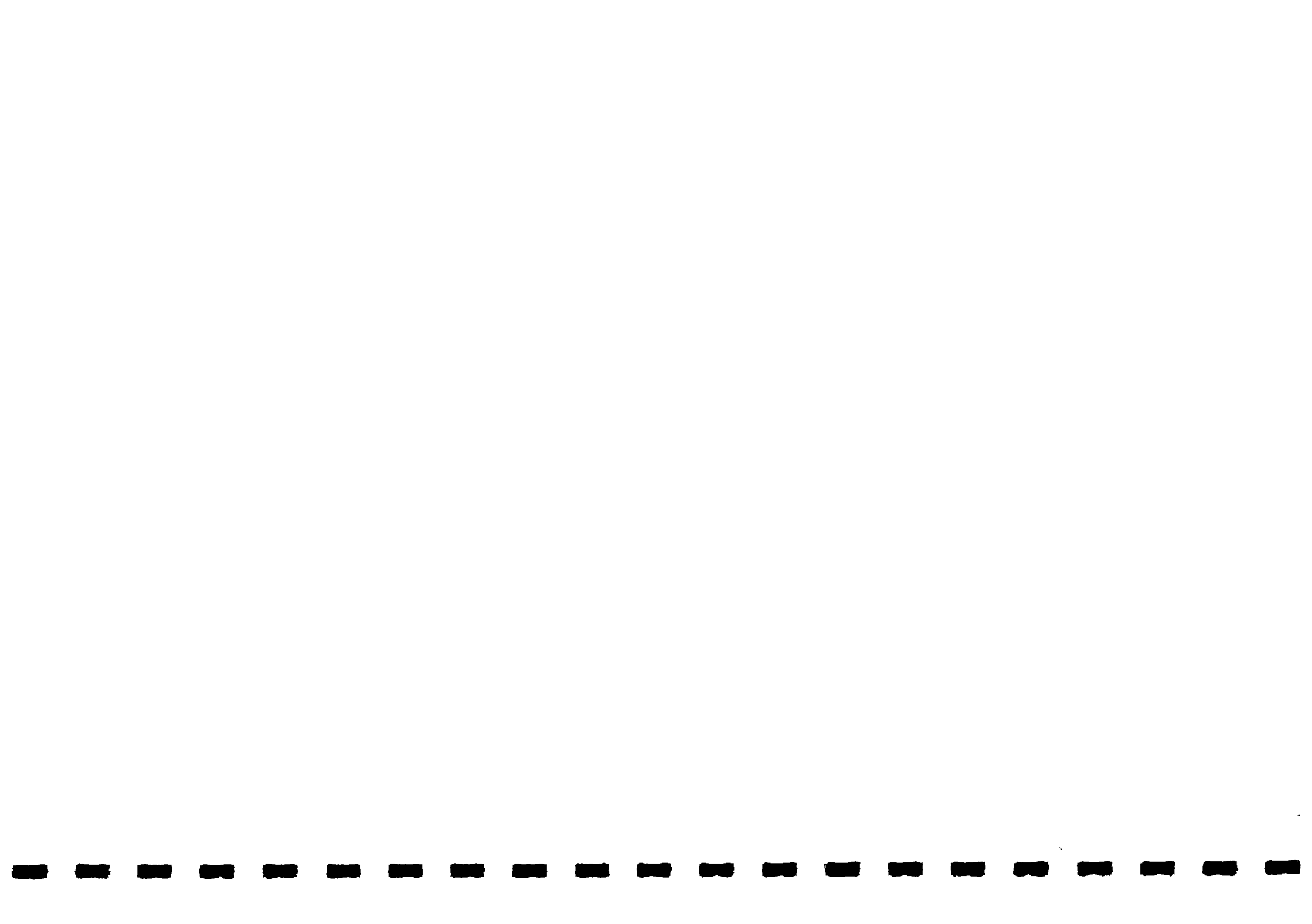


## STUDY No.2

FRAME OF IMPLEMENTATION: DIFFERENT STEPS AND PROCEDURES UNDERTAKEN IN RESPECT TO:  
The Polluted Canal "Babil" (P.C.)

Following is a detailed account of all procedures pursued in respect to the alternative solutions presented by villagers to overcome the problem of the polluted canal.

| 3     | Villagers' Participation  | Role of Policy Makers | Issues Discussed  | Follow up  | Comments   |
|-------|---|-----------------------|---|--|--|
| 12/87 | RT was supposed to meet 10 women at PC.   |                       | No one was notified about this meeting because our informant (midwife) was busy & couldn't assemble the women.  | RT decided not to depend upon one person. Instead four other informal leaders were approached to arrange for the next meeting to discuss the PC.                                     |  |
| 12/87 | While walking along the PC 5 men in addition to the representative of the village popular council (RPVC) met with RT. |                       | It was agreed upon that the PC had lost its function for irrigation have turned into a residential area.  | RT promised the men to discuss this issue with the VC and Irrigation Department in the markaz. Alternative solution will be sought.  | They said: "The PC should be filled instead of re-fixing the pipes & wasting money. It is not used for irrigation & it does not receive water any longer".                                     |
| 12/87 | Nine women, including two key informants, attended a meeting at PC.   |                       | <p><u>Discussions centered around:</u></p> <ul style="list-style-type: none"> <li>- Women suggested that the PC be filled.</li> <li>- They pointed out that it is the first time to discuss their problems with anybody.</li> <li>- They are willing to cooperate to solve the PC.</li> <li>- They suggested alternative solutions for sullage and solid waste collection.</li> </ul> | RT will arrange further meetings with women.   |  |
| 1/87  | Eight women met with RT.  |                       | Alternative systems for solid and sullage disposal were discussed instead of dumping wastes into the PC. Women added that the canal cannot be filled until an alternative system for solid waste and sullage collection is enforced.  | RT promised to discuss all these alternatives with others to reach an agreeable solution to all those concerned.   | People commented: "Before filling PC another waste collection system should be enforced, otherwise those who used to dump their wastes in PC will turn to other parts of the canal & ruin it". |
| 3/87  | While following up the repair of the standpipe by the PC, 8 men gathered.   |                       | Discussions focused on PC. One man informed RT. that he submitted petition to the Governor dated 21/3/87 to that effect & he would like to hand in another petition to RT.  | RT explained to villagers that its role is to discuss problems & suggest suitable solutions with them. RT promised to visit the man at home for further discussions on the PC issue. |  |



## SE STUDY No.2 (Cont.)

| Date  | Villagers' Participation   | Role of Policy Makers  | Issues Discussed  | Follow up  | Comments  |
|-------|--|--|---|--|---|
| /3/77 | <p>-Meeting with 3 women &amp; 3 men at PC.</p> <p>-Another meeting with 2 elderly men at the PC.</p>          |  | <p>The first group explained that they were ready to contribute money either to fill the PC or to install a covered piped system.</p> <p>The elderly men said there is no need for installing a covered piped system since there is no function of this PC rather, it should be filled.</p> | <p>RT promised to discuss these suggestions with the VC and Irrigation Department in <u>markaz</u>.</p> <p>Alternative solutions for sullage and solid disposal were also discussed with no concrete solutions taking shape.</p> | <p>Some people still don't agree on filling PC. One old woman said "This part is the soul of our village it keeps our homes clean". Another one disagreed saying "It brings diseases to our children. When it is filled, other collection system will operate".</p> |
| /4/77 | <p>RT met about 10 men at PC.</p>  | <p>RT went to meet the head of VC, but he was busy with the elections.</p>                                   | <p>All of men stressed that this PC is useless and that it must be filled. They added that the collection of sullage and solid waste are the responsibility of VC since they have been charging fees for this purpose for the past two years. However, so far they did not do anything.</p> | <p>RT promised to discuss this issue further with head of VC. Villagers are also encouraged to inquire about alternative solutions.</p>  |   |
| /4/77 | <p>-Meeting with 5 of the village youth for the first time.</p> <p>-Meeting with 4 other men and the RPVC.</p> | <p>Head of VC was invited by RT to attend the meeting with raise solutions to environmental constraints.</p> | <p>-All of the youth agreed on filling the PC and they showed readiness to cooperate.</p> <p>-The group of men pointed out that permission must be granted from the Irrigation Dept. before taking any action in filling the PC.</p>  | <p>-RT will accompany RPVC to the Irrigation Department at <u>markaz</u> to discuss this issue.</p>  |   |



ASE STUDY No.2 (Continued)

|      | Villagers' Participation  | Role of Policy Makers  | Issues Discussed  | Follow up  | Comments   |
|------|---|--|---|--|--|
| 4/87 | RT and village representatives (one man and 3 women) visited neighboring villages which initiated sullage collection system |  | The group visited 3 neighboring villages where sullage collection systems are being implemented either under the auspices of VC or are run as a private enterprise. |  | These visits provided some insights in planning similar projects in the village concerned.   |
| 4/87 | 10 or more men & women joined RT and consultants while walking along the PC.  | The physician of the health unit & the secretary of the VC attended a meeting with the 5 consultants invited to research site by RT. | All villagers agreed that the PC has lost its main function of being used for irrigation. Instead, it became a major source of health hazards in the village.       | RT promised to concentrate on meeting the head of the VC & RPVC to stimulate them to raise the villagers' requests to higher levels to find appropriate solutions for environmental sanitary problems. | Head of VC did not attend this meeting. Villagers explained: "He is not interested in village affairs because he is a non-village resident." |

During the period from May 11, 1987 to June 1, 1987 several meetings were held by R.T. with the man who is responsible for tanks evacuation in the village, some villagers and RPVC. The theme discussed during these gatherings centered around the possibility of having that man, who owns a truck, to be in charge of a sullage collection system from the homes. This experimental system will be tested out in one of the most densely populated neighborhoods in the village over a one-month period. In return for that service, villagers will pay monthly fees. The role of VC will be limited to a supporting body but not any legal rights or duties. Already, villagers expressed some reservations: (1) there is no guarantee that the system will operate regularly; (2) people will refuse paying monthly fees as long as they have access to a free-from-charge dumping area, i.e. PC.; (3) VC should undertake the activity as it has been charging money for that purpose. For the coming period, the man was difficult to locate and villagers were discussing the proposed system among themselves.

|      |  |   |  |  |  |
|------|--|---|--|--|--|
| 4/87 | RT accompanied RPVC to meet with personnel at Irrigation Dept. in the markaz.<br><br>RT attended the weekly PVC meeting. | Engineer in charge at Irrigation Dept. in the markaz. | -The following was agreed upon<br>a) PC is not used for irrigation any longer.<br>b) There is a technical defect in the connection between the main canal & the stretch that runs through the village and hence, the PC does not receive water any longer.<br><br>-Issues discussed with Irrigation personnel were shared with RPVC. | -Arrange for a meeting at PC to be attended by Irrigation Dept. engineer & Head of VC.<br>-Irrigation Dept. will raise issue of filling PC with Irrigation Directorate at governorate level. |  |
|------|--|---|--|--|--|





## SE STUDY No.2 (Continued)

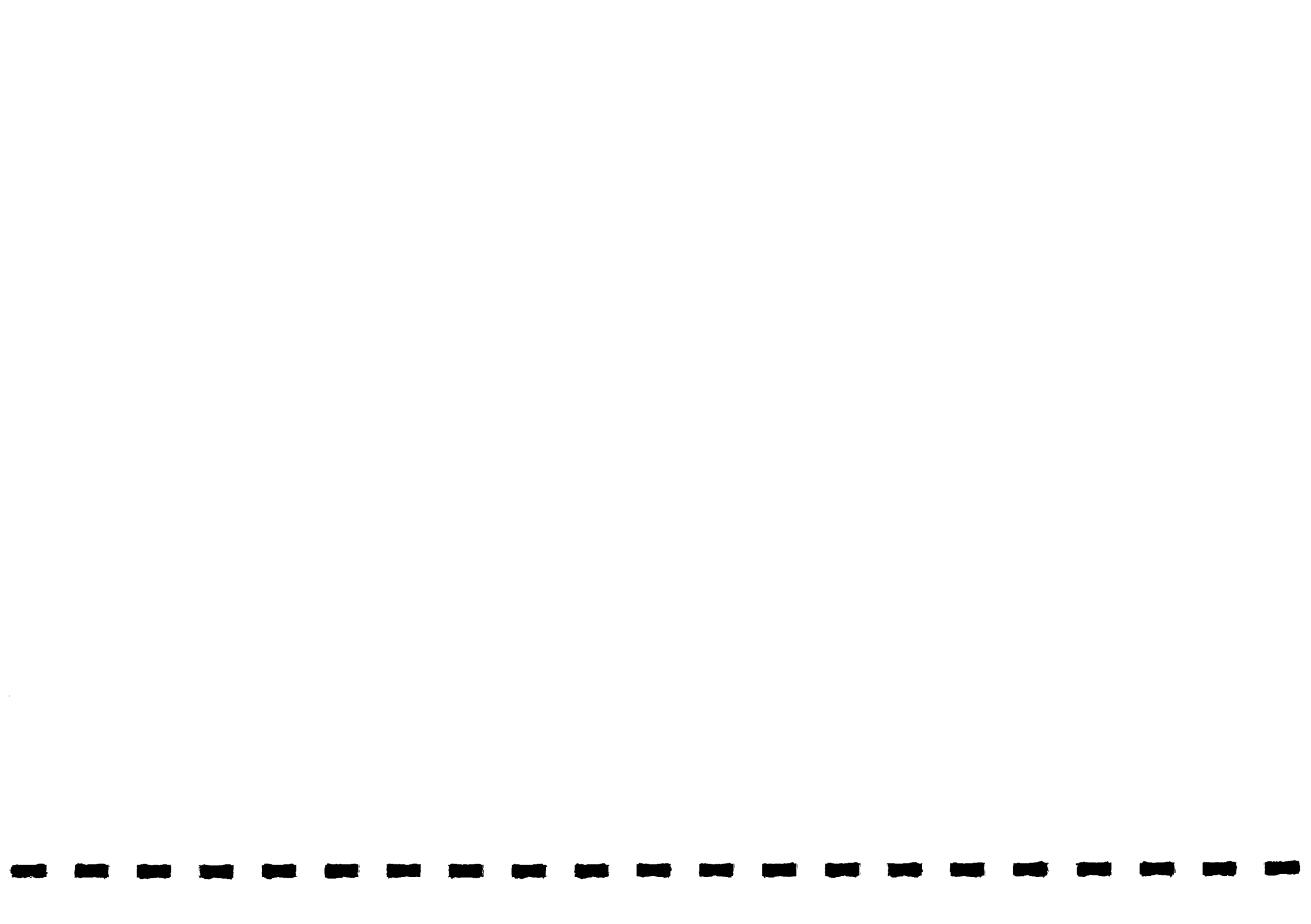
| Villagers' Participation   | Role of Policy Makers   | Issues Discussed   | Follow up   | Comments  |   |
|--|---|--|---|---|---|
| <p>From June 10-30, 1987, meetings were held with RPVC and Head of VC to further discuss alternative solutions. However, no concrete actions were taken, except deciding upon Irrigation personnel's visit to Babil to examine PC.</p> |   |  |   |   |   |
| <p>7/7/87</p>  | <p>RT met with RPVC, &amp; agricultural coop. representatives.</p>  | <p>Head of VC &amp; representative from Irrigation Dept. at <u>markaz</u>.</p> | <p>Examination of PC on the ground. The following was decided upon:<br/>           1) The PC that needs to be filled runs over a 200 m. distance<br/>           2) Signatures of those concerned, i.e. in terms of field irrigation, are required on a statement that PC is not needed for irrigation purposes any longer.</p>  | <p>Agr. coop. will provide the names of those concerned to have them sign the statement required.</p> | <p>Head of VC did not accompany team to the PC.</p>   |
| <p>7/7/87</p>  | <p>Group meeting with over 30 women in one of the most densely populated areas in the village located across PC (Halayla area).</p> |  | <p>-RT raised the idea of a privately-run, daily sullage collection system from homes for a monthly fee ranging between 50-75 Pt. per household.<br/>           -Women were willing to pay the fees provided the system operates on a regular basis.<br/>           -The explained that such a system should be negotiated with a wider range of villagers to get their consensus.<br/>           -The system should be tested first over a one-month period.<br/>           -RT notified women about procedures for PC.<br/>           -Women stressed that PC should not be filled before testing out alternative collection systems.</p> |   | <p>Women raised very sound ideas &amp; questions as to the proposed sullage col. system. This exemplifies that when they are given the chance they prove to be very competent &amp; active. "After filling PC septic tanks can be built at height of a man. We will throw our sullage there &amp; a truck from VC will evacuate it daily for agreed upon fees".</p> |

From July 20, 1987 to October 4, 1987 several (8) meetings were held with villagers and RPVC. RT was able to meet with Head of VC only once. Efforts concentrated on having the beneficiaries from the canal sign the document. However, this was not finalized because: 1) they fear that the Irrigation Dept. would use that document against them to reduce their share of irrigation water; 2) they fear that if the PC is filled without establishing an alternative sullage & solid waste col. system, they would turn to other parts of the canal to dump their wastes.

In the local government representatives are reluctant to cooperate, RT decided to raise the issue at higher authority levels in the governorate. A meeting was held with the Vice Minister, General Secretary of Governorate and representatives from all departments concerned at governorate, markaz & village levels. The meeting was held on Oct. 26, 1987.

As an outcome of this meeting, the General Secretary gave his instructions to:

- ) full cooperation with RT by the different departments, especially head of markaz Tala, is necessitated to solve the PC problem;
- ) the Directorate of Water Utilities and Public Works at both governorate and markaz levels should be activated to help solve the PC problem.



## SE STUDY No.2 (Continued)

|       | Villagers' Participation                             | Role of Policy Makers  | Issues Discussed  | Follow up  | Comments   |
|-------|--|--|---|--|--|
|       | Meeting with 8 men, RPVC & head of Agr. Coop. at PC. |  | Villagers reported that head of markaz Tala visited the village VC head accompanied him to PC. They affirmed that PC should be filled and alternative waste collection systems be established.  |  |  |
| 11/87 |  | RT met with head of <u>markaz</u> Tala                                       | <p>-Head of markaz Tala reported to RT that a committee has been formed to investigate PC problem &amp; proposed solutions. This is an outcome of governorate meeting. The Committee will finally present a report of its activities.</p> <p>-The submission of this report will coincide with governorate allocation of AID fund to the different villages, which can be used to finance proposed projects in Babil.</p> <p>-The necessary funds can also be covered from VC sanitation fund as well as from villagers monetary contributions.</p> | Arrange for a meeting including Head of <u>markaz</u> Tala Head of VC, RPVC & Head of Agri. Coop. along with some prominent villagers. Arrangements were made on November 11 & 18, 1987. | Activities started to take more of a concrete shape only after approaching higher authorities. |
| 1/87  | General Meeting with 5 RPCV and villagers.           | Head of <u>markaz</u> Tala, Head of VC, Secretary of VC, Head of Agri. Coop. | <p>The following was decided upon:</p> <p>-Irrigation Dept. at <u>markaz</u> &amp; governorate levels should be approached to solve the technical defect in the connection that supplies the Babil canal with water.</p>  | -Follow-up with Irrigation personnel.  | Head of VC became very active as a result of governorate meeting.                              |



## SE STUDY No.2 (Continued)

| Villagers' Participation | Role of Policy Makers | Issues Discussed  | Follow up | Comments |
|--------------------------|-----------------------|---|-----------|----------|
|                          |                       | <ul style="list-style-type: none"> <li>-A prominent villager explained that he could convince others to sign the irrigation document provided that the canal bridge be reconstructed.</li> <li>-Money from VC sanitation fund will be allocated to:               <ul style="list-style-type: none"> <li>a)reconstruction of canal bridge.(a local of 500LE.)</li> <li>b)building 2 large septic tanks (total of 500LE.) for sullage disposal as an experimental system for sullage collection to be expanded later if proven efficient.</li> </ul> </li> <li>-Agri. Coop. tractor will evacuate these 2 septic tanks daily.</li> <li>-After filling PC that section will be a village public property controlled by VC &amp; hence can be used as a shopping area, market.</li> <li>-RT will manufacture a cart for solid waste collection as an incentive for villagers to work toward the improvement of village sanitary conditions. The cost of the cart (total of 485 LE.) were covered from project funds.</li> <li>-Head of <u>markaz</u> Tala promised to supply the village with a mule as a gift to drive the for cart solid waste collection.</li> <li>-Head of VC will assign a worker to drive the cart. Money from V.C. Sanitation fund will be allocated to cover expenses of that system.</li> </ul> |           |          |

From November 24, 1987 to February 5, 1988, several meetings were held with Head of VC, RPVC, representatives from Agriculture Cooperative and villagers to follow-up activities decided upon. Head of VC drafted cheques concerning fund to sullage and solid waste collection systems; approached Irrigation Department to solve the canal connection problem, and visited Head of markaz Tala to push for the mule issue. Village RT received the cart for the solid waste collection on January 21, 1988. Villagers expressed their dissatisfaction with the long time consumed to take concrete action.



FAST STUDY No.2 (Continued)

| Date   | Villagers' Participation   | Role of Policy Makers     | Issues Discussed  | Follow up  | Comments |
|--------|--|---------------------------|---|--|----------|
| 5/7/88 | Meeting with WHO engineer invited to village by RT and 8 men and RPVC. |                           | Discussions centered around the design and location of septic tanks.  | RT will receive septic tanks' design from WHO engineer and share it with villagers and RPVC. |          |
| 1/5/88 |  | RT met with VC Secretary. | -Secretary of VC received the cheques for the construction of septic tanks.<br>-RT submitted to Secretary of VC design of septic tanks.<br>-Secretary of VC will follow-up the other issues with Head of VC who is on sick leave. These include: mule from <u>markaz</u> Tala, Irrigation Department. |  |          |

Several meetings were held with Secretary of VC, Agriculture Cooperative and villagers to follow-up activities from February 17 to March 1, 1988. During these meetings VC Secretary notified RT that he received letters from Irrigation Department stating the material required and the total cost for reconstructing the canal bridge and the canal connection. Villagers met with agri. coop. representatives to the Irrigation Dept. in the markaz. Agr. Coop. is ready to pay the costs but it lacks the required material. The issue was then raised with the Irrigation Directorate in the governorate, a meeting that included villagers and RPVC. Negotiations with Irrigation Directorate at the governorate are still underway.





## LESSONS LEARNED FROM CASE STUDY No.2

### COMMUNITY PARTICIPATION

Discussion of any proposed intervention towards improvement of sanitary conditions should start with the concern of villagers

- \* It is very important to discuss with community members the issues concerning sanitary conditions in a holistic fashion as to have a panoramic view of the problem at hand, since sanitary issues are interrelated.
- \* It is essential to involve a large number of villagers in diagnosing the village sanitary situation and proposing feasible solutions. The community is the best judge deciding on alternatives which can be of benefit. At the same time, they are the ones able and should be willing to try out and share in the responsibility towards the improvement of the existing conditions.
- \* Involving the community in diagnosing the village sanitary situation and going through the process of analysing their problems, is in itself an educational process leading to increased capability of need realization, as well as the ability to cope with problems they might encounter. For instance, representatives of the Popular Village Council and an informal leader followed up with procedures aiming to fix the defect in the canal.

**Mutual respect and trust between research team and villagers is a prerequisite in working towards community development**

- \* Only after rapport and mutual trust was established between research team and the villagers, did villagers start expressing themselves more openly in the sense of sharing ideas on how best to cope with the problem, like the issue of waste water and garbage disposal.
- \* Frankness and truth were required in all discussions with the assurance that only by villagers' continuous support, readiness to share in the responsibility and concern, can any positive steps be achieved towards the improvement of village sanitary conditions.



- \* This experience made the research team realize that planners should not underestimate the competence of villagers, especially women on issues that relate to them directly. They know best what might be feasible and acceptable and what is liable not to work out. In this case, the majority of women were able to comprehend what was conveyed to them. In fact, most of their suggestions concerning the proposed garbage collection system were later adopted on experimental basis.

Proposed improvements in the sanitary conditions should be based on villagers' felt needs

- \* First, it was important that villagers themselves realize the need to improve the situation and that it is only by their cooperation, concern, suggesting specific solutions and following them up can things move on. This should be achieved before involving policy-makers at any level.

#### INVOLVEMENT OF WOMEN

Women's involvement is necessary on issues pertaining to sanitary improvements

- \* Involving women in improving the sanitary conditions of their village is the main strategy in this project, with the understanding that women are the main users of all water facilities, and are responsible for the disposal of used water and garbage.
- \* Women's cooperation was sought continuously either in groups within different neighborhoods or individually; both approaches proved effective and complementary. The focus group meetings gave the research team the chance to listen to women's views and suggestions as to how best to cope with the sanitary problems within their neighborhood. These gatherings also allowed women to exchange ideas. Some of the suggestions women voiced as indicated in case 2, proved to be constructive and feasible in the implementation stage.

Women should be involved in the planning and implementation stages of any project:

- \* Women were made aware of all the steps followed either by the research team or male leadership. It was important as part of the learning process to let the interested village women, regardless of age or status, share in all the discussions and make them aware of the complexity of procedures by constantly informing them about all the steps taken to get things accomplished. Reasoning by discussing the pros and cons of each suggested alternative that might eventually lead to the improvement of the village sanitary condition is important.
  
- \* It is important to take women's needs and their views into consideration. For instance, most of the men stressed that the polluted canal is useless and that it must be filled out, and they argued that the collection of sullage and solid waste are the responsibility of the village council, but women insisted that the canal cannot be filled out until an alternative system for solid waste and sullage collection is enforced. Women also added that the polluted canal should not be filled out before testing out the initiated garbage collection system.

**Villagers should first gain insight as to the effect of poor sanitary conditions and its relation to health hazards**

- \* The fact that most of the villagers were found to be unaware of contamination processes and how poor environmental conditions might be the cause of disease transmission made it necessary for both the research team and the hygiene promoters to stress in the Hygiene Education Program the health hazards that might be encountered due to poor sanitary conditions; and how it might affect even those who are living at a distance from the polluted source. Such a fact was not clear to most of the women. Hence, it was important to explain to them the connection between clean, non-polluted surroundings and healthful living, before mobilizing them to take an active role towards improving the poor sanitary condition. Such an understanding of the direct benefits to them and their families, of the proposed intervention is basic before any action can be induced.

**Change of behavior could not be enforced before establishing an alternative system suggested and accepted by most villagers**

- \* It was foreseen important first to enforce a reliable and feasible system of waste collection, as suggested by women, before asking the villagers to change some of their accustomed behavioral patterns in respect to waste disposal. Stressing the fact that it is not until a reliable alternative system of waste collection is in effect can one demand a change of accustomed patterns especially on the part of women i.e. throwing waste in the canal.

**INVOLVEMENT OF MEN**

**The Role of men in a village setting is just as important on issues related to community development**

- \* Issues relating to improvement of village sanitary conditions were viewed as the concern of all villagers, therefore, the role of men was not by passed.
- \* As a first step, formal village leadership was sought along with identifying informal leaders, particularly those residing close to the polluted canal. With them, discussions on how best to cope with the situation and what steps need to be taken were followed at length.
- \* Continuous meetings were planned with small groups of men or else individually. This proved to be significant as it enabled the villagers to exchange ideas and to come up with suggestions for possible solutions as to overcome the pollution of the canal.

**Villagers especially men need to be familiar with the existing institutional structures dealing with sanitation**

- \* One major point that needed to be stressed all along was the fact that villagers understand the mechanism of the existing administrative structures and how best to cope with it if they want their suggestions to materialize. It is essential for any project of development to make villagers aware that it is not easy to get things done, but it needs continuous follow-up and perseverance on their part.

- \* A step further, village leaders were advised to understand first the bureaucratic procedures and responsible agents in relation to any particular proposed intervention, in this case waste water and garbage collection. They needed to know, what villagers can do on their own, and what other issues need to be negotiated with policy-makers. A point that needed to be clear from the start was the fact that such a process is time consuming and needs continuous follow up on their part. Research team should be tolerant and have the understanding that community development in any form is a slow process. In this case, it took over two years until a few of village men started to take the initiative of following up matters on their own, with little guidance from the research team.

**Villagers' Participation and Local Contribution in any form should be encouraged**

- \* Villagers were encouraged to share in any form they feel appropriate. For instance, when it came to the manufacturing of the cart for garbage collection, a local smith was approached both by the village leaders and the research team, who willingly helped design and manufactured the cart at a low price. Other villagers were ready to contribute labor when needed. Villagers' participation in the sense of contributing money or labor was lacking at first in this village setting. Gradually, it is starting to take roots in the presence of supportive leadership, both from within the community and from outside.

**Field visits to nearby villages with similar projects is advisable**

- \* Visits of villagers to nearby villages with similar successful projects proved effective in terms of exchanging ideas and experiences.

#### **POLICY-MAKERS**

**The role of policy-makers cannot be by passed in relation to the improvement of village sanitary conditions**

- \* In the village structure, the role of policy-makers is foreseen as a principal input for the approval and execution of any proposed interven-

tion to improve sanitary conditions, i.e. the polluted canal in this case. Therefore, it was of importance not to disregard the role of policy-makers. In fact, part of the project objective was how to activate the role of policy-makers to work with villagers towards the improvement of the existing sanitary conditions. At all occasions the research team worked closely with concerned policy-makers in relation to the polluted canal, to be able to bridge the gap between villagers views and those of policy-makers. Also, to determine realistically how best to cope with the problem.

Villagers must be able to realize the complexity of the bureaucratic procedures:

- \* In all discussions with villagers, it was important not to overlook the fact that policy-makers generally adhere to bureaucratic procedures that might be tedious and routine at times. Nevertheless, it was essential to work closely with the appointed village council members and to win their trust, support and gain mutual respect, since they are the natural channel of communication between the village level on the one hand and the markaz and governorate levels on the other. It was a two-way communication process to make policy-makers and villagers realize that only collectively can they work towards improving the village sanitary conditions. This was achieved by the encouragement and guidance of the research team, who helped open continuous channels of discourse and dialogue between villagers and members of the village council, to express views and for follow-up purposes. This method proved to be effective but slow in process.

#### CONSULTANCY

It is important to call on consultants whenever needed

- \* The role of the short-term specialized consultants is important since none of the research team was qualified in the area of "simple low-cost technologies". The research team was able to follow up with villagers and policy-makers, the constructive and feasible suggestions offered by the consultants. In some cases, consultants also met with concerned groups at the village level.

## PROJECT TEAM

- \* Members of the research team should be able to work as catalysts and not to impose their ideas.
- \* Working with villagers at large requires the composition of both sexes within the permanent team. Cultures with dominant male leadership necessitates the presence of at least one male member in the project team. He can easily follow up and work closely with both male leadership and policy makers. This proved advantageous in this case.
- \* Working towards community development necessitates that the project team members possess the qualifications of group work facilitators, as well as, being familiar with local cultural traditions. They must genuinely be interested in what they are trying to accomplish, especially in helping community members take positive action towards self-help, and try to improve the poor sanitary conditions of their villages as demonstrated in Case 2.
- \* The research team in cooperation with the villagers and consultants must keep a constant process of assesment, reflection, and if needs be, modification of action plan.
- \* The realization that community development is a slow process, requires on the part of the project team patience, perseverance and conviction. As to be able to reach the set goals by working with both the villagers and policy-makers at all levels within the village setting.



STUDY NO. 3.

FRAME OF IMPLEMENTATION: DIFFERENT STEPS AND PROCEDURES UNDERTAKEN IN RESPECT TO:  
FEASIBILITY STUDY TO DEAL WITH HIGH GROUND WATER TABLE PROBLEM IN KAFR SHANAWAN (K.S.)  
TO BE PRESENTED TO THE RURAL DEVELOPMENT UNIT AT THE GOVERNORATE LEVEL

Account of all the different steps followed is presented below highlighting the complexity and time consumption  
invested in dealing with the problem of the High Ground Water Table in Kafr Shanawan.

|      | Villagers' Participation  | Role of Policy Makers | Issues Discussed  | Follow up   | Comments |
|------|---|-----------------------|---|---|----------|
| 2/87 | <p>RT met with the village Mayor, two mosque <u>imams</u> and 4 villagers.</p> <p>Attending the Friday prayer at the village's main mosque.</p> |                       | <p>Acquainting the villagers with the objectives &amp; activities of the project with emphasis on involving the villagers in efforts to improve village sanitary conditions.</p> <p>During the Friday prayer sermon the <u>imam</u> discussed with the villagers (400 men), the importance of villagers' cooperation with RT to improve the sanitary conditions in the village.</p>                           |   |          |
| 4/87 | <p>RT met with the village Mayor and 5 men.</p>   |                       | <p>RT shared with villagers the experiences of 2 neighboring villages where sullage collection systems have been initiated.</p> <p>The Mayor promised to contact one of the villagers who owns a tractor to be in charge of a sullage collection system in return for a monthly fee to be paid by villagers. The VC will be contacted as well to guarantee that the villagers would pay the fees monthly.</p> | <p>RT will discuss the proposed sullage collection system with head of VC &amp; RPVC.</p> |          |

During the period from May 6, 1987-July 29, 1987 several meetings were held with the Head of VC, RPVC, the Mayor and some villagers. None of the villagers is willing to take the responsibility of the proposed sullage collection system. RPVC indicated that they have proposed the installation of pitches in the village as points for sullage collection, but they lacked necessary funds to implement the project. A general meeting at the mosque with a larger group of villagers will be arranged.



STUDY No. 3 (Continued)

| Date | Villagers' Participation,   | Role of Policy Makers | Issues Discussed   | Follow up   | Comments |
|------|---|-----------------------|--|---|----------|
| 7/   | Meeting with 50 men after the Friday prayer at the mosque   |                       | <p>Village sanitary problems &amp; suggested solutions (e.g. sullage collection system; installation of pitches) were discussed with villagers</p> <p>Villagers raised their readiness to contribute money to establish a sewerage system in the village.</p> <p>Villagers summed up the main sanitary constraints in the village in the high ground table which is due to: 1) excessive use of water; 2) the installation of modern flushes in newly built latrines which continuously dump water into the septic tanks; 3) the village is below sea level.</p> | R.T. will invite an expert engineer to further discuss these suggestions. |          |
| 7/   | A WHO engineering consultant met with the Mayor & around 60 villagers in the village's guest house. |                       | <p>After walking around the village, it was proposed to:</p> <ul style="list-style-type: none"> <li>- establish a piped network to reduce the level of ground water table.</li> <li>- the network would serve as a basis for the sewerage system for the whole village in the future.</li> <li>- the network's expenses are estimated to be LE.100,000.</li> <li>- villagers will form sub-committees to further discuss the proposed system &amp; to be in charge for raising the necessary funds from the villagers.</li> </ul>                                |   |          |



STUDY No. 3 (Continued)

|  | Villagers' Participation  | Role of Policy Makers  | Issues Discussed   | Follow up  | Comments |
|--|---|--|--|--|----------|
| <p>m September 6 to September 30, 1987, several meetings were held with the Mayor, Head of VC &amp; some villagers. The sub-committee has been established, but it was not possible for the villagers alone to fund such a project. However, this financial difficulty did not undermine their enthusiasm for the project. Higher authorities will be approached to help fund the project.</p> |   |  |  |  |          |
| <p>10/7</p>  | <p>Meeting at the agriculture cooperative with 3 men, RPVC, youth representative and mosque imam.</p> | <p>Head of VC, Director of Agriculture Coop., &amp; Head of Police station attended the meeting.</p>   | <p>Discussions concentrated on the proposed solutions to the village sanitary problems. The villagers were notified about the coming gov. meeting which will involve representatives of the different departments concerned.</p>   | <p>RT promised villagers to raise their problems with higher authorities &amp; to share with them results of that meeting.</p> |          |
| <p>10/7</p>  |   | <p>RT met at the governorate with the Vice Minister, General Secretary of Menoufia Gov. &amp; representatives from the Health, Social Affairs, Education &amp; Development dept. at governorate level, Head of markaz Tala and Head of Babil VC.</p> | <p>It was decided that no further sewerage systems, like the one proposed for K.S., could be experimented in Menoufia governorate before the results of 2 similar experimental systems in the villages of Kom el-Akhdar &amp; Sahel-el-Gawaber, Menoufia, are conclusive. The role of RT could be directed to presenting a feasibility study for a sewerage system in K.S. that could be taken into account for future considerations.</p> | <p>RT would form a technical team to present a feasibility study for a sewerage system in Kafr Shanawan.</p>                   |          |
| <p>10/7</p>  | <p>Meeting with more than 50 villagers at the mosque after Friday prayer.</p>                         |  | <p>Results of the governorate meeting were shared with villagers who were enthusiastic to cooperate &amp; provide any help needed.</p>   |  |          |



STUDY No. 3 (Continued)

| e  | Villagers' Participation,   | Role of Policy Makers   | Issues Discussed   | Follow up   | Comments |
|----|---|---|--|---|----------|
|    | <p>period from November 6, 1987 to January 3, 1988, several meetings were held with the village Mayor, head of V.C., Director of Development Department at governorate level, R.P.V.C. and some villagers to arrange for the technical team that will be responsible for presenting the sewerage system feasibility study.</p>  |   |  |   |          |
| 88 | <p>RT &amp; 2 environmental engineers (WHO, CHEMONEX) attended a meeting with 4 village informal leaders R.P.V.C. head of P.V.C. &amp; R.V.C. at governorate level.</p>   | <p>Head of V.C., director of Dev. Dept at governorate level, Dir. of Engineering Dept. at Gov. level attended the meeting.</p>  | <p>The team and the officials moved around the village. It was suggested to design the sewerage system in such a way that makes it feasible to have all houses connected into it. Basic data that is required to design the system will be prepared.</p>   | <p>Collecting the needed information &amp; arranging for another meeting.</p>   |          |
|    | <p>During the period from January 24 to February 3, 1988, several meetings were held with villagers, head of V.C. &amp; the director of the Development Dept. at governorate level. The required data was presented to the engineer. As it was necessary to include the Irrigation Dept. in the design, representatives were approached to attend the coming meeting.</p>   |   |  |   |          |
|    | <p>RT and the 2 environmental engineers met with 5 village leaders, head of P.V.C. at governorate level &amp; the village Mayor</p>   | <p>Head of V.C., director of Dev. Dept. at governorate level, &amp; representatives from the Engineering &amp; Irrigation Dept. at Gov. level attended the meeting.</p> | <p>The design of the sewerage system was discussed. The system will be established over 2 phases:<br/> <u>Phase I:</u> The establishment of a piped network to reduce the high ground water table.<br/> <u>Phase II:</u> Adding a sullage treatment &amp; connecting the whole village into the sewerage network.<br/>         Further basic data &amp; measurements are required.</p> | <p>RT with technical team completed all data required for the design &amp; these were submitted to the engineer on February 16, 1988.</p> |          |
|    | <p>From Feb. 21 - March 15, 1988 R.T. met several times with Director of Development Dept. of Gov. level, head of P.V.C., head of V.C., Director of Irrigation Dept. at Governorate level and the engineers (CHEMONEX) who are responsible for the design of the system. Two main issues were the focus of these meetings: (1) Getting the Irrigation Dept. approval for the project as it does not violate rules stipulated in law 48, 1982; (2) Fund allocation for the project as the members of the Gov. refused to allocate all the budget for Kafr Shanawan village alone. Director of Development Dept. suggested that proposed projects for the villages of Shanawan and Kafr Shanawan are to be submitted to the Dept. and it is up to its members to decide which projects will be covered by the governorate fund. Finally, the CHEMONEX engineer presented his preliminary sketch and he promised to finalize the whole design in a ten-day period.</p> |   |  |   |          |





## LESSONS LEARNED FROM CASE STUDY No.3

### COMMUNITY PARTICIPATION

Discussion of any proposed intervention toward the improvement of sanitary conditions should start with the concerns of villagers

- \* Focus-group-meetings either with prospective hygiene promoters formal and informal leaders, both men and women revealed that the most pressing problem facing the village, is the high ground water table and the lack of sewerage system; as a result, most women frequent the canal for washing purposes. Almost all villagers approached expressed their willingness to contribute money or labor in an effort to establish a compatible sewerage system
- \* Resolving pressing expressed needs of community members should be the first target.
- \* Activating community members to share first with ideas of how best to deal with their most pressing need is essential, in order to formulate a collective understanding. In this case how to solve the problem of the high ground water table. Given the urgency of the problem, it was not problematic to have all villagers from the different neighborhoods and localities of the village willing and enthusiastic to share in proposing solutions. The magnitude of the problem did over-rule all other sanitary problems, to the extent of being treated as the main problem of the entire village.

### INVOLVEMENT OF WOMEN

Involving women is essential to formulate a holistic understanding of the sanitary problems and its solutions

- \* The involvement of women in this case was somewhat limited, due to the scale and nature of the project which necessitated male contact with officials at the markaz and governorate levels. Such activities go beyond women's domains of interaction and hence, their active movement was curtailed. A few of the women expressed their ideas as to how

best to deal with the situation. From the start, women either in groups within the different neighborhoods or individually were notified of all the steps undertaken by the village leaders, policy-makers, hygiene promoters, consultants and project team towards establishing an efficient simple sewerage system.

- \* The majority of women suggested that village male leadership should be contacted to discuss the problem in more details, from all its angles with the project team and policy-makers.

#### INVOLVEMENT OF MEN

Issues pertaining to the improvement of village sanitary conditions, was forseen as the responsibility of all villagers

- \* Villagers were encouraged to take the leading role in respect to trying to solve their pressing sanitary problems.
- \* Village men should be made aware of the complexity of the administrative structure with which they have to deal, as well as the routine procedures that might consume much of their time and effort.
- \* It was necessary to explain to the villagers the importance of conducting a feasibility study, following the discussions and the preliminary consensus of villagers. Villagers should be aware of each step taken and the technical details of the project. Consultants met several times with villagers to explain technical aspects.
- \* Before deciding on any proposed intervention villagers had a clear idea as to its technical, financial, social and political dimensions. In this case, R.T., consultants, as well as, policy-makers discussed with villagers what the project entails on all its aspects. It is important to note that the proposed technology has to be acceptable, maintainable and affordable for the community concerned.

## POLICY-MAKERS

- \* Policy-makers at the village, markaz and governorate levels under whose domain the proposed intervention might fall, had a chance to meet both village leaders and consultants, starting with the planning stage in order to share in the proposed suggestions. It is only after their approval and support that projects can be presented to higher administrative levels.
- \* Relying on the capability and potential of policy-makers in the different departments and using them as consultants in whatever capacity is important. This added to their interest in the project and their conviction to get it through. At the same time, it allowed for utilizing local resources who are most understanding and appreciative of local conditions.

## PROJECT TEAM

- \* Villagers at the start need a facilitator who acts as an intermediary between the different groups, to discuss various suggestions in respect to the pressing problem they are facing. Each group has some specific perspective, that contributed to the holistic formation of the proposed solution. Calling on specialized technical assistance is essential if R.T. are not qualified in that respect. Local and external consultants did meet with villagers and explained to them possible technical solutions.
- \* The project members' main role was acting as catalysts between villagers and policy-makers. This also included guiding the villagers as to how to pursue the proposed project and negotiate with policy-makers all the different procedures that ought to be followed.
- \* Research team should not speak on behalf of the villagers, rather the villagers own ideas should be raised at official circles. In this case, the project members made it a point not to further discuss issues with responsible officials unless village representatives accompanied them.

This in itself was considered part of a learning process for villagers on how to present their views in a way acceptable to officials and abiding by all set regulations and procedures.

#### **Other Efforts Aiming at Improving Environmental Sanitary Conditions**

Beside the three case studies there were other complementary efforts to improve the sanitary conditions of the villages concerned. These activities centered around the establishment (in Babil) or reinforcement (in Kafr Shanawan) of solid waste collection systems. Both efforts entailed cooperation of the villagers with the existing local governmental organization, i.e. the Village Council (V.C.). In Kafr Shanawan, efforts were made to involve villagers in activating the already existing system of solid waste collection. Meetings with the head of the V.C. and the women resulted in a temporary experiment with a barrel system for waste collection. Barrels were placed in the areas chosen in consultation with the women. These were to be used as disposal points and to be evacuated twice per week by the V.C. workers. However, this waste collection activity did not continue for long because the emptying of the barrels was not consistent. At present, negotiations are in process with the villagers and the V.C. representatives to develop another system using a donkey-driven cart. Villagers have expressed their willingness to pay for manufacturing the cart on condition that the V.C. provides the animal and labor requirements.

In Babil similar negotiations are taking place. Group meetings with women are held to get their ideas on how best to work the system.

#### **Installation of Hand Pumps**

The idea of installing hand pumps and the training of women on maintenance, repair and upkeep is being investigated in Babil. In Kafr Shanawan, this facility is not needed because all homes have piped water connections. In Babil, some areas lack piped water connections and hence a feasibility study will be undertaken by the Research Team (R.T.) during Phase II of the project to determine how to implement the system. Access to water sources

has not been identified so far as a pressing problem. Based on this feasibility study the R.T. will decide with villagers what areas in the village require a hand pump facility. Groups of women will be trained on installation and repair of hand pumps.

### Conclusion

Based on the procedures undertaken in relation to the three main case studies the project team recommends the following points as guide lines in following similar projects:

- \* Attempts at improving village sanitary conditions are either speeded up or slowed down, depending on the complexity of the administrative organization involved. The case of the polluted canal and the feasibility study require a lengthy process compared to the repair of the standpipe. In the latter case no administrative organizations were involved and repairs were carried out quickly reflecting the results that can be achieved when flexibility is granted to those who will benefit directly. In the other two cases, the lack of coordination between the different responsible administrative units, the routine bureaucratic procedures, the prevailing apathetic attitude among government officials, as well as the need to communicate back and forth between administrators and villagers, slow down attempts to improve the sanitary conditions.
- \* Any attempts at improving village sanitary conditions have to abide by the rules of the administrative structures, where responsibilities and procedures are legally set. These procedures have to be followed during the actual implementation of any proposed intervention.
- \* The effectiveness of a project with a complex administrative structure depends to a great extent on the competence, character and initiative of the formal leadership concerned, especially at the village level. They are supposed to initiate efforts to improve local conditions. This is exemplified in the case of the polluted canal in Babil. Once the head of the V.C. was located, extensive effort was needed to convince him to approve the project and finally to take action. On the other hand, the V.C. of Kafr Shanawan showed willingness to cooperate and agreed to hold meetings with the women to discuss and clarify points.

### SECTION III.

#### INITIATING WATER AND SANITATION EDUCATIONAL PROGRAMS

One of the ultimate aims of the project is to encourage local participation, especially among women, in an effort to change unhygienic behavioral patterns of water utilization that often lead to health hazards. This was accomplished through water and sanitation educational programs.

An important component of the project was to demonstrate and evaluate the effectiveness of the educational program that was introduced in the villages. The findings of the pilot program will enable the research team to present the most effective approaches appropriate for promoting community health education.

The promotion of similar Hygiene Education Programs (H.E.P.) in other Egyptian villages will be based on the results of the monitoring and systematic evaluation of the on-going program. This program stresses the application and testing of different methodologies and approaches, using a variety of research instruments regarding the roles of the "Hygiene Promoters" (H.P.) whether they are service workers, formal or informal leaders, and determining their effectiveness in bringing about a change in unhygienic practices.

Recommendations resulting from the action-oriented research on the health education component will be critically analyzed during Phase II of the project and discussed with the concerned community members, local leaders and policy-makers. The objective is to reach consensus on the feasibility and replicability of this Hygiene Education Program in similar village settings, and to ensure the continuity of this project by ensuring the support of the local leadership.

This section covers the following: (1) Research component preceding the intervention; (2) Hygiene Promoters: training, monitoring and evaluation; and (3) Hygiene Education Program; (4) appraisal of outcome, and (5) suggestions for following steps.

## Research Component Preceding the Intervention

In planning the strategy for the training of the different categories of H.P., two sources were used as basis for formulating the content of the training material:

1) The anthropological research undertaken in the same two villages (El-Katsha 1986), which recorded the following observations regarding women's behavior in relation to water utilization and sanitation:

- \* unhygienic methods of water storage: irregular washing or water storage container, leaving the stored water uncovered, drawing water with dirty hands; returning left-over water after drinking;
- \* maintaining the cleanliness of latrine within the household ranked lowest priority, i.e. dirty ground of latrine, irregular washing or pouring of water after use, latrine opening is left uncovered, poor ventilation, offensive odor;
- \* no hygienic practice such as hand washing was observed after the women made dung cakes by hand, a common chore for many women;
- \* hand washing prior to food handling or preparation, infant feeding or after defecation is not habitually practiced by most women;
- \* cooking usually takes place on the floor within close proximity to animals and children's feces;
- \* most animal sheds are located within the house compound, poultry roam throughout the entire house; and
- \* canals and streets are used for solid and sullage waste disposal.

Similar to other villages in Egypt, gastrointestinal (41%) and eye diseases (31%); which are water borne and water washed diseases, were reported as the most frequent health hazards among children in both villages.

2) The data from the interview schedules administered to potential H.P. to assess the knowledge and perceptions of hygiene promoters on issues pertaining to health and sanitation.

A total of 82 interview schedules were administered to service workers and formal leaders (46) and informal leaders (36) selected from both villages. The objective in administering these interview schedules was:

- 1) to provide base line data on job description and responsibilities in the area of environmental sanitation, water services and usage, and hygiene education;
- 2) to elicit background information on individuals who were potential H.P.; whether they were service workers, or formal and informal leaders;
- 3) to record their perceptions on such issues as environmental sanitary conditions, proposed solutions to sanitary problems and scientific knowledge on the subject of health;
- 4) to use such information as basis for screening and identifying prospective H.P.

Results of the interview schedules indicated the following:

- \* In terms of educational background, (53%) of the informal leaders were illiterates, while (91%) of formal leaders and service workers have secondary education and/or university degrees. Despite this educational gap there is no marked difference between the understanding of these three different categories as to the administrative organization of services related to water, sanitation and hygiene. Most respondents were able to identify the governmental body responsible for such services such as installing water meters, disinfecting of reservoir, waste collection clearing of canals, piped water home connections, etc.
- \* The majority of the service workers and formal leaders are men (70%). They were not eligible to become H.P., since it is not customary for male service workers to convey hygiene messages to women, especially when it entails home visits; the only exception were the nursing staff at the health units.
- \* Most of the service workers (69%) are not residents in the village they serve. This in turn limited their ability and willingness to participate in efforts either to improve village sanitary conditions or to disseminate hygiene knowledge among village women beyond the minimum requirements of their job.
- \* The concept of environmental sanitation had more or less similar connotations for most respondents, who identified it with a place free from



pollution, waste disposal in the streets, and flies as well as personal and general hygiene. One of the respondents explained: "Environmental sanitation is the combination of several items, i.e., a place free from garbage, dust, flies, and bilharzia; mothers carefully attending to their children's health and higher educational level and awareness". Another perception of environmental sanitation recounted by interviewees included: "General and personal hygiene and educating villagers on how to combat the spread of microbes and diseases". Thus, most respondents reflected on the basic criteria of what environmental sanitation implies, and which corresponds, to a great extent, to R.T. conception. However, villagers were observed not to practice such an abstract concept in their daily life, an observation confirmed during the research and from results of the previous study (See El-Katsha 1986).

- \* Almost all of the interviewees (92%) confirmed that there is a relation between sources of pollution in the village and at homes (e.g. drinking of contaminated water, disposal of garbage and sullage in the streets, breeding of flies and mosquitoes, use of canal water) and such diseases as diarrhea, eye diseases, gastrointestinal diseases. However, they were not able to recognize or specify how actually diseases are transmitted via these sources or by their following unhygienic patterns such as drinking water from an uncovered container, swimming in the canal, eating uncovered food or unwashed vegetables, or throwing garbage in the streets and canals.
- \* Eighty-five percent of the service workers and formal leaders agreed that preparing dung cakes can have negative health consequences. However, they were not able to specify how, why or what type of health risks, i.e. tetanus, diarrhea, skin and eye infection, while 36% of the informal leaders could not perceive any such connection. One woman commented: "We have always been preparing dung cakes and nothing bad has happened to us".
- \* Almost all of the respondents argue that the quality of water coming from the pipes and hand pumps is satisfactory and free from contamination.

However, results of previous research (El-Katsha 1986) indicated that water running from taps is not totally free from contamination. More so, modes of water use lead to contradictory results (e.g. filling of water with dirty hands, storing water uncovered and at a vicinity to poultry vulnerability to diseases (e.g. diarrhea). Respondents, however, were not able to perceive the linkage between their habits and diseases that might inflict them. On the other hand, all of the respondents agreed that the quality of canal water is very poor due to the disposal of solid waste, sullage and dead animals in the canals. Despite their awareness of the pollution of canal water and its harmful effects on health, they explained that they cannot stop using it (e.g. washing utensils and clothes, disposal of garbage) due to lack of alternative systems that would compensate using such polluted water (no sewerage system, irregularity or even lack of waste collection systems.)

These results helped in shaping the core of the hygiene education program and how to go about implementing it in terms of:

- \* taking this sample of interviewees as a model for the average health information of villagers, it became clear that the core of HEP should go beyond broad concepts such as pollution and its relation to diseases (something which most respondents were aware of) to practicalities of their daily behavior which contain numerous unhygienic patterns that are a contributing, if not a major factor, in disease transmission. Tying their actual behavior to health knowledge would yield better results and add new practical information to the recipients;
- \* the health information to be communicated to village women should stress how and why diseases are transmitted an understanding that is lacking in most responses;
- \* the messages conveyed should build on and add to the concept of environmental sanitation villagers have and which exhibits all major criteria for healthful living;

\* HEP should be treated as a parallel activity to efforts aiming at improving village sanitary environment, such as initiating waste collection system and solving the polluted canal problem. The complementarity of both components of the project is basic for actualizing the concept of village healthful living;

\* HEP should focus on the areas where environmental sanitary constraints are obvious (e.g. in the neighborhood across the polluted canal in Babil) in order to work more concretely toward achieving the above mentioned complementarity.

### Hygiene Promoters: Training, Monitoring and Evaluation

#### Core of Training Program

Research findings were shared with the short term consultants working in the areas of public health education, group-dynamics and community organization. Concerning the implementation of the training program, there was consensus among the consultants and the research team on the following points:

- 1) Candidates for hygiene promotion are not a homogeneous group with respect to educational background; therefore, different training sessions were planned for each group.
- 2) The focus is similar for all groups with respect to the "message" that needs to be conveyed to the beneficiaries. This covered the following areas:

- \* water handling and storage;
- \* latrine cleanliness;
- \* food handling and infant feeding;
- \* personal hygiene and hand washing practices, before food preparation, following defecation, and processing of dung cakes; and
- \* environmental sanitation.

- 3) The training was divided into two main parts:

- \* building relationships and establishing rapport with women, how to relate to people and how to communicate a message that is to become accepted;
  - \* providing basic information on disease, sources of infection and prevention. Hygiene messages mentioned above, were emphasized at every training program. (See App.3 for Content of the Training Program)
- 4) The consultants with the research team proposed that since training is an on-going process requiring constant monitoring and evaluation, it would be more effective if the consultants, who are familiar with the field situation, first conduct the training in the presence of the research team; gradually the research team took the responsibility for both the training and follow-up.
  - 5) It was agreed that periodical meetings with the consultants was to be scheduled throughout the duration of the project. Feedback from the field situation was viewed as important in the process of evaluating the effects of the various methodologies allowing for changes or modifications as deemed necessary.
  - 6) The following was considered in planning the training of the potential H.P.:
    - \* training should be field-based with each group trained in the area of their work;
    - \* Introduction of information was geared to the ability of the trainees to understand and retain;
    - \* lectures as method of training were ruled out;
    - \* discussions based on on real life situations were the basis transmitting information;

- \* emphasis on the use of audio-visual aids in all training sessions;
- \* limitation of group size (5-10 persons) to allow for more interaction between trainers and trainees;
- \* on the job training had top priority in the training process;
- \* post-training questions were administered to assess how much information was retained before the individual was selected to be a H.P.;
- \* training of new recruits became an on-going activity to allow for expansion of H.E.P.;
- \* women were first trainees, then trainers and promoters of hygiene within their surroundings, and ultimately trainers of trainers especially as gradually hand-over the H.E.P. to local bodies within the community; and
- \* systematic monitoring and evaluation of the hygiene promoters' work was an on-going process.

It is envisaged that in Phase II more intensive training of trainers would be provided at markaz level to ensure continuity of H.E.P. after the withdrawal of the R.T.

#### Training Methodology

Alternative training methodologies were employed during the course of the program in order to assess the viability of each method and the combination of more than one method. These included:

- \* Short presentation by R.T. and consultants on the theme environmental sanitation inside and outside house and how it relates to disease transmission, such a presentation took the form of a question-answer discussion with the aim of illiciting first information from trainees and then adding to or correcting it.

- \* Discussion of the unhygienic patterns followed and suggesting corresponding hygiene practices in relation to such issues as home cleanliness, animal raising, food preparation, hand washing practices, infant feeding, preparation of dung cakes, disposal of garbage, etc. The use of audio-visual aids as an illustrative means for story telling helped recipients to identify with the story; while trainees shared in the process of story telling
- \* On-the-job training on how to establish rapport with women recipients, relate to them and convey the health messages in a way that is acceptable and simple; this process was achieved through role play, home visits or meeting with groups of women at clinics, nurseries or communal places. After two or three such sessions, trainees conveyed information to women in the presence of R.T.
- \* Group discussion with trainees on general hygiene, diseases and modes of disease transmission stressing the messages that are core of the HEP.
- \* On-the-job training on how to use audio-visual aids.
- \* On-the-job training on how to keep records, and follow-up sheets with educated HP, and training illiterate HP to be able to recall all details of their work until the later meet with R.T. for follow-up (See tables 1 & 2 App. 7 for detailed training methodologies and trainees profile).

The heterogeneous nature of the trainees in terms of educational background, experience and social functions in the community necessitated following different training methodologies with each group. For instance, audio-visual aids were intensively used with illiterate groups. This was followed by discussions, and a question and answer period. However, at some point it was considered important to combine more than one category of trainees in the same training session as it: (1) allows for discourse between groups of trainees from different backgrounds and stimulates discussion, comparisons and verification of experience and knowledge; (2) is more cost-effective in terms of time, effort and budget.

The training methodology followed with each group was also designed to fit their role as H.P. and the approach adopted in communicating hygiene messages to women (See Tables 1 & 2, App.8). For instance, the importance of the training of the nursing staff on the methods of communicating hygiene information to large groups of women at the clinics; organizing a training workshop for young women on how to communicate on a face-to-face basis the hygiene messages to women neighbors at informal gatherings.

Another element that was emphasized to prospective hygiene promoters during the training program was the importance of record keeping for monitoring, follow-up and evaluation. Various forms were designed (See Appendix 1) to facilitate recording of proceedings by those groups of H.P. who could read and write. Prospective H.P. were trained on how to complete these record sheets. A different methodology was devised to monitor the activities of illiterate candidates based on individual counselling of each case, selection was based on the H.P.'s ability to organize her thoughts and recount in a systematic way activities that had been undertaken. This required training the illiterate H.P. to mentally divide their work under headings like name, hygienic condition of households, topics discussed, and reaction of recipients. They were also given the chance to voice their opinion as to each case they had been dealing with under the heading of general comments. Members of research team recorded this information with the illiterate hygiene promoters during their visits of follow-up. Hence, the illiterate H.P. were trained on observation methods and the use of their eyes and ears more conspicuously and systematically to be able to record activities and reactions.

#### Post-Training Evaluation

All trainees were given post-training interview schedules dealing with information emphasized in the training. The aim was to:

- \* evaluate information retained from the training program;
- \* select prospective H.P.;
- \* decide those areas that require further reinforcement of training;
- \* evaluate the training program itself in terms of the different

approaches followed, their feasibility and effectiveness in bringing about a change in perceptions, knowledge and behavior.

Post-training interview schedules were administered as an on-going activity of the training program; recruitment and training of new H.P. depended on their motivation and ability to continue their involvement with the H.E.P. During the course of the training program, a number of prospective H.P. dropped out due to:

- \* personnel transfers of service workers;
- \* social restrictions and intra-familial problems;
- \* unwillingness of trainees to accept their new role as H.P. within their communities and occupational frame;
- \* incompetence of trainees during the course of the training;
- \* lack of time due to household or other professional responsibilities.

Only 33 trainees (43% of total) were able to continue with the project as H.P.

A total of 46 (60% of trainees) "Evaluation Forms: Information Retained from the Training Program" were completed. (The post-training evaluation of an additional (13%) of trainees (10 cases) is still underway because they were recent recruits.) Results of interview schedules indicated that (24%) of the trainees retained approximately (40%) of the information delivered through the training, while (68%) (31 cases) recalled (50-60%) of the training material, and (8%) retained (70%) of the information. The highest scores were obtained by the public service candidates, followed by clinic staff, then the young women working at the sewing assembly line at Kafr Shanawan workshop, and the nursery staff. The lowest scores were received by informal leaders (See App. 4 for detailed results).

Based on these results, specific areas were targeted for further training. The training program focused on the following subjects:

- \* microbe sources and disease transmission;
- \* hand washing practices;



- \* bilharzia infection and protection;
- \* contamination of drinking water.

The re-training of the different categories followed more or less similar methodologies outlined above with more emphasis on:

- \* use of audio-visual illustrations;
- \* choosing examples from everyday life experiences and some ideas introduced by trainees during the course of training, and
- \* intensive group discussions.

During periodical group discussions with the different groups of H.P. the H.E.P. approach followed was evaluated jointly by R.T. and H.P. The hygiene promoters presented their feelings, perceptions and feedback from the field situation. This permitted the alteration of methodologies whenever required. During one of these meetings, for instance, young women from the workshop evaluated the use of the Home Hygiene Magnetic Board (See App. 5 for list of audio-visual aids employed) listing both its advantages and limitations.

"The use of the board was very helpful since at one and the same time the women heard and saw the message. A combination of sound and picture convinces them of the reality of what was said. They could also identify themselves and their behavior with what they saw in the picture and heard in the story recounted," (a workshop girl).

Another H.P. had a different experience using this same audio-visual aid and presented a different opinion:

"The board is no good. It is better to talk to women informally when we observe them doing something wrong. When you catch them making an unhygienic practice and tell them about the proper way of doing it, they are more willing to listen and it is more relevant than just talking generally or showing them pictures. More so, the board caused us a lot of trouble, our in-laws think it is a waste of time and that it is improper to move around the households and show some pictures".

## Impact of Training on Hygiene Promoters

The results of post-training interviews indicated that during the course of the training program, prospective H.P. were undergoing a process of change in their knowledge and perceptions about hygiene. However, this was not yet coupled with a change in behavior, a step that occurred later during their interaction with the villagers, especially the women, while they were carrying out the H.E.P. The consultants interpreted this as an indication that implementing an effective education program was possible. A process of reinforcement was taking place through the H.P.'s mastery of the hygiene messages which they were communicating to the villagers. Moreover, this in itself was an important development in the H.E.P. because it was marked by the partial application of these messages in the H.P.'s day-to-day activities. The H.P. were starting to become aware that to gain the villagers' confidence and acquire credibility they themselves had to become models for others to imitate. H.P. university graduates commented on the benefits obtained from the training program:

"We have learned a lot from this project. At the University, they taught us theoretical things. Here it is different. We overcame our shyness and learned how to deal with people. It is something you do not find in books, but we learned it by practice".

"I never thought that chicken roaming around the house can be of any harm to us, we were brought up to find them surrounding us. Now I know that they can carry microbes to the food we feed our children," (sewing workshop supervisor).

"I am very happy that I can help my brother now. He was infected with bilharzia a couple of years ago, he took the medications but he was never cured. Now I know the reason, because he continuously swims in the canal. I told him about that and showed him the chart which clearly illustrates how we catch bilharzia," (one of the girls at the sewing assembly line, Kafr Shanawan workshop).

"I have learned a lot on how to raise healthy children and to keep my house clean and tidy. I will use all that information and apply it in my own house when I get married," (a 19-years old girl working at Kafr Shanawan workshop).

Beside the positive results obtained from quantitative data, the R.T. depended on discourse and observation with the H.P. to determine whether

they have really retained the information presented and applied it in their daily life. Visits to the households of the informal H.P. (girls working at the sewing assembly line, informal and natural leaders) confirmed the findings of quantitative data. Only a limited number of H.P. lacked the potential to enforce changing behavioral patterns within their families. This was due to their age, status within family, type of household responsibilities entrusted to them, conservative and strict parents or in-laws who had conflicting perceptions. However, these same H.P. commented, "We have benefitted ourselves from what we have learned with you. Maybe one day we'll be allowed to follow it".

There was no way to check the service workers' (clinic and nursery staff) adoption of new hygienic practices, except from their appearance and the cleanliness of their working places because they live in other villages and research team does not have the chance to visit them at home. Yet, as indicated by the post-training interview schedules, they retained most of the new information conveyed during the training.

#### Conclusion

The following conclusions can be inferred from the training activities undertaken during Phase I of the project:

- \* training material and methodology should be geared to the type and level of trainees;
- \* training is a time consuming activity. Time should be devoted to the trainees so they can digest the information they are expected to communicate to village women;
- \* intensive use of audio-visual aids that related to local experience illustrates the information presented and helps trainees comprehend it better;
- \* to be cost-effective, training programs should start with a larger number of trainees as possible to allowing for possible drop-outs;

- ↗ \* a feed-back process to evaluate and modify the training program should be built-in;
- \* training should be a continuous, on-going activity allowing for new recruits and continuously reinforcing the training material;
- ↗ \* training, monitoring, follow-up and evaluation should be carried out by the same research team to achieve continuity and consistency, and
- ↘ \* an on-going process of involving policy-makers and responsible government officials is essential for continuity and institutionalization of the program.

All this can be achieved only when higher level personnel at the markaz level are trained first and are able to take over the responsibility of perpetuating the Hygiene Education Training Program. This activity is planned in Phase II of the project.

#### Hygiene Education Program

Before initiating the H.E.P., the research team and short-term consultants decided on the following as the basic principles of the program:

- \* hygiene promoters would work on a voluntary basis (without pay). Incentives would be offered to H.P. on occasion and according to performance as evaluated by R.T.;
- \* different approaches would be used by the different categories of H.P. in communicating information to women to test different methodologies. The aim is to determine which were the most feasible and effective approaches in bringing about change in unhygienic practices;
- \* each approach would be tested over a 3-month period, then evaluated in terms of how effective it was in getting women to comprehend and retain communicated information and its impact on promoting health related

behavior. Based on the evaluation, either the approach followed would be modified, re-oriented or maintained. Thus, the same group of H.P. could be testing different approaches at different times;

- \* a monthly evaluation of the H.E.P. would be the basis for evaluating each training method;
- \* monitoring and follow-up of H.P.'s work would allow constant and systematic feedback from H.P.;
- \* monitoring, follow-up and evaluation of the H.E.P. would be undertaken by the same R.T. that carried out training, and
- \* new recruits for prospective H.P. would be sought during the course of the H.E.P. to allow for expansion of scale of the program.

It was also agreed upon that the expansion of the H.E.P. could be limited by the fact that:

- \* The villages are fairly large in size, and the number of the H.P. is still insufficient.
- \* The teaching methods were still being tested. Therefore, it was advisable to evaluate and modify the on-going program before attempting to replicate the training in other areas of the village.

#### Approaches Used for Dissemination of Hygiene Information

Various approaches were implemented by the different groups of H.P. in carrying out H.E.P. The same category of H.P. may also follow different methodologies in communicating messages on hygiene over different periods.

The selection of which approach to adopt depends on the category of HP and the health needs of the different neighborhoods of the villages. The pursued approaches in both villages included:

- \* In Babil, efforts of the HEP were also concentrated in one neighborhood which is densely populated, poor sanitary facilities and is located across the stretch of the polluted canal (see case study #2). From the start, R.T., consultants and villagers all agreed that such neighborhood requires intensive hygiene education given the fact of the polluted canal which is a prime health hazard source for neighborhood residents, because it is treated as a major outlet for household refuse. A census taken before initiating the HEP revealed that 450 persons live in this neighborhood in 46 households, the majority are (95%) adobe houses and (83%) have animal sheds, while (98%) have no connection to tap water, (32%) have no latrines and (52%) of the women are illiterate. The HEP in that area was followed first by Social Unit staff and later by public service girls. The process of communication of health information depends on the selection of a number of households for each HP, to be followed by a 3-weeks period of intensive observation. The areas where hygiene information should be directed were then discerned and the educational process that followed addressed these issues in specific. The procedure followed also depended on developing close rapport with women recipients which takes the form of weekly and bi-weekly visits to the homes. Furthermore, in all HE in that neighborhood environmental sanitation and waste disposal was stressed given the problem of the polluted canal.
  
- \* Another neighborhood that is located at both sides of the canal was also selected as another main target of the HEP following the same procedures and methods described above. This area too is highly affected by the polluted canal and hence was targeted both to help overcome such environmental constraint and for HE. This area is inhabited by 212 people living in 35 household with an average household size of 6 members; (69%) of houses are constructed of adobe, (51%) have no tap water connections, (83%) have animal sheds, while (20%) have no latrines. Only (38%) of the women are illiterate.
  
- \* Group meetings with women were held by R.T. in both the above described areas as part of the HEP where the hazards that accrue from the polluted

canal were highlighted as subject for group discussions. Such meetings too served the purpose of activating women to participate in efforts to solve the problem of the polluted canal and to think of alternative systems for waste disposal that have less of a negative effect on health.

- \* Natural and informal women leaders in both villages were conveying health information to women who approach them at their homes for help and advice within their residential areas, upon visiting neighbors, or on the market day. The communication of information is indirect and pertains to the observed unhygienic practices women might be following (e.g. infant feeding, latrine cleanliness, home and surrounding cleanliness, child care). Usually, the process of diffusing information takes the form of group discussions if the number of women present renders such an interaction and exchange of experiences viable. Audio-Visual aids were also sometimes used.
  
- \* The nursing staff at the health units as well as the maternity and child care clinics in both villages communicated health information to women in medium size groups (7-10 women) using audio-visual aids as story-telling media. The time used for such educational sessions usually follows the schedule of weekly child immunization and takes place during the waiting period for mothers who attend the clinics. The health topics discussed were of a general nature, such as home cleanliness, infant feeding practices, food handling, hygienic measures after preparing of dung cakes, hygienic water storage. Women recipients of hygiene information were encouraged to participate in the story telling that identifies the unhygienic behavior in the story and suggesting the behavioral modes that ought to be followed; as well as in a question-answer period that followed the use of audio-visual aid. This approach allowed for reaching out to women in the various neighborhoods of the village.
  
- \* The same approach was followed by the nursery staff in Kafr Shanawan who conveyed hygiene information following the above described method to women who accompany their children to the nursery.

- \* The nursing staff at the health units and the maternity and child care clinics in both villages conveyed hygiene knowledge to individual women attending the clinics through face-to-face interaction. The type of hygiene information conveyed depended on the nature of ailment that brought these women to the clinics. For instance, if a mother is seeking the doctor at the clinic because of diarrheal infection of her child, during the waiting period, the nurse would approach her talking about reasons for diarrheal infection, type of unhygienic behavior that led to it (e.g. eating uncovered food or unwashed vegetables, flies, unhygienic water storage, unhygienic infant feeding, etc.).
  
- \* For some time, those of the nursery staff in Kafr Shanawan who are village residents communicated health information to women neighbors in their residential areas through face-to-face interaction and depending on the type of unhygienic patterns the nursery staff observe being followed by women neighbors. At some points, audio-visual aids were employed as illustrations;
  
- \* The girls working at the Shanawan sewing assembly line and who live in Kafr Shanawan tended to approach women neighbors in small groups (5-7 women) and use audio-visual aids as a media for story-telling of general unhygienic practices while pointing out the corresponding hygienic behavior. Each girl worked within the boundaries of her neighborhood.
  
- \* This same category of HP tended to communicate hygiene information to family members, while at the same time, attempting to enforce some hygienic behavioral patterns, such as covering latrine opening, daily cleaning of home surrounding, change of garment after preparing dung cakes.
  
- \* The girls working at the Shanawan sewing assembly line tended also to communicate hygiene information to women following unhygienic practices whom they observe either in the streets, fields, on the market or at the communal oven. Such an educational process is characterized by being on the spot and very specified pertaining only to observations by HP of casual unhygienic practices.



In carrying out the HEP group meetings with women and the HP were also held, during which films were occasionally displayed on issues pertaining to hygiene (e.g., an Arabic version of "Prescriptions to Health" which included appropriate selected messages similar to the focus of the HEP; "El-Tawaf" and "Rawya", two films prepared by UNICEF). These occasions encouraged group discussions among a large audience of women and served the function of reinforcing the information conveyed by the HP. The locations chosen for these gatherings were either clinics, the public square in the village, the mayor's house, or the village guest house. These gatherings enabled the R.T. to disseminate health information to women from different neighborhoods in the village and to raise issues pertaining to village environmental sanitation at large.

#### Evaluation of Hygiene Education Program

Monitoring and evaluation of the activities were undertaken by R.T. Evaluation of the H.E.P. was basically twofold:

- \* evaluation of H.P. themselves and their competence in conveying messages; (See pp.44-47 for evaluation of H.P.)
- \* evaluation of beneficiaries from H.E.P. These were accomplished through systematic observation and group discussions, and completion of an open-ended interview schedule.

Evaluation of women's response to the H.E.P. was conducted through observations by the R.T. and the completion of an interview schedule that emphasized the themes raised in the H.E.P; determining whether or not the women followed any of the advised health practices. Evaluations of the training methods implemented during Jan-March 1988 are still underway, except for Jan 1988. The one-month results are still inconclusive, but they provide an indicator about the evaluation of approaches followed. A more in-depth evaluation of recipients of H.E.P. by participant observation is planned during Phase II of the project. The following results were obtained for the period Aug.-Oct. 1987.

Table 6 illustrates the total number of women who received H.E.P. in both villages as well as the (25%) sample of the total that was selected for evaluation.

Table 6  
Total Number and Sample Selected for Evaluation  
of Women Beneficiaries from the H.E.P.

| Hygiene Promoters Category  | Months |    |       |    |         |    | Sub-Total |        | Month |    | Total |        |
|-----------------------------|--------|----|-------|----|---------|----|-----------|--------|-------|----|-------|--------|
|                             | August |    | Sept. |    | October |    | Total     | Sample | Jan.  |    | Total | Sample |
|                             | T*     | S* | T     | S  | T       | S  |           |        | T     | S  |       |        |
| <u>Kafr Shanawan</u>        |        |    |       |    |         |    |           |        |       |    |       |        |
| -Clinic                     | 28     | 7  | 16    | 4  | -       | -  | 44        | 11     | -     | -  | 44    | 11     |
| -Workshop girls             | 38     | 8  | -     | -  | 10      | 3  | 48        | 11     | -     | -  | 48    | 11     |
| -Nursery                    | -      | -  | -     | -  | 7       | 2  | 7         | 2      | 8     | 2  | 15    | 4      |
| <u>Babil</u>                |        |    |       |    |         |    |           |        |       |    |       |        |
| -Clinic                     | 19     | 8  | 33    | 6  | 45      | 11 | 97        | 25     | 27    | 5  | 124   | 30     |
| -Public Service & Soc. Unit | 11     | 5  | 16    | 5  | -       | -  | 27        | 10     | -     | -  | 27    | 10     |
| -Natural leaders            | -      | -  | -     | -  | 26      | 6  | 26        | 6      | 14    | 4  | 40    | 10     |
|                             | 96     | 28 | 65    | 15 | 88      | 22 | 249       | 65     | 49    | 11 | 298   | 76     |

T = Total  
S = Sample

#### Beneficiaries Profile

A profile of the beneficiaries of the H.E.P. is presented below (See Table 7). It is clear that the majority of women (60%) fall in the age group 20-29 years, i.e. in their reproductive age cycle. The R.T. considered this significant because these are mostly the women who perform household chores and are responsible for child care.

Table 7

Age of Sample of Women Beneficiaries from HEP (N=76)

| Age Group | Months |       |         | Sub-Total | Month | Total |
|-----------|--------|-------|---------|-----------|-------|-------|
|           | August | Sept. | October |           | Jan.  |       |
| Belew 20  | 1      | -     | 1       | 2         | -     | 2     |
| 20 - 29   | 16     | 9     | 14      | 39        | 6     | 45    |
| 30 - 39   | 8      | 1     | 2       | 11        | 4     | 15    |
| 40 - 49   | 1      | 2     | 4       | 7         | 1     | 8     |
| 50+       | 2      | 3     | 1       | 6         | -     | 6     |
| Total     | 28     | 15    | 22      | 65        | 11    | 76    |

As to the educational status of those women, (86%) were reported to be either illiterate or able to do simple reading and writing. Only 2 out of 76 had a Universtiy degree and (6%) of the sample had obtained technical diplomas (See Table 8).

Table 8

Educational Standard of Sample of Women Beneficiaries from HEP (N=76)

| Education      | Months |       |         | Sub-Total | Month | Total |
|----------------|--------|-------|---------|-----------|-------|-------|
|                | August | Sept. | October |           | Jan.  |       |
| Illiterate     | 17     | 12    | 16      | 45        | 10    | 55    |
| Read/Write     | 4      | 2     | 4       | 10        | -     | 10    |
| Prim./Prep.    | 3      | 1     | -       | 4         | -     | 4     |
| Than.Amma/Dip. | 3      | -     | 2       | 5         | -     | 5     |
| University     | 1      | -     | -       | 1         | 1     | 2     |
| Total          | 28     | 15    | 22      | 65        | 11    | 76    |

As the H.E.P. is a continuous activity carried out by a diversified group of H.P. within the village setting, (48%) of the sample women beneficiaries received hygiene education more than once and from more than just one source of H.P. (See Table 9). The advantages of having a multi-dimensional system of communication is that it: (1) serves the function of repeating hygiene information to women from more than one source and over different times and in different places. This repetition enables them to better retain information; (2) one source of H.P. confirms the information delivered by another source; (3) it increases the degree of accessibility to hygiene information; (4) hearing hygiene information at more than one place as well as from service workers and informal leaders increases the credibility of the delivered messages and may act to encourage the women to follow suggested hygiene behavioral patterns.

Table 9  
Frequency of Attendance of Hygiene Education Sessions  
(N=76)

| Times   | Months |       |         | Sub-Total | Month | Total |
|---------|--------|-------|---------|-----------|-------|-------|
|         | August | Sept. | October |           | Jan.  |       |
| Once    | 18     | 7     | 8       | 33        | 6     | 39    |
| Twice   | 6      | 5     | 6       | 17        | 3     | 20    |
| Thrice+ | 4      | 3     | 8       | 15        | 2     | 17    |
| Total   | 28     | 15    | 22      | 65        | 11    | 76    |

Concerning the content of the H.E.P., (55%) of women considered the message delivered as new information, while (45%) claimed that they had prior knowledge of this information. "The media nowadays is broadcasting all that what you are saying. We also have changed a lot and do not live in filter like in the old days," one woman explained.

#### Retention of Communicated Information

Despite the fact that more than half the sample claimed the information was new, yet (61%) were able to retain 40-50% of communicated health messages.

Twelve women (16%) were able to recall more than 60% of the messages (See Table 10).

Table 10

Hygiene Information Retained by Women Beneficiaries  
(N=76)

| Category             | % of Information Retained by Women |     |     |     |     |     | Total |
|----------------------|------------------------------------|-----|-----|-----|-----|-----|-------|
|                      | 20%                                | 30% | 40% | 50% | 60% | 70% |       |
| <u>Kafr Shanawan</u> |                                    |     |     |     |     |     |       |
| -Clinic              | 1                                  | 1   | 3   | 6   | -   | -   | 11    |
| -Workshop girls      | -                                  | 3   | -   | 5   | 3   | -   | 11    |
| -Nursery             | -                                  | 2   | 1   | -   | 1   | -   | 4     |
| <u>Babil</u>         |                                    |     |     |     |     |     |       |
| -Clinic              | -                                  | 8   | 11  | 5   | 5   | 1   | 30    |
| -Public Service      | -                                  | 2   | 4   | 3   | 1   | -   | 10    |
| -Natural leader      | -                                  | 1   | 3   | 5   | 1   | -   | 10    |
| Total                | 1                                  | 17  | 22  | 24  | 11  | 1   | 76    |

From the above table it is evident that the most effective hygiene communication approaches relevant to recipients' ability to retain information was at the health units. Likewise face-to-face interaction with women within neighborhoods as followed by natural leaders and girls working at Shanawan sewing assembly line was significant. This could be due to : (1) confidence in service workers at the health units as the most entrusted and most accessible source of hygiene education; (2) the ability of the workshop girls, natural and/or informal leaders to convey the messages in a simple, but intensive way since they share similar educational backgrounds and life situation with women beneficiaries. The H.P. are illiterate and show similarity to the majority of women beneficiaries. This similarity probably facilitates the communication process and the ability of the communicator to convey the message in a language that appeals most to the recipient.

## Promotion of Hygienic Practices

Of the total sample of 76 cases, (49%) of the women claimed a change in their unhygienic practices as the following comments indicate.

"I have always fed my baby whenever he cried even if my hands were dirty after sweeping the house or preparing dung cakes. Now I pay lot of attention, I do not breastfeed him unless I have washed my hands. It is better to have him cry for a few minutes until I am clean than to feed him with my dirty hands".

"My mother is the one responsible for preparing dung cakes. She used to wear the same garment until she finished all house work. I made a deal with her to put on the oldest garment when preparing dung cakes, and take it off immediately after she finishes. I'll be in charge to put it in the sun to dry and I'll wash it once a week for her," a daughter explained.

Moreover, another woman communicated the benefits of the H.E.P. to her neighbors, she explained:

"Keeping the surroundings of our houses clean has always been something we intended to do, but reluctant to accomplish. We have learned from the girls working with you to pay a lot of attention to cleaning the street, since through the trash that is outside, diseases can be easily transferred to the children. The flies carry microbes from the garbage piles and excreta outside our doors. They stand on the food our children eat and then we wonder how they catch diarrhea. I told my neighbor not to let her child defecate in the street and to train him to use the latrine. At first she was reluctant to follow my suggestion, but I kept after her and now he doesn't do it any longer. Moreover, my neighbors and myself sweep up in front of our houses, pile garbage at one point and burn it. Our street now is one of the best in the village".

This recipient of H.E.P. later became one of the H.P. within her neighborhood. What these women have been saying was confirmed by R.T. observation during evaluations and neighborhood visits.

A (49%) of the women reported a range of hygienic practices following exposure to H.E.P. These range from hygienic measures in food preparation (24%), to hand washing before and/or after attending to some practices (24%), cleanliness inside and outside house (22%), latrine cleanliness (16%), and hygienic measures in dung cakes preparation (14%).

Most of the women (81%) who reported a change in their practices are in the age group of 20-39 years, and (78%) of these are illiterate.

The remainder of women beneficiaries who reported no change in their behavior (51%) explained that they haven't followed any of the suggested hygienic practices claiming that: "We have been following hygienic methods since a long time". They said: "Life in the rural areas has changed a lot and we pay more attention to the cleanliness of our homes and children". However, the R.T. could not observe hygienic conditions in many of these households. Other reasons for not following new behavioral patterns rest within the family structure of some households.

"I know what you say is beneficial to the health of my children, but my mother-in-law is of a contradictory opinion. She believes that all this is a waste of time and effort, as she has raised all her children and they were brought up in good health without having to do any of that stuff. She says, that it is all the people of the city who want to enforce their ideas and practices on us, but we are different".

The evaluation the H.E. approaches that brought about the most reported cases of change in behavior reveals that the Health Units had the greatest impact (See Table 11).

Table 11

Category of Hygiene Promoters and Change  
in Hygienic Practices of Women Beneficiaries

| Agent                      | Months |    |       |    |         |    | Sub-Total |    | Month |    | Total |    |
|----------------------------|--------|----|-------|----|---------|----|-----------|----|-------|----|-------|----|
|                            | August |    | Sept. |    | October |    |           |    | Jan.  |    |       |    |
|                            | C      | No | C     | No | C       | No | C         | No | C     | No |       |    |
| <u>Kafr Shanawan</u>       |        |    |       |    |         |    |           |    |       |    |       |    |
| -Clinic                    | 4      | 4  | 2     | 2  | -       | -  | 6         | 6  | -     | -  | 6     | 6  |
| -Workshop girls            | 2      | 6  | -     | -  | 1       | 2  | 3         | 8  | -     | -  | 3     | 8  |
| -Nursery                   | -      | -  | -     | -  | 1       | 1  | 1         | 1  | 1     | 1  | 2     | 2  |
| <u>Babil</u>               |        |    |       |    |         |    |           |    |       |    |       |    |
| -Clinic                    | 6      | 1  | 3     | 3  | 8       | 3  | 17        | 7  | 4     | 1  | 21    | 8  |
| -Public Service candidates | 2      | 3  | -     | 5  | -       | -  | 2         | 8  | -     | -  | 2     | 8  |
| -Natural leaders           | -      | -  | -     | -  | 1       | 5  | 1         | 5  | 2     | 2  | 3     | 7  |
| Total                      | 14     | 14 | 5     | 10 | 11      | 11 | 30        | 35 | 7     | 4  | 37    | 39 |

As mentioned earlier much confidence was entrusted to service workers as the most accessible and reliable source of hygiene education. This role motivated the women to change unhygienic behavioral patterns. However, a difference was detected between the effectiveness and impact of H.E.P. carried out by the clinic staff at Babil and that of Kafr Shanawan which is attributed to: (1) the competence of Babil nursing staff in conveying hygiene messages to women; (2) role of the doctor in encouraging clinic staff to carry out effective H.E.P.; (3) personality characteristics that play an integral role in the development of good relations and rapport with women which facilitate the communication of new information and the acceptance of new patterns.

Girls working at the Shanawan sewing assembly line, who are young, illiterate and in some cases single, had less impact in bringing about a change in health related behavior. They communicated information effectively to the extent that the women were able to retain the hygiene messages conveyed. However, being relatively young and single undermined their ability to convince older and married women to change unhygienic practices. One of the young H.P. said, "Some women feel that we are not eligible to talk about health, child care and community affairs as we are still young and inexperienced". A similar comment made by another girl was: "One woman told me that she knew better as she has raised children who are now doctors and engineers and that my experience is nil compared to hers, so why should she follow my advise". An H.P. was of the opinion that the responsibility of spreading H.E. should be laid on a woman neighbor who is older, married, has children and has a strong personality: "People will listen to her and she can communicate and relate better to other women who share similar experiences and are peers". Thus, running counter to the prevailing status hierarchy, age, and seniority values in the community may undermine the effectiveness of the program in bringing about a change in unhygienic practices. Peer support as well as influence are important variables in enforcing new hygienic practices. The girls at the workshop were more successful in bringing about change among groups of women of comparable age and status, e.g. unmarried girls, newly married young women with younger children.



298:37 = 0.05

**Conclusion**

The following conclusions can be deducted from monitoring and evaluation of the H.E.P. with its different approaches as carried out so far:

- \* the H.E.P. is still in its formative stage. To date only 298 women have been reached through 37 H.P. Hence, efforts should be directed toward the recruitment of more H.P. during Phase II of the project;
- \* recruitment methods of H.P. are still being tested out, but it is evident that they vary according to village setting, i.e. in Babil it is quite difficult to find informal and local personnel interested and capable of playing the role of H.P., whereas in Kafr Shanawan, the H.P. themselves assisted the R.T. to select new candidates. Some of the eligible candidates seek employment opportunities in neighbouring cities (one or two miles away) and hence have refrained from voluntary involvement in the H.E.P.;
- \* work of H.P. on a voluntary basis is still debatable. Nevertheless, none of the H.P. have dropped out because of the no-pay system, though some voiced the opinion that a paid H.P. position may attract more women. Villagers are not yet accustomed to the concept of serving their communities, a gradual process that is being tested out and integrated during the course of the program. However, those who have been involved as H.P. have embraced that concept and have acted accordingly thus becoming good spokespeople on behalf of the R.T. in that regard;
- \* a diversified group of H.P. in terms of age, education, and status in community as informal, service workers or natural leaders, serves the function of approaching different segments of village women and has more influence on peer groups. This diversified group can then act to meet both goals of the H.E.P. in terms of retainment of information and enforcing a change in health related behavior;
- \* the content of the H.E.P. should be in harmony with the prevailing sanitary conditions of the village. Hence, in its first phase the H.E.P. concentrated on hygiene inside the households, as:
  - it is easier to handle and it involved only the women concerned;
  - improvements of environmental sanitary conditions are still in

process and hence behavioral patterns outside the homes can not be enforced while environmental conditions do not render such practices feasible or accessible to women;

- \* changing unhygienic behavioral patterns requires time. Currently, those who reported a change in their behavior have adopted the most visible or obvious means: covering latrine opening, cleaning home surrounding. These were also changes observed by the R.T. Other promotions in health behavior, like hand washing practices, hygienic measures of food preparation and infant feeding, will be subject to more in-depth evaluation by R.T. during Phase II of the project;
- \* testing of the above mentioned H.E. approaches and experimenting with other ones to determine which are the most feasible and effective methods of H.E. requires more time and in-depth evaluation. This is planned in Phase II;
- \* as the H.E.P. is expected to be a continuous, on-going activity, especially after the withdrawal of R.T., the mechanisms necessary to continue the program, with both the formal and informal components of H.E. and H.P., are being tested. Currently, efforts are being extended to include personnel at the markaz level both in terms of training and follow-up of the formal and service workers. Handing over the training program in the informal sector is being discussed by consultants and R.T.; one option is to encourage the involvement of the existing structure of voluntary organizations and/or existing leadership structures. This entails the preparation of hand-out material for trainers that would include all the details of the proposed H.E.P.

Similarly, during Phase II of the project the R.T. will be formulating a presentation of the H.E.P. to policy-makers targeting service workers, especially nursing staff, and public service candidates, aiming at making the best use of each caliber of workers.

A P P E N D I C E S



APPENDIX 1

List of all Forms Administered at Different Intervals of the Project

| #  | Title   | Date       |
|----|---|------------|
| 1  | Guide List Prepared to Interview Policy Makers  | April 1986 |
| 2  | Interview Schedule for Informal Leaders   | April 1986 |
| 3  | Interview Schedule for Formal Leaders & Service Workers   | April 1986 |
| 4  | Census Sheet  | June 1987  |
| 5  | Evaluation Form: Information Retained from the Training Program; Administered to Hygiene Promoters by Research Team | June 1987  |
| 6  | Follow-up Sheet: Hygiene Education Sessions of Formal Hygiene Promoters; to be completed by Research Team           | July 1987  |
| 7  | Follow-up Sheet: Hygiene Education Sessions of Informal Hygiene Promoters; to be completed by Research Team         | July 1987  |
| 8  | Record Sheet: Hygiene Education Sessions; to be completed by Formal Hygiene Promoters                               | July 1987  |
| 9  | Record Sheet: Hygiene Education Sessions; to be completed by Informal Hygiene Promoters                             | July 1987  |
| 10 | Evaluation Form: Women Beneficiaries from the Hygiene Education Program; to be completed by Research Team           | July 1987  |
| 11 | Water Use and Consumption Schedule in Halayla; to be completed by Research Team                                     | Aug. 1987  |
| 12 | Informal Leadership Schedule; "Hygiene Promoters"   | Nov. 1987  |
| 13 | Guidelist for Fieldworkers  | Nov. 1987  |
| 14 | Guidelist for Home Visits "Hygiene Promoters"   | Nov. 1987  |
| 15 | Appraisal Form for Hygiene Promoters  | Dec. 1987  |

## APPENDIX 2

## LIST OF CONSULTANTS

| <u>Name</u>              | <u>Discipline</u>  | <u>Affiliation</u>   |
|--------------------------|--|--|
| Dr. Ahmed Fadel          | Engineering  | CHEMONICS,<br>Professor, Faculty of<br>Engineering, Mansoura U.                                      |
| Mr. Fathi Abdel Latif    | Engineering  | WHO  |
| Mr. Fouad Fahmi Naguib   | Engineering  | Deputy Director,<br>Drainage Department<br>Water Utilities & Public<br>Works Directorate<br>Menoufia |
| Dr. Hind Khattab         | Social Anthropology  | Delta Consultant   |
| Mr. Magdi Zaki           | Engineering  | UNICEF   |
| Mrs. Mary Bassili Assaad | Social Anthropology,<br>Community Organization<br>and Group Dynamics,<br>Women & Health Care | Freelance Consultant   |
| Dr. Mofida Kamal         | Health Education &<br>Training   | High Institute for Public<br>Health  |
| Mr. Mohamed Gaballah     | Sociologist  | Head of Development Dept<br>Menoufia Governorate   |
| Mr. Ossama Atteya        | Engineering  | Head of Engineering Dept<br>Menoufia Governorate   |
| Dr. Ragi Assad           | Engineering  | Freelance  |
| Mr. Youssef Shahin       | Chemist  | Environmental Sanitation<br>Ministry of Health,<br>Cairo   |

## APPENDIX 3

### Translation of the Content of Training Material for the Hygiene Promoters Prepared by Dr. Mofida Kamal, Health Education Consultant

#### GENERAL HYGIENE

What is the environment?

The environment can be divided into two spheres: 1) external, outside the home; 2) internal, inside the home

The external environment includes the land, air and water.  
The internal environment is what prevails inside the home.

How is the environment polluted?

**The external environment:** The air can be polluted from dust, cars, etc.  
Canal water is polluted from garbage disposal, dead animals, bathing animals, child and animal excreta.

**The internal environment:** Water Storage - Water running from taps is clean. However, it can easily be polluted. How?

- 1) After filling the water, dust and flies can pollute it while carrying it home
- 2) Dirty hands that come into contact with the water can contaminate it.
- 3) Water that is stored uncovered is exposed to flies, dust, and poultry, all of which can pollute it.
- 4) Drawing water from the water storage container can pollute it, if the pot used is not clean.

How to store water in an hygienic manner?

- 1) It should be stored in a clean, covered container elevated from the ground.
- 2) The pot used for drawing water should be clean and with a long hand.
- 3) Our hands should be clean while drawing water from the container.
- 4) Unused water that has been drawn should not be returned into the container.

## Food Preparation

Preparing food in an hygienic manner is of great importance, as to avoid the spread of germs and microbes.

- 1) Rinse utensils with clean water immediately before use.
- 2) The area for cooking should be free from dust and away from animals.
- 3) Left-over food should be covered and stored in an elevated, cool place.
- 4) It is essential to boil cows' milk before feeding it to infants.
- 5) Infant food should be prepared before each feed.
- 6) Washing of vegetables should be with clean potable water, not canal water. Moreover, vegetables should be cleaned by pouring water over them (e.g. from the tap).

## Hand Washing

Washing of hands should not be in plate, rather water should run from a tap, or a glass of water be poured over dirty hands. Washing hands in a plate or a container means that the dirt from the hands is transferred to the water in the plate with all the microbes and bacteria. Using that same water then transfers the microbes to the hands again. That is why it is important to pour water over the hands.

It is important to use soap in hand washing. If there is no soap, the ash remains from the oven can be employed.

Washing of hands should proceed before preparing food, feeding infants; and after preparing dung cakes or using the latrine.

## Preparation of Dung Cakes

Dung cakes can cause diseases like diarrhea and dysentery. There should be a separate galabiya to be worn for that operation alone. This galabiya should be washed with soap periodically. It should be changed with another clean dress immediately after completing the preparation of dung cakes. Careful washing of hands with soap, especially under finger nails is important.

## Home Cleanliness

The house should be swept daily and kept free from flies. Chicken and ducks are to be placed in a special room, or a chicken-house, i.e., not to allow them move freely around the house and transmit microbes.

The animal barn should be in a separate room in the house and its door should be always closed.



Garbage and trash should be disposed off continuously and/or burned.

If there are infants in the family, their faces should be covered with a light piece of cloth to protect them from flies while sleeping.

### Latrine Cleanliness

A major source of microbes which help in disease transmission could be the latrine; that is why it is important to keep the latrine clean. It should be washed daily and gas be poured on it, then a cover with a long handle should be placed on the opening all the day. There must be a small container with water for washing after defecating.

Children should be prevented from defecating in the street. They are to be trained to use the latrine. If they are too young, a hole near the house can be used for that, but to be filled immediately after its use. Vomit should be swept and dusted.

### Disease Transmission

The focus is on diseases that can be transmitted via polluted water and food, like jaundice, diarrhea, dysentery, typhoid. All of these are more common during the summer, because of flies which transmit the microbes.

### Infection

Infection can be either through excreta or vomit. The microbes of a sick person (which carry the disease) are transferred through his excreta or vomit.

These microbes can be transmitted to a healthy person either through:

- \* pollution of water by the source of these microbes;
- \* hand pollution by the source of these microbes;
- \* the sick person defecates without washing his hands afterwards and then touches the food which others may eat; and
- \* the flies which carry the microbes from the excreta or vomit to food, hands or mouth of other people.

### Symptoms

Symptoms of these diseases can either appear immediately, like diarrhea which shows on the person the next day after the microbe reaches his body; or symptoms may appear after one week like dysentery, or after one month like jaundice.

### Protection from Diseases

- \* Covering food from flies;
- \* washing of hands before preparing food;
- \* prevent defecating in the street;
- \* washing of hands after defecating.

## HYGIENE MESSAGES

The hygiene messages tackle the different themes that were selected as focus of the Hygiene Education Program carried out by the different hygiene promoters.

### Latrine Cleanliness

- Latrine opening should be covered so as to:
    - \* avoid spread of microbes to the entire house;
    - \* avoid bad smell;
    - \* avoid flies and insects.
  - Cleaning of latrine should be as follows:
    - \* latrine should be washed and cleaned at least once by the end of the day;
    - \* pouring of water daily, possibly used water from washing clothes;
    - \* pouring of gas around opening so as to:
      - kill microbes;
      - provide better smell;
      - prevent flies and insects.
  - A container with water should be placed in latrine, to be filled and cleaned daily.
  - Washing of hands with soap after using latrine.
  - The door to latrine should be always closed.
- In case there is no latrine in the house:
- washing the hands with soap after defecating and urinating;
  - excreta should be covered with dust;
  - pouring of gas to avoid bad smell.

### Storing of Water Used for Drinking and Cooking

- The water storage container should be covered so as to:
  - \* avoid the pollution of water with dust while sweeping;
  - \* avoid water pollution from pigeon remains;
  - \* avoid water pollution from flies.
- Cleaning of pot used for drawing water from container.
- Use of a long-hand pot to draw water from container to ensure that the hands, if dirty, don't pollute the stored water.
- Cleaning of hands before drawing water.
- The rest of the water in the pot should be thrown outside water storage container to avoid the transmission of microbes to the stored water.

### Zereeba (Animal Shed)

- The zereeba should be cleaned periodically.
- The door to the zereeba should be always closed so as to:
  - \* keep animals from moving into the house and spreading their remains which are one of the major microbe sources;
  - \* prevent chicken and children from spreading animal remains into the rest of the house;
  - \* prevent spread of the bad smell into the entire house;
  - \* prevent spread of flies which transmit microbes from zereeba to the rest of the house. .

### Chicken Raising

- Chicken should be raised in a specific place like a hen-house to prevent them from moving freely around the house so as to:
  - \* prevent chicken from carrying dirt throughout the house;
  - \* prevent chicken from polluting food or stored water.

### Preparing Dung Cakes

- Careful washing of hands with soap after preparing dung cakes.
- Change of galabiya immediately after completion of operation and placing it in the sun to dry.
- Washing of galabiya at least once a week.
- Avoid preparing dung cakes if wounded.

### Food Preparation

- Washing of hands before preparing food.
- Washing of cooking utensils before cooking.
- Washing of vegetables one by one under running water.
- Avoid cooking in the middle of the house in an unclean place to avoid food being polluted from dust, chickens, etc..
- The stove should be placed away from children to prevent any burn accidents.
- The food should be covered to avoid flies from transmitting microbes.

### Feeding Infants and Pre-School Age Children

- Washing of hands before feeding infants.
- Wearing a clean galabiya while feeding infants.
- Cleaning of breast before feeding infants.
- Washing of child's face before feeding him/her.
- If the infant is not breast-fed, the milk and the feeding items should be boiled and never left exposed to dust or dirt.
- Washing of hands of older children before eating.

### Children's Cleanliness

- Washing of children's face and hands to prevent flies.
- Cleanliness of children's dress and its periodic washing.
- Children should be accustomed to wearing shoes to prevent accidents from walking bare-foot.
- Children should be trained to use latrine or pot and not to defecate or urinate in or around the house so as to:
  - \* avoid spread of microbes in the excreta;
  - \* prevent chicken from carrying remains of excreta to entire house or to food or stored water;
  - \* Washing of hands after urinating or defecating;
  - \* Cleaning of child after defecating;
  - \* Washing of hands before eating;
  - \* Infants should be placed in a clean area and be covered with a light piece of cloth to protect them from flies.

### Women's Cleanliness

- A woman should care about her personal hygiene.
- Change of galabiya worn during household work.
- Washing of hands before preparing food or feeding infants.
- Washing of hands after using latrine, and after completing household work.

### Home Cleanliness

- The house should be swept daily.
- Constant disposal of garbage and waste water.
- Combating flies by using gas or chemicals to avoid microbe transmission.
- Pouring of water to reduce dust.
- Proper ventilation of house.
- Prevent child defecating in or around the house.
- Sweeping around the house.

Appendix 4

List of Audio-Visual Aids

- 1) Environmental Hygiene: Water (Magnetic Board) Collier MacMillan Visual Learning
- 2) Home Hygiene (Magnetic Board) Collier MacMillan Visual Learning
- 3) Bilharzia (Chart) - UNICEF
- 4) Hand Washing Practices (Chart) - UNICEF
- 5) How Disease Travels (Flip-Chart)
- 6) Diarrhea Prevention (Flip-chart) - UNICEF
- 7) Prescriptions to Health (Film with Arabic script) - IDRC
- 8) El-Tawaf (Film) - UNICEF

APPENDIX 5

Evaluation of Retained Information from  
The Training Program

Sources of Microbes (N=46)

| Source  | #  | %  |
|---|----|----|
| - No answer                                   | 1  | 2  |
| - Filth (garbage, waste water, any pollution) | 34 | 74 |
| - Excreta & urine                             | 20 | 43 |
| - Use of polluted canal water                 | 16 | 35 |
| - Polluted food or drinking water             | 13 | 28 |
| - Flies                                       | 11 | 24 |
| - Polluted air                                | 2  | 4  |
| - Infected wounds                             | 1  | 2  |
| - Vomit                                       | 1  | 2  |

Transmission of Microbes (N=46)

| Response                           | #  | %  |
|------------------------------------|----|----|
| - Flies                            | 31 | 67 |
| - Contaminated food & water        | 27 | 59 |
| - Dirty hands                      | 13 | 28 |
| - Polluted air                     | 5  | 11 |
| - Contact with sick person         | 5  | 11 |
| - Use of polluted canal water      | 4  | 9  |
| - Defecating without washing hands | 3  | 6  |

Protection Against Microbes (N=46)

| Response   | #  | %  |
|--|----|----|
| - Covering food  | 29 | 63 |
| - General cleanliness at home and personal cleanliness | 24 | 52 |
| - Washing hands  | 19 | 41 |
| - Covering drinking water                              | 18 | 39 |
| - Combating flies                                      | 13 | 28 |
| - Preventing child defecation in street                |    |    |
| - Avoiding contact with sick person                    | 6  | 13 |
| - Not using canal water                                | 4  | 9  |
| - Preventing defecation and urination in canal         | 3  | 6  |
| - Child care & cleanliness                             | 3  | 6  |

Washing of Hands Before Attending to (N=46)

| Response          | #  | %   |
|-------------------|----|-----|
| - Preparing food  | 46 | 100 |
| - Feeding infants | 22 | 48  |
| - Eating          | 9  | 20  |

Washing Hands After Attending to (N=46)

| Response               | #  | %  |
|------------------------|----|----|
| - Latrine use          | 30 | 65 |
| - Preparing dung cakes | 25 | 54 |
| - House work           | 26 | 57 |
| - Eating               | 15 | 33 |



Latrine Cleanliness (N=46)

| Response                                      | #  | %  |
|---|----|----|
| - No answer                                   | 1  | 2  |
| - Daily cleaning                              | 42 | 91 |
| - Pouring of gas                              | 41 | 89 |
| - Making a cover for opening                  | 35 | 76 |
| - Building a door                             | 10 | 22 |
| - Putting a pot with water<br>inside bathroom | 2  | 4  |

Health Hazards from Defecating in the Street (N=46)

| Response  | #  | %  |
|---|----|----|
| - Flies gather there & transmit diseases              | 42 | 91 |
| - Source of microbes                                  | 10 | 22 |
| - Children & chicken can touch it & transmit diseases | 7  | 15 |
| - Bad smell   | 1  | 2  |

Protection Against Hazards from Defecating in Street (N=46)

| Response                            | #  | %  |
|-------------------------------------|----|----|
| - Cover excreta & sweep it directly | 32 | 70 |
| - Train children to use pot         | 22 | 48 |
| - Prevent defecation in street      | 20 | 43 |
| - Train children to use latrine     | 18 | 39 |
| - Cleaning child afterwards         | 9  | 20 |
| - Go to the field for defecating    | 2  | 4  |
| - Covering food                     | 1  | 2  |

Diseases Caused from Water Contamination (N=46)

| Response                      | #  | %  |
|-------------------------------|----|----|
| - Does not know disease names | 2  | 4  |
| - Gastrointestinal diseases   | 27 | 59 |
| - Diarrhea                    | 18 | 39 |
| - Bilharzia                   | 19 | 41 |
| - Parasitic diseases          | 10 | 22 |
| - Typhoid                     | 3  | 7  |
| - Malaria                     | 2  | 4  |

Causes for Water Contamination (N=46)

| Response                                       | #  | %  |
|--|----|----|
| - No answer                                    | 2  | 4  |
| <b>Potable Water:</b>                          |    |    |
| - Not being covered                            | 21 | 46 |
| - Dirty hands                                  | 22 | 43 |
| - Dirty container used for storing             | 17 | 37 |
| - Exposed to dust, pigeon remains.....         | 16 | 35 |
| - Rusted pipes                                 | 2  | 4  |
| <b>Canal Water:</b>                            |    |    |
| - Throwing of garbage and waste water in canal | 24 | 52 |
| - Defecating and urinating in canal            | 17 | 37 |
| - Dead animals thrown in canal                 | 16 | 35 |
| - Swimming and washing utensils in canal       | 1  | 2  |

Diseases Caused by Flies (N=46)

| Disease                           | #  | %  |
|-----------------------------------|----|----|
| - Does not know names of diseases | 1  | 4  |
| - Gastrointestinal diseases       | 27 | 59 |
| - Diarrhea                        | 21 | 46 |
| - Eye diseases                    | 15 | 33 |
| - Typhoid                         | 7  | 15 |
| - Malarya                         | 3  | 6  |
| - Parasitic diseases              | 2  | 4  |
| - Skin diseases                   | 1  | 2  |

Reasons for Prevalance of Flies (N=46)

| Reason   | #  | %   |
|--|----|-----|
| - Disposal of solid waste & sullage in streets | 46 | 100 |
| - Many swamps & stagnant water points          | 11 | 24  |
| - Defecation in street                         | 7  | 15  |

Diseases Caused from Using Canal Water (N=46)

| Disease                           | #  | %  |
|-----------------------------------|----|----|
| - Does not know names of diseases | 1  | 2  |
| - Bilharzia                       | 40 | 87 |
| - Gastrointestinal diseases       | 8  | 17 |
| - Parasitic diseases              | 6  | 13 |
| - Diarrhea                        | 4  | 9  |
| - Skin Diseases                   | 2  | 4  |

Health Hazards from Dung Cakes (N=46)

| Response   | #  | %  |
|--|----|----|
| - Causes of the diseases and sources of microbes | 40 | 87 |
| - Causes of tetanus                              | 13 | 28 |
| - Place where flies gather and causes diseases   | 2  | 4  |
| - Does not know                                  | 5  | 11 |

Hygienic Practice While Preparing Dung Cakes (N=46)

| Response  | #  | %  |
|---|----|----|
| - Careful washing of hands with soap afterwards   | 44 | 96 |
| - Change of dress immediately                     | 28 | 61 |
| - Washing of dress worn during operation          | 23 | 50 |
| - Have a special dress for dung cakes preparation | 7  | 15 |
| - Should not make dung cakes if wounded           | 3  | 7  |
| - Should not prepare dung cakes                   | 1  | 2  |

Protection Against Bilharzia (N=46)

| Response   | #  | %  |
|--|----|----|
| - Does not know  | 5  | 12 |
| - Prevent use of canal water (e.g. washing, swimming)          | 26 | 57 |
| - Prevent defecation and urination in canal                    | 22 | 48 |
| - Periodic examination and following treatment                 | 9  | 20 |
| - No throwing of garbage and waste water in canal              | 5  | 12 |
| - Prevent throwing of dead animals                             | 4  | 9  |
| - Prevent drinking canal water                                 | 3  | 7  |
| - Washing of utensils washed in canal water with potable water | 1  | 2  |
| - Boiling of canal water before use                            | 1  | 2  |
| - Prevent walking bare-foot                                    | 1  | 2  |
| - Cleaning of canals   | 1  | 2  |

Degree of Retainment of Information (N=46)

| % of Information Retained | #  | %   |
|---------------------------|----|-----|
| 40%                       | 11 | 24  |
| 50%                       | 16 | 35  |
| 60%                       | 15 | 33  |
| 70%                       | 4  | 8   |
| Total                     | 46 | 100 |

APPENDIX 6

LIST OF POLICY-MAKERS/EXECUTIVES INTERVIEWED

- \* General Secretary of the governorate, general secretary of the markaz, appointed directors of the village councils, elected members of the village council, director of the Community Development Society in Kafra Shanawan, and Omda (mayor) of both villages;
- \* Policy-makers on the governorate level in the Health Directorate: Director of the Preventive Health Care Unit, Head of the Unit of Environmental Health; person in charge of the Health Education Program; person in charge of Environmental Improvement Program (specifically responsible for the promotion of Qalyoub pit latrines since 1962); head nurse in charge of all the nursing staff within the governorate; director of School Health Program, and directors of Health Departments on the markaz level;
- \* Director of the Social Welfare Department on the markaz and village levels;
- \* Representatives from the Irrigation Department at the governorate and markaz levels;
- \* Officials of the Housing Department.

## APPENDIX 7

Table 4

Prospective Hygiene Promoters Profile & Correspondent Training Methodology  
in Babil

| Category                      |           | No. of Trainees | Education   |      |       | Age       |       |     | Marital Status |       | Date of Training | No. of Attendees | Trainers         | Training Material & Methodology   |
|-------------------------------|-----------|-----------------|-------------|------|-------|-----------|-------|-----|----------------|-------|------------------|------------------|------------------|---|
| Service                       | In-formal |                 | Illi. Prim. | Dip. | Univ. | Be-low 20 | 20-40 | 41+ | Mar.           | Sing. |                  |                  |                  |   |
| Clinic staff                  |           | 6               | 2           | 4    | -     | -         | 6     | -   | 6              | -     | 3/3/87           | 4                | Consultants & RT | Short presentation on environmental sanitation inside & outside house; disease transmission cycles, followed by group discussion  |
|                               |           |                 |             |      |       |           |       |     |                |       | 10/6/87          | 3                | Consultants & RT | Short presentation on hygiene messages with the use of audio-visual aids in large groups of women, followed by group discussion   |
|                               |           |                 |             |      |       |           |       |     |                |       | 22/6/87          | 6                | RT               | Evaluation of Retained Information  |
|                               |           |                 |             |      |       |           |       |     |                |       | 28/7/87          | 3                | RT               | On-job training on how to use audio-visuals in large groups through group discussions   |
|                               |           |                 |             |      |       |           |       |     |                |       | 24/10/87         | 4                | RT               | On-job training on how to carry out discussions in small groups with possible use of audio-visuals as illustrative tools  |
| social unit & primary superv. |           | 11              | -           | 11   | -     | -         | 11    | -   | 9              | 2     | 3/3/87           | 1                | Consultants & RT | Short presentation on environmental sanitation inside & outside house; disease transmission cycles, followed by group discussion using examples from local settings             |
|                               |           |                 |             |      |       |           |       |     |                |       | 23/3/87          | 1                | Consultants & RT | How to convey hygiene information to large groups of women  |
|                               |           |                 |             |      |       |           |       |     |                |       | 8/4/87           | 1                | RT               | Use of audio-visuals to illustrate how diseases are transmitted & hygiene practices that ought to be followed. Trainees were asked to use audio-visuals in presence of trainers |
|                               |           |                 |             |      |       |           |       |     |                |       | 10/6/87          | 1                | Consultants & RT | Short presentation on hygiene messages & the use of audio-visuals in large groups, followed by group discussions  |
|                               |           |                 |             |      |       |           |       |     |                |       | 22/6/87          | 1                | RT               | Evaluation of Retained Information  |
|                               |           |                 |             |      |       |           |       |     |                |       | 13/7/87          | 1                | RT               | On-job training on how to carry out hygiene education using audio-visuals   |
|                               |           |                 |             |      |       |           |       |     |                |       | 4/10/87          | 10               | RT               | On-job training on how to use audio-visuals & convey hygiene messages to large groups of women at Social Unit   |
|                               |           |                 |             |      |       |           |       |     |                |       | 24/11/87         | 1                | RT               | How to relate to women & communicate hygiene messages through face-to-face interaction in village neighborhoods   |





ble 1 (Continued)

| Category        |                           | No. of Trainees | Education   |      |       | Age       |       |     | Marital Status |       | Date of Training | No. of Attendees | Trainers         | Training Material & Methodology  |
|-----------------|---------------------------|-----------------|-------------|------|-------|-----------|-------|-----|----------------|-------|------------------|------------------|------------------|--|
| Service workers | In-formal                 |                 | Illi. Prim. | Dip. | Univ. | Be-low 20 | 20-40 | 41+ | Mar.           | Sing. |                  |                  |                  |  |
|                 | Public Service Candidates | 8               | -           | 2    | 6     | -         | 8     | -   | -              | 8     | 23/2/87          | 3                | Consultants & RT | Short presentation on environmental sanitation inside & outside house & disease transmission followed by group discussion  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 11/3/87          | 3                | RT               | General discussion on diseases, personal hygiene & environmental sanitation  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 23/3/87          | 3                | RT               | How to relate to women & communicate hygiene messages in large groups  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 8/4/87           | 2                | Consultants & RT | On-job training on how to convey hygiene messages using audio-visuals in large groups. Trainees rehearsed hygiene messages using audio-visuals in presence of trainers |
|                 |                           |                 |             |      |       |           |       |     |                |       | 22/10/87         | 3                | RT               | Evaluation of Retained Information   |
|                 |                           |                 |             |      |       |           |       |     |                |       | 13/7/87          | 2                | RT               | Reinforcement of how to use audio-visuals while conveying hygiene messages   |
|                 |                           |                 |             |      |       |           |       |     |                |       | 22/11/87         | 5                | RT               | Short presentation on general hygiene, disease transmission using audio-visuals. This is followed by general discussion  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 24/11/87         | 5                | RT               | How to relate to women & communicate hygiene messages through face-to-face interaction in village neighborhoods  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 29/11/87         | 4                | RT               | Evaluation of Retrained Information  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 3/12/87          | 3                | RT               | On-job training on home visits & recording observations pertaining to hygienic behavioral patterns   |
|                 |                           |                 |             |      |       |           |       |     |                |       | 7/12/87          | 4                | RT               | Same   |
|                 |                           |                 |             |      |       |           |       |     |                |       | 16/12/87         | 4                | RT               | Hygiene messages to be communicated to each household depending on previous home visits and observation  |
|                 |                           |                 |             |      |       |           |       |     |                |       | 27/12/87         | 4                | RT               | Same   |



| Category                                    | No. of Trainees | Education    |      |       | Age      |       |     | Marital Status |       | Date of Training | No. of Attendees | Trainers         | Training Material & Methodology  |
|---|-----------------|--------------|------|-------|----------|-------|-----|----------------|-------|------------------|------------------|------------------|--|
|   |                 | Illit. Prim. | Dip. | Univ. | Below 20 | 20-40 | 41+ | Mar.           | Sing. |                  |                  |                  |  |
| Service Workers Informal<br>Natural Leaders | 3               | 1            | 2    | -     | -        | 3     | -   | 3              | -     | 23/2/87          | 3                | Consultants & RT | Short presentation on environmental sanitation inside & outside house, disease transmission cycles, followed by group discussion   |
|   |                 |              |      |       |          |       |     |                |       | 23/3/87          | 2                | RT               | Short presentation & discussion on hygiene messages & use of audio-visuals in groups of women, or through face-to-face communication in village neighborhoods  |
|   |                 |              |      |       |          |       |     |                |       | 22/6/87          | 3                | RT               | Evaluation of Retained Information   |
|   |                 |              |      |       |          |       |     |                |       | 30/12/87         | 1                | RT               | Use of audio-visuals to communicate hygiene messages to women through face-to-face interaction   |
|   |                 |              |      |       |          |       |     |                |       | 19/1/87          | 2                | RT               | General discussion on hygiene, disease transmission & environmental sanitation   |
| Informal Leaders                            | 15              | 15           | -    | -     | -        | 13    | 2   | 15             | -     | 23/2/87          | 4                | Consultants & RT | Short presentation on environmental sanitation inside & outside house, disease transmission cycles, followed by group discussion   |
|   |                 |              |      |       |          |       |     |                |       | 8/4/87           |                  |                  | Use of audio-visuals to illustrate how diseases are transmitted & hygiene practices that ought to be followed. Trainees were asked to rehearse communication of hygiene messages using audio-visuals |
|   |                 |              |      |       |          |       |     |                |       | 10/6/87          | 12               | Consultants & RT | Group discussion on diseases, general hygiene & environmental sanitation with stress on hygiene messages   |
|   |                 |              |      |       |          |       |     |                |       | 22/6/87          | 11               | RT               | Evaluation of Retained Information   |



Table: 2

Prospective Hygiene Promoters Profile & Correspondent Training Methodology  
in Kafr Shanawan

| Category  | No. of Trainees | Education   |      |       | Age       |       |     | Marital Status |       | Date of Training | No. of Attendees | Trainers         | Training Material & Methodology   |
|-----------|-----------------|-------------|------|-------|-----------|-------|-----|----------------|-------|------------------|------------------|------------------|---|
|           |                 | Illi. Prim. | Dip. | Univ. | Be-low 20 | 20-40 | 41+ | Mar.           | Sing. |                  |                  |                  |   |
| In-Formal | 9               | 2           | 5    | 2     | -         | 9     | -   | 6              | 3     | 4/3/87           | 5                | Consultants & RT | Short presentation on environmental sanitation inside & outside house, disease transmission cycles, followed by group discussion. |
|           |                 |             |      |       |           |       |     |                |       | 30/3/87          | 2                | Consultants & RT | On-job training on how to relate to women & communicate hygiene messages to large groups of women with use of audio-visuals       |
|           |                 |             |      |       |           |       |     |                |       | 8/6/87           | 9                | Consultants & RT | Short presentation & general discussion on hygiene messages to be communicated to women   |
|           |                 |             |      |       |           |       |     |                |       | 24/6/87          | 9                | RT               | Evaluation of Retained Information  |
|           |                 |             |      |       |           |       |     |                |       | 20/7/87          | 6                | RT               | On-job training on how to use audio-visuals while communicating hygiene messages to large groups of women                         |
|           |                 |             |      |       |           |       |     |                |       | 29/11/87         | 4                | RT               | On-job training on how to communicate hygiene messages through individual counselling with women                                  |
| rs. y     | 7               | 2           | 5    | -     | -         | 7     | -   | 7              | -     | 4/3/87           | 4                | Consultants & RT | Short presentation on environmental sanitation inside & outside house; disease transmission cycles, followed by group discussion  |
|           |                 |             |      |       |           |       |     |                |       | 30/3/87          | 2                | Consultants      | On-job training on how to relate women & communicate hygiene messages to large groups of women using audio-visuals                |
|           |                 |             |      |       |           |       |     |                |       | 8/6/87           | 3                | Consultants & RT | Short presentation & general discussion on hygiene messages to be communicated to women   |
|           |                 |             |      |       |           |       |     |                |       | 24/6/87          | 7                | RT               | Evaluation of Retained Information  |
|           |                 |             |      |       |           |       |     |                |       | 20/7/87          | 1                | RT               | On-job training on how to use audio-visuals while communicating hygiene messages to large groups of women                         |
|           |                 |             |      |       |           |       |     |                |       | 30/9/87          | 2                | RT               | Same  |



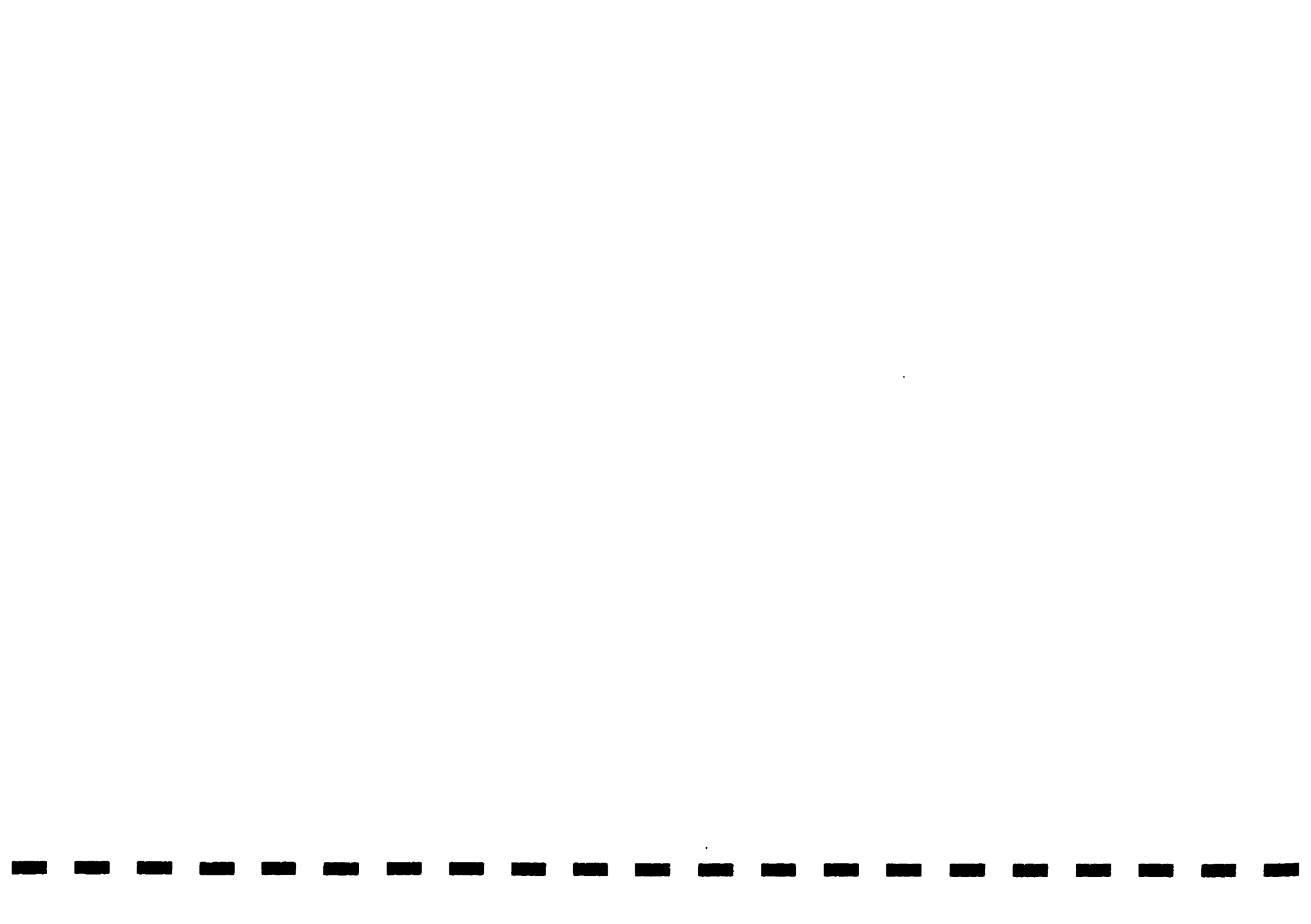
| Category                        | No. of Trainees | Education   |      |       | Age        |        |     | Marital Status |       | Date of Training | No. of Attendees | Trainers         | Training Material & Methodology   |
|---------------------------------|-----------------|-------------|------|-------|------------|--------|-----|----------------|-------|------------------|------------------|------------------|---|
|                                 |                 | Illi. Prim. | Dip. | Univ. | Be- low 20 | 20- 40 | 41+ | Mar.           | Sing. |                  |                  |                  |   |
| Workshop<br>In- formal<br>Girls | 10              | 10          | -    | -     | 10         | -      | -   | 3              | 7     | 4/3/87           | 10               | Consultants & RT | General discussion on environmental sanitation inside & outside house & disease transmission cycles with use of audio-visuals   |
|                                 |                 |             |      |       |            |        |     |                |       | 1/4/87           | 9                | Consultants & RT | General discussion on hygiene practices & how to relate to women to communicate hygiene messages  |
|                                 |                 |             |      |       |            |        |     |                |       | 6/4/87           | 6                | RT               | Short presentation on hygiene messages to be communicated, followed by group discussion   |
|                                 |                 |             |      |       |            |        |     |                |       | 8/6/87           | 9                | Consultants & RT | Short presentation & group discussion on hygiene messages to be communicated to women within village neighborhoods with stress on face-to-face interaction  |
|                                 |                 |             |      |       |            |        |     |                |       | 24/6/87          | 10               | RT               | Evaluation of Retained Information  |
|                                 |                 |             |      |       |            |        |     |                |       | 6/7/87           | 8                | RT               | On-job training on how to use audio-visuals in communicating hygiene messages to women through face-to-face interaction. Trainees are requested to rehearse hygiene information using the audio-visuals and drawing examples from local setting |
|                                 |                 |             |      |       |            |        |     |                |       | 26/7/87          | 6                | RT               | Reinforcement of hygiene messages & how diseases are transmitted through use of audio-visuals as illustrative aids followed by general discussion   |
|                                 |                 |             |      |       |            |        |     |                |       | 19/8/87          | 9                | RT               | Group evaluation of audio-visuals employed through general discussion   |





10 (Continued)

| Service | In-<br>formal    | No. of<br>Trainees | Education    |      |       | Age              |           |     | Marital Status |       | Date of Training | No. of Attendees | Trainers         | Training Material & Methodology   |
|---------|------------------|--------------------|--------------|------|-------|------------------|-----------|-----|----------------|-------|------------------|------------------|------------------|---|
|         |                  |                    | Illit. Prim. | Dip. | Univ. | Be-<br>low<br>20 | 20-<br>40 | 41+ | Mar.           | Sing. |                  |                  |                  |   |
|         | Natural Leaders  | 5                  | 4            | 1    | -     | -                | 3         | 2   | 5              | -     | 2/12/87          | 5                | RT               | General discussion on environmental sanitation inside & outside house, how diseases are transmitted & the hygiene messages to be communicated to women through face-to-face interaction |
|         |                  |                    |              |      |       |                  |           |     |                |       | 9/12/87          | 5                | RT               | General discussion on hygiene information & how to communicate hygiene messages to women  |
|         | Informal Leaders | 3                  | 3            | -    | -     | -                | 3         | -   | 3              | -     | 4/3/87           | 3                | Consultants & RT | General discussion on environmental sanitation inside & outside house & disease transmission cycles with use of audio-visuals   |
|         |                  |                    |              |      |       |                  |           |     |                |       | 30/3/87          | 3                | Consultants & RT | On-job training on how to relate to women to communicate hygiene messages to large groups of women with use of audio-visuals  |
|         |                  |                    |              |      |       |                  |           |     |                |       | 1/4/87           | 3                | Consultants & RT | General discussion on hygiene practices & how to relate to women to communicate hygiene messages  |
|         |                  |                    |              |      |       |                  |           |     |                |       | 24/6/87          | 3                | RT               | Evaluation of Retained Information  |
|         |                  |                    |              |      |       |                  |           |     |                |       | 20/7/87          | 1                | RT               | On-job training on how to communicate hygiene messages to women using audio-visuals   |
|         |                  |                    |              |      |       |                  |           |     |                |       | 27/8/87          | 3                | RT               | General discussion on hygiene messages & disease transmission   |



APPENDIX 8

Table 1  
HYGIENE EDUCATION METHODS IMPLEMENTED BY DIFFERENT GROUPS OF  
HYGIENE PROMOTERS IN KAFR SHANAWAN

| Category        |                 | # of H.P. | Method Implemented | Method of Hygiene Education  |
|-----------------|-----------------|-----------|--------------------|--|
| Service Workers | Infor-mal       |           |                    |  |
| Clinic          |                 | 5         | Aug-Oct.87         | Communication of hygiene messages to large groups of women at the clinic using audio-visual aids.  |
|                 |                 | 3         | Jan.-March 88      | Person-to-person communication of hygiene information to women at the clinic with possible use of audio-visual aids. Individual counselling of women and the kind of information delivered depends on each case and the type of ailment that brought them to the clinic.   |
| Nursery         |                 | 2         | Aug.-Oct.87        | -Communication of hygiene messages to large groups of women who drop in or pick up their children at the nursery using audio-visual aids and stressing group discussion.<br>-Communication of hygiene messages to groups of women within H.P. residential area using audio-visual aids.  |
|                 |                 | 3         | Jan.-March 88      | -Same approaches   |
|                 | Work-shop       | 6         | Aug.-Oct.87        | -Communication of hygiene messages to groups of women within the neighborhood of the H.P. using audio-visual aids.<br>-Communication of hygiene messages to women observed following unhygienic behavioral patterns. The communication process can take place anywhere, e.g. markets, communal bakeries, streets, fields, etc. Type of hygiene message conveyed pertains to kind of unhygienic behavior observed.<br>-Communication of hygiene information to family members of H.P. and attempts to enforce patterns of hygienic behavior, e.g. covering latrine opening, daily cleaning up of the area in front of house, change of dress after preparing dung cakes, etc. |
|                 |                 | 4         | Jan.-March 88      | -Selection of two households within neighborhood, observing unhygienic conditions and conveying hygiene messages accordingly.<br>-Communication of hygiene information to women within neighboring areas using audio-visual aids.<br>-Communication of hygiene information to women observed following unhygienic behavioral patterns in markets, streets, fields, etc.  |
|                 | Natural leaders | 5         | Jan.-March 88      | -Communication of hygiene messages to women within neighborhood of H.P. stressing group discussion.<br>-Conveying hygiene information to women observed following unhygienic behavioral patterns   |

Table 2

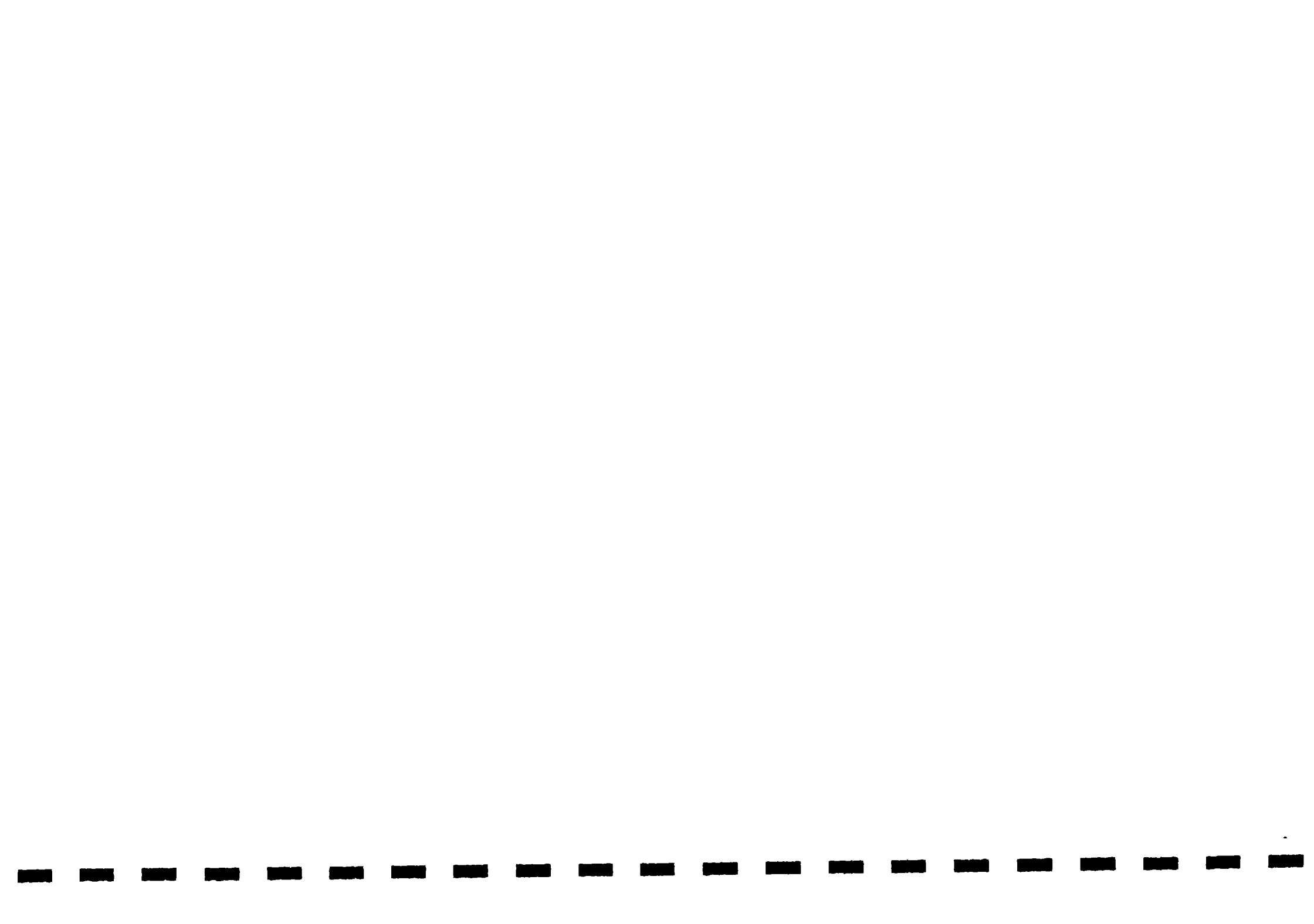
HYGIENE EDUCATION METHODS IMPLEMENTED BY DIFFERENT GROUPS OF  
HYGIENE PROMOTERS IN BABIL

| Category           |                                      | # of<br>H.P. | Method<br>Implemented | Method of Hygiene Education   |
|--------------------|--------------------------------------|--------------|-----------------------|---|
| Service<br>Workers | Infor-<br>mal                        |              |                       |   |
| Clinic             |                                      | 4            | Aug-Oct.87            | Communication of hygiene messages to large groups of women at the clinic using audio-visual aids.   |
|                    |                                      |              | Jan.-March 88         | Discussing hygienic behavior with small groups of women at the clinic with possible use of the audio-visual aids.   |
|                    | Public<br>Service<br>Candi-<br>dates | 2            | Aug.-Oct.87           | -Communication of hygiene information to groups of women in one of the most densely populated areas of the village using audio-visual aids.   |
|                    |                                      | 4            | Jan.-March 88         | -Selection of 5 households (each H.P.) in one of the most densely populated areas of the village, observing unhygienic conditions and behavioral patterns and conveying hygiene messages accordingly. |
| Social<br>Unit     |                                      | 1            | Aug.-Oct.87           | -Communication of hygiene messages to groups of women in one of the most densely populated neighborhoods in the village using audio-visual aids.  |
|                    | Natural<br>leaders                   | 1            | Aug.-Oct.87           | -Conveying hygiene messages to women within H.P.'s neighborhood using audio-visual aids.  |
|                    |                                      | 3            | Jan.-March 88         | -Communication of hygiene messages to women within neighborhood stressing group discussion.   |
|                    |                                      |              |                       | -Delivering hygiene information to women observed following unhygienic behavioral patterns in markets, streets, fields, etc.  |

A N N E X

FINAL REPORT

March to August 1988



THE AMERICAN UNIVERSITY IN CAIRO  
Social Research Center

FINAL REPORT

March to August 1988

PROJECT: WOMEN, WATER, AND SANITATION (EGYPT)  
Center File: 3-P-85-0185

By

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Submitted to

The International Development Research Centre (IDRC)

September 1988





## FINAL REPORT

March to August 1988

PROJECT: WOMEN, WATER, AND SANITATION (EGYPT)  
Center File: 3-P-85-0185

This final report covers findings of both the research and action components for the period March - August 1988 according to the established goals of the project. These five months terminate Phase I of the project.

### I. ATTEMPTED IMPROVEMENTS OF VILLAGE SANITARY CONDITIONS THROUGH LOCAL PARTICIPATION

In follow-up of the activities initiated to promote environmental sanitation through self-help efforts, the following steps were undertaken:

The Polluted Canal (PC) in Babil (See Case Study No.2 in Interim Report 1988).

Based on the decision reached in November 1987 in reference to the pressing problem of the PC as stated in the Interim Report 1988 (P.30), villagers, representatives at the Popular Village Council (RPVC), Head of markaz Tala, Head of the Village Council (VC), Head of Agricultural Cooperative, and Research Team (RT) reached consensus to work out a plan towards solving some of the problems that have a direct effect on the state of the PC. The following procedures were undertaken:

- 1) Solving the technical defect in the connection that supplies 'Mesqua el-Tamanyat' with water - As a result of several meetings (from March 1 to July 30, 1988) with irrigation personnel at the markaz and governorate levels, the head of agricultural cooperative and VC members, the irrigation department at the governorate level took positive steps. A bulldozer was sent to the village to dig out a section of the canal to repair the defect in the canal connection to allow the water to flow again. This was accomplished on July 30, 1988.
- 2) Reconstruction of the canal bridge - Because of the bureaucratic procedures, the request to reconstruct the canal bridge was not accomplished,

inspite of the fact that the V.C. has already allocated LE.500 for this purpose. RT is following up this issue with VC members, RPVC and villagers to activate this request.

3) Building two large septic tanks as an experimental system, for sullage disposal - Due to the following factors, the septic tanks have not yet been built:

- The VC purchased cement of a type different from that specified in the design submitted by the engineering consultant.
- The money allocated by VC (LE.500) for the 2 septic tanks does not cover the actual expenses, since the cost of one septic tank ranges between LE.400-450. Constructing only one septic tank will not be sufficient to meet the needs of the villagers, even for experimental purposes.
- The agricultural cooperative sold the truck which was supposed to be used for the daily evacuation of the septic tanks.
- Villagers and RPVC could not reach a consensus as to the location of the septic tanks, since none of the villagers accept building the septic tanks next to their homes.

4) Solid Waste Collection System - Despite the promise made by Head of markaz Tala to provide Babil VC with a mule to pull the cart which in April 1988, had been manufactured for solid waste collection, the VC received a note that markaz Tala will not be able to supply them with a mule, until the markaz buys its tractors for its own use. Consequently, the VC decided to buy a donkey, which costs less than the mule, as soon as possible after finalizing the budget of the 1987-88 fiscal year.

During this period, March-August 1988, RT held several meetings with villagers -- men and women and RPVC -- to inform them about the latest procedures. Thereupon, many of the villagers, especially women, expressed their concern and reservation about filling the PC and the proposed septic tank sullage collection system. Their uneasiness centered around:

- \* the fear that the septic tanks will not be regularly evacuated, especially since the agricultural cooperative sold its tractor. This, in turn, will aggravate the problem of sullage collection.

- \* villagers were concerned that the VC might charge them for evacuation expenses in addition to the regular sanitation fees they have to pay; and
- \* villagers were afraid that the VC will not be able to enforce its authority to claim the section of the filled canal land as public property, hence, villagers are liable to abuse this area once it is filled, and each will claim part of it for their own use. This might lead to future problems between villagers.

Villagers were therefore, of the opinion that it is better not to fill the PC. Now that the defect in the canal connection has been repaired, water can flow through that section of the canal. Hence, a different plan was proposed:

- \* the PC should not be filled;
- \* the reconstruction of canal bridge should start as soon as possible;
- \* only sullage should be disposed in the PC, and not solid wastes;
- \* the solid waste collection system should be enforced as soon as possible in order for villagers to find a means of getting rid of their solid wastes rather than throwing it in the canal which has been the usual practice; and
- \* once the garbage collection system is reinforced, in turn the agricultural cooperative will be responsible for clearing the PC. The VC also promised to provide 2 tractors from markaz Tala to assist in removing the trash from the PC to allow for better water flow in the canal.

Currently, RT is following-up these proposed issues with villagers, RPVC and head of VC.

#### The Feasibility Study to Deal with High Water Table Problem In Kafr Shanawan (See Case Study No.3 in interim report)

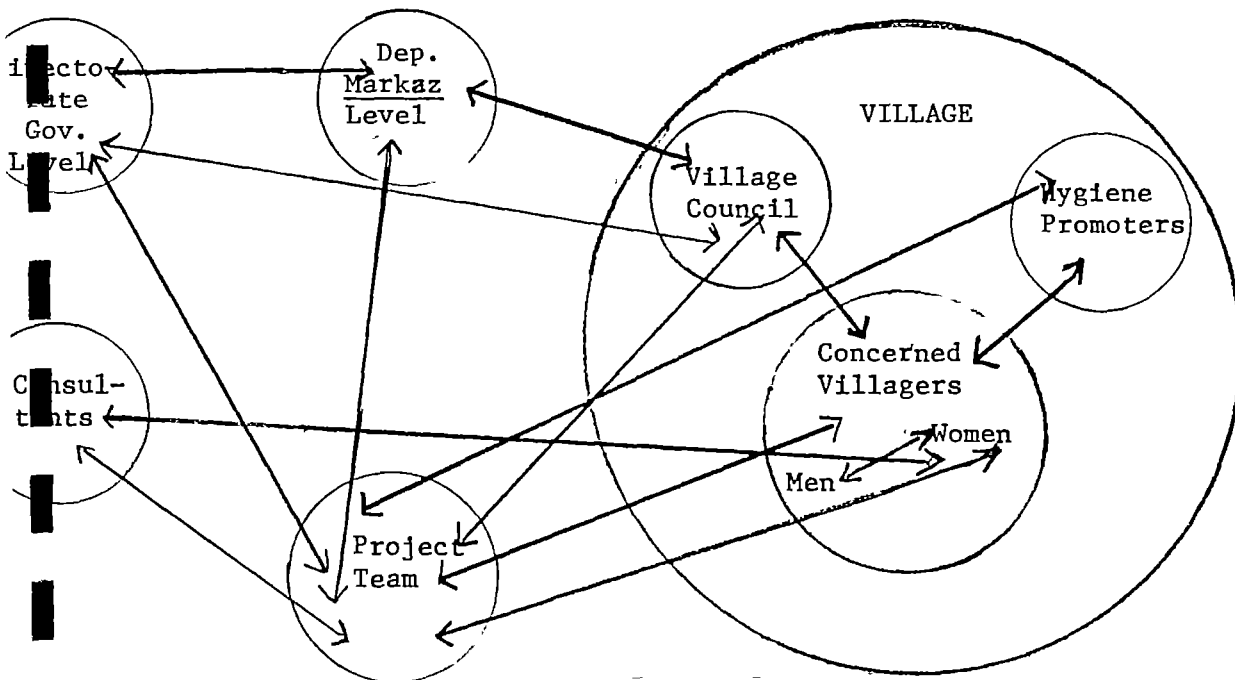
- 1) On May 30, 1988 the engineering consultant submitted of Phase I a design system to lower the water table. This design focuses on the establishment of a piped network to reduce the high water table. RPVC were also notified that the consultant is willing to design Phase II of the system to add a sullage treatment system and connect the whole village into the sewerage network.

- 2) RT submitted this scheme to the villagers and to Kafr Shanawan VC. They in turn were supposed to raise the issue to the Social Development Unit at the governorate level following the stipulated procedures.
- 3) Although this project is described by RPVC of Kafr Shanawan as "an important and vital project that should be implemented", the designs and the study were not presented, as agreed upon, to the governorate for approval and for funding purposes. This is due to the fact that the PVC consists of 18 members, only 3 of whom are Kafr Shanawan representatives and the rest are the spokesmen of Shanawan village. Hence, the 3 members could not enforce their proposed project and get a majority vote for it. Moreover, the head of VC was transferred to another village and the new director did not want to antagonize the majority of RPVC.
- 4) Personnel at the markaz level notified Kafr Shanawan RPVC that an amount totalling to LE.25,000 would be subtracted from their budget to cover the expenses of the feasibility study. Thereupon, RT interfered and notified the head of VC in writing that this study was made free of charges by the consultant and that the authorities were notified to that effect.
- 5) RT held a meeting with RPVC, mayor of Kafr Shanawan and villagers to inform them about what had taken place. It was decided to meet with the committee of the National Democratic Party at Kafr Shanawan to discuss further this issue.
- 6) On July 20, 1988, the above mentioned meeting was held and it was decided to form a committee to present this whole issue to the governor. RT provided this committee with a technical report and the design of Phase I of the feasibility study prepared by the consultant. The representatives of the area in the Peoples' Assembly will accompany this committee on their meeting with the governor. RT is currently following-up this issue with villagers and RPVC.

**CONCLUSION IN RESPECT TO ATTEMPTED IMPROVEMENTS OF VILLAGE SANITARY CONDITIONS THROUGH LOCAL PARTICIPATION:**

Efforts aiming at improving village sanitary conditions by encouraging villagers' participation enabled the project team to design the model presented below. This model reflects the scope of interrelationships and channels of cooperation among the different concerned groups, i.e. village men and women, policy-makers at village, markaz and governorate levels, research team and consultants.

**Effective Model for Interaction Processes Between Concerned Groups Aiming at Improving Village Sanitary Conditions**



This model is based on the experiences gained by the research team during the project implementation. Different approaches were tested on how to work out alternative solutions with villagers and policy-makers. More so, it addressed different sanitary problems operating in various village structural settings. This wide variety enabled the research team to formulate the above model which reflects the positive lessons learned and interaction processes between concerned groups aiming at improving village sanitary conditions.

The following broad principals have proven effective in achieving the set goals:

- \* Villagers are the focal point of any efforts addressing village sanitary problems. Their awareness of the prevailing problems and their understanding of their effects on health are preliminary first steps to be achieved through continuous interaction between research team, village men and women and hygiene promoters. Villagers need to recognize the direct benefit of any proposed intervention. It is only then that villagers are ready to cooperate and are interested in sharing responsibilities towards improving village sanitary conditions.
- \* Participation of women is deemed essential in community efforts addressing sanitary issues. Based on the research team experience, it has been proven that once women are approached and guided they can act collectively, regardless of age, educational background, status or seniority. A viable leadership - both from within the community and from the outside is essential as to provide women with proper guidance as well as mechanisms for follow-up.
- \* Project members and villagers should be aware of village internal politics in order to be able to accomplish the set goals.
- \* The role of policy-makers cannot be bypassed in any efforts to improve village sanitary problems. Villagers, on the one hand, should learn how to work their way through such a complex set up. Policy-makers, on the other hand, should be more involved at all stages of sanitary intervention. It is an on-going process of on-the-job training on how to increase interaction and cooperation between villagers and policy-makers.
- \* Community development projects aiming at the improvement of sanitary conditions necessitates the interdisciplinary composition of the project team, to be able to deal with village problems in a holistic fashion. Such a team should include members of both sexes. Flexibility on the

part of the project team is essential in all stages of the project design and implementation, to be able to meet the actual needs of the community under study.

- \* An-going process of record keeping and evaluation of each step undertaken helps formulate guide lines for other similar projects. This however, does not undermine the importance of acquiring baseline data of the setting under study before initiating any action.
- \* The experience gained so far confirms the fact that achieving community development over a short time span (1-3 years) is a fallacy. It is a gradual long-term process, since the effort entails changes in attitudes and behavior.

## II. WATER AND SANITATION EDUCATIONAL PROGRAMS

In pursuit of the activities initiated during Phase I of the project in respect to the HEP, (see Interim Report June 1988) the following tasks were accomplished to date:

### Recruitment of Prospective Hygiene Promoters

During the period March-August 1988, eleven new candidates in Kafr Shanawan and eight in Babil were selected and trained for their prospective roles as informal hygiene promoters within their neighborhoods. This was achieved through:

- \* selecting hygiene promoters from geographically different neighborhoods than the areas that were already covered by HP.
- \* selecting new candidates through the hygiene educational group meetings with women or during evaluation processes;
- \* a snowball technique was also adopted where already trained hygiene promoters led RT to others; and
- \* selecting teachers from the primary schools to participate in the summer clubs initiated in both villages and encouraging them to communicate hygiene messages to women within their residential areas.

## Training of Prospective Hygiene Promoters

Training material and methodology adopted with the new recruits follows the same approaches outlined before in the Interim Report, June 1988.

As for the training of teachers, the techniques used were somewhat different, since the target are primary school children. The training purposed to convey hygiene messages to children in a simple but interesting way by using games, stories and plays as a channel for communication.

Pre-and post-training evaluation of the new recruits was administered by RT.

## Hygiene Education Program

In carrying out the HEP in both villages the same training methods have been maintained, as an on-going activity to allow for an overall evaluation during Phase II of the project. Other methods were introduced and are currently being tested out. These include:

- \* A hygiene education approach conducted by the public service (PS) candidates who complete the one-year service through their involvement in the HEP. Because none of these HP are residents of the village under study, the education methodology is basically area-specific. Two neighborhoods in the village were selected for the out-reach program. Each of the four HP selected 5 households as targets of the educational process under the guidance of RT. Criteria for selection were twofold: hygienic condition of the households and the ease of the communication process depending on the acceptance of HP by household members. The flow of information on hygiene between recipients and other women in the neighborhood was enhanced due to ongoing social interaction and face-to-face communication between neighbors. This in its turn expanded the scale of the out-reach program carried out by the recipients of hygiene education.
  
- \* The hygiene education approach adopted by those HP depended primarily on intensive observation and communication. Each of the selected house-



holds was visited over a 3-week period so that the HP could develop rapport with its members. Meanwhile, the HP observed all practices related to hygiene and recorded these. After this preliminary observation period the areas where hygiene information should be directed were determined according to the actual situation of each case. These included hygienic practices related to latrine cleanliness, making a door to zeereba, hygienic water storage, hygienic raising of chicken and home cleanliness. The selected hygiene messages were communicated to each household was over 5 months, during which time the HP paid weekly visits to these households. Only one message was conveyed at a time. When the HP were assured that the recipients had retained the initial information and adopted the proposed hygienic practice, then they moved to the next message and so on. Every now and then reinforcement of the message was undertaken and this was accompanied by observation of any changes in practices. The reasons for not adopting the suggested hygienic practices were sought in cases where the recipients showed reluctance to follow them. RT accompanied HP on bi-weekly visits to the selected households. Field reports to document details of the educational process were supplied by the HP to evaluate the program regularly.

- \* In conjunction with the above mentioned educational approaches, RT decided to intensify efforts in respect to the hygiene education program during the summer months when the prevalence rate of certain diseases among children is very high, especially in respect to water borne diseases, i.e. gastrointestinal and eye diseases as well as exposure to bilharzia. Furthermore, the orientation of these approaches takes into consideration that there are existing environmental factors in the village during the summer months and that have an effect on disease transmission. Among these environmental factors are more breeding of flies and insects; women preparing dung cakes more often; children swimming in canals; the hot and dusty weather which may increase the rate of disease transmission.

Training was accomplished through the following processes:

- \* Group meetings in the different village neighborhoods were arranged by RT to discuss and communicate hygiene practices to small groups of women (6-12) and to point out how poor environmental conditions relate directly to health hazards. These gatherings allowed more village women to be introduced to the project and its activities. They also served as a means for mobilizing more women to take an active role in improving village sanitary conditions.

The RT experimented with two methods of communicating hygiene information to women during these gatherings. On the one hand, a public health specialist presented educational material to women which was then followed by group discussion to relate this information to their daily practices. The objective of this approach was to convey a substantial amount of hygiene information to women.

The second method employed did not require the presence of a public health specialist. The kind of information communicated to women depended on the situation and how the discussion developed. The target here was not the quantity of health promoting information that women received, rather it was an attempt to raise women's awareness as to the unhygienic practices (such as those related to infant feeding, breeding places for flies, food handling, and preparation of dung cakes) they might be following. This was achieved through group sharing of individual experiences. The role of RT in this respect was centered around opening up the discussion which stressed the constraints of the environment and then encouraged women to speak up. The stress was laid on the connection between these poor unhygienic practices and disease transmission. Collectively, corresponding hygienic practices were identified and promoted.

- \* During the peak of the summer months (June-September) educational sessions by the public health specialist, depending primarily on group interaction and discussions, were held at the clinics, during the

waiting period for mothers who attended the clinic either for child immunization or for treatment, as well as for mothers attending the nursery. The groups varied in number (8-20 women). Each month one theme was tackled in detail by the public health specialist as a demonstration for the service workers (clinic and nursery staff) who followed-up on that theme during their regular weekly hygiene education sessions to women. These sessions were also planned as a demonstration for the physicians at the health clinics, where they were encouraged to play a substantial role in promoting preventive health behavior in the community during the summer months.

The topics discussed during these four sessions were selected in consultation with the doctors at the clinics depending on the most frequently referred cases of diseases. These included: breeding of flies and how they transmit diseases; causes and protection from eye diseases; proper handling and preparation of food especially in relation to infant feeding, and causes and prevention of bilharzia.

Audio-visual aids (e.g. magnetic boards, flip charts, and films) were employed during these educational sessions to clarify and illustrate the information communicated to women.

#### Initiating A Summer Club at the Primary Schools

Another target of the HEP were primary school children in the fourth, fifth and sixth grades. The choice of this age-group as recipients as well as communicators of hygiene information within their surrounding rested on the following assumptions:

- \* children play a key role in promoting health behavior in their families, among peer groups, and within their surroundings. Hence, their role in promoting community health cannot be overlooked.
- \* children, especially girls, assume great responsibilities in household activities as well as in attending to younger siblings.
- \* this age-group (9-12 years) is believed to be more receptive to change in knowledge, attitudes and behavioral patterns, thus the summer club aims at helping children learn about preventive health care, develop

their self-reliance and give them the chance to assume greater responsibilities towards their own health, their family and community health.

Being in line with recent governmental policy of encouraging the youth and children to take an active role in improving local surroundings, the initiation of the summer clubs represented one of the first experiments in the governorate where efforts at the village-level were directed to encourage the participation of children in promoting environmental sanitary conditions. Working through the existing educational institution was intended to allow for replication of this experiment once it proved effective in promoting community health. Therefore, policy-makers in the Ministry of Education were approached in planning the summer clubs in both schools. A team of school teachers was appointed by the head masters, research team had no say as to the selection. Participating teachers were trained by the consultants and RT to carry out the activities of the summer club. The RT guided, monitored and evaluated the program.

The summer club was opened in two of the primary schools during the months of July and August - meeting twice a week for a period of three hours (See Appendix I for program of summer club).

A total of six teachers were trained and participated in the summer club at each school, attending to approximately 100 children in Babil and 80 in Kafr Shanawan.

Although the intention was to have 1:3 ratio of boys to girls, the club had an almost equal number of boys and girls.

The theme of "Health and Environment" was selected as the focus of the summer clubs. Determining the hygiene information to be communicated to children was based on findings obtained from interviews with a total of 230 students from the different primary grades.

The hygiene messages conveyed to the children focused on:

- \* the meaning of environmental sanitation and how to achieve it;
- \* personal hygiene;

- \* home cleanliness;
- \* food handling and nutrition;
- \* prevention and control of diseases.

All the messages communicated to children at the summer club were transmitted indirectly through drawings, games, songs, recounting stories, acting plays, readings, and using simple audio-visual aids. All related to topics of personal and environmental hygiene. Group discussion was adopted as a channel of conveying hygiene messages. The material made available for children's use at the summer clubs was intended to be very simple, inexpensive and available within their environment. This was meant to make it cost-effective for possible replication in other schools.

#### Evaluation of the Summer Club Activities

Based on the evaluation of summer club activities the following results were obtained:

- \* Children have acquired some information on subjects related to hygienic practices and how they have a direct bearing on health. Discussions with groups of summer club participants and results of the interview schedules revealed that they were started to grasp the connection between some of their unhygienic practices and disease transmission (e.g. eating unclean food from peddlers, washing of hands prior to eating and after defecating, swimming in the canals leading to bilharzia, how flies transmit diseases and the health hazards that might accrue from the garbage piles in the streets).

- \* Some of the children reported that they have already started enforcing hygienic behavioral patterns at their homes. This was also conveyed to RT by their parents. One of the mothers in Kafr Shanawan commented:

"My daughter does not allow any of us to drink from the same glass of water as she explained this can transmit diseases from one person to another. She also pays more attention to keeping all the water bottles and the kulla

covered to prevent flies from standing on it. She once observed me preparing lunch without washing my hands before and she made a fuss over it."

Another woman in Babil said:

(7) "What have you done to my daughter? She does not allow any of us to sit for lunch before washing hands, even if they look clean. When I told her that our hands are not dirty she replied that we cannot see the microbes, but they are there and may lead to illness."

- \* Furthermore, some of the children explained they have been conveying hygienic information acquired at the club to their siblings (e.g. washing of hands after playing in the streets) to their older sisters (e.g. how to attend to latrine cleanliness), and to their mothers (the importance of changing garments after preparing dung cakes).
- \* Children at the summer club were observed to have followed some of the practices related to personal hygiene, i.e. after playing at recess most of them insisted on washing their hands; they stopped buying food from the peddler in front of the school; most of them paid more attention to the cleanliness of their clothes and body.
- \* Children were given the chance to demonstrate what environmental sanitation implied by participating in campaigns for school and village cleanliness. Many of them showed an interest in displaying to the public their contribution to community welfare. Some of them also explained that they assisted in maintaining home cleanliness and its surrounding by sweeping in front of their homes and collecting garbage for burning or later disposal.

"One of the main achievements of the summer club was demonstrating to the children how to maintain the cleanliness of their surroundings. Observing their teachers and the project team cleaning their school and the village streets with them encouraged them to participate and changed their attitude toward such a practice which they used to believe is menial and degrading. The cleaning campaigns had a positive effect not only on children, but the whole community who observed the

practice and encouraged it. People said that this was the first time children learned how to care about something beyond their personal interests."

- \* The teachers' evaluation stated that the methods employed in communicating hygiene information to children were most effective in dealing with that age group (9-12 years). From the teachers' perspective, such in-service training provided them with new teaching skills that they may incorporate in their regular academic year, e.g. use of simple audio-visual aids, how to relate information to the children's their surroundings, diffusion of information in an indirect but interesting way to children at school.
- \* Replication of the summer club was highly recommended given the positive results that were obtained from this first experiment. A detailed plan of work would be submitted to policy-makers at the governorate and markaz levels. The broad guidelines for such an institutionalization of the summer club program at primary schools are currently being prepared collectively by RT and teaching staff of both schools. Moreover, the experience of the summer clubs opened the channel for spreading the HEP into the schools through the existing educational body. Such an activity and expansion of the HEP into a new field (i.e. school-children) is planned for Phase II of the project. However, this activity could be proposed as a project onto itself, with specialized training courses, methodology and material.

#### Evaluation of the Hygiene Education Program

- \* The same evaluation procedures were followed with respect to the beneficiaries from the HEP carried out by the clinic and nursery staff and informal HP in both villages.
- \* Indepth household interviews carried out by PS candidates in Babil allowed for treating each household as an individual case study. This allowed for systematic observation and periodic evaluation by RT and HP of each case separately to determine the effectiveness of this training method.

\* Subsequent home visits by RT to women participants in group meetings determined the effectiveness of this method. Periodic home visits to the beneficiaries of this training is an on-going activity.

\* The activities of the summer club were evaluated collectively by the RT and participating teachers through discussions and the submission of a final report. An evaluation sheet was also designed and administered by RT to 30 students from each club. Observations and discussions with participants and their parents also contributed to the evaluation of the summer clubs.

Results of the Evaluation are as follows:

\* During the period Feb. - July 1988, a total of 255 women in both villages received hygiene education from service workers and informal hygiene promoters (see table 1). A total of 54 cases (22%) were selected as a sample for evaluation.



Table 1 : Women Beneficiaries from the Hygiene Education Program

| Category of HP       | MONTHS |    |       |    |       |   |     |   |      |   |      |    | TOTAL |    |
|----------------------|--------|----|-------|----|-------|---|-----|---|------|---|------|----|-------|----|
|                      | Feb.   |    | March |    | April |   | May |   | June |   | July |    | T     | S  |
|                      | T      | S  | T     | S  | T     | S | T   | S | T    | S | T    | S  |       |    |
| <u>Kafr Shanawan</u> |        |    |       |    |       |   |     |   |      |   |      |    |       |    |
| Clinic               | 32     | 6  | 13    | 3  | 20    | 4 | 6   | 1 | 4    | 1 | 24   | 6  | 99    | 21 |
| Nursery              | 3      | 1  | 1     | 1  | -     | - | -   | - | 6    | 1 | 6    | 2  | 16    | 5  |
| Natural leaders      | 16     | 3  | 7     | 1  | -     | - | -   | - | -    | - | -    | -  | 23    | 4  |
| Workshop girls       | -      | -  | 3     | 1  | -     | - | -   | - | -    | - | -    | -  | 3     | 1  |
| <u>Babil</u>         |        |    |       |    |       |   |     |   |      |   |      |    |       |    |
| Clinic               | 9      | 2  | 21    | 4  | 20    | 5 | 17  | 4 | 15   | 2 | 32   | 6  | 114   | 23 |
| Total                | 60     | 12 | 45    | 10 | 40    | 9 | 23  | 5 | 25   | 4 | 62   | 14 | 255   | 54 |

The majority of the recipients of hygiene messages (94%) are in the age group of 20-49 years. Almost all of the women are married (94%) and (91%) are illiterate.

Only 19 cases stated the communicated messages were new information to them, while (65%) explained that they had prior knowledge of the communicated messages, with (25%) of the latter having access to this information from other HP, especially at clinics. The rest have had access to such information from media broadcasts, especially TV and radio which disseminate hygiene information intensively as part of the National Rehydration Campaign.

One woman commented:

"The information they explain might not be new; however, it reminds us of what we ought to do and helps us always be aware of our behavior."

As indicated in the 1988 Interim Report, the clinic staff continued to be the most effective category in bringing about a change in health related

behavior. From a total of 54 cases, (48%) of the beneficiaries stated a change in unhygienic practices, with (85%) of these having received hygiene educational sessions at the clinics. Types of promoted health practices centered around infant feeding (10 cases), hand washing practices (6 cases), latrine cleanliness (4 cases) as well as hygienic measures in food preparation, child care and home cleanliness.

Those who reported no change in behavior (28 cases) explained that they have been already following these hygienic practices before participating in the educational sessions. As one woman stated:

"We tended to follow these practices even before we listened to what they explained in the clinic. However, now we pay more attention to how we do things, especially washing of hands and cleaning of vegetables."

Another woman added:

"Although we know all what they have been telling us at the clinic, we should be grateful to them since they care about the health of our children and remind us always of how to protect them from diseases."

\* The approach in Babil through the Public Service candidates proved very effective in promoting health practices. Only one of the 20 selected cases in one neighborhood was a household consisting of three different families sharing one residence that seemed reluctant to adopt any of the communicated messages in their daily life. Each of the women approached felt it quite difficult to change any of her behavioral patterns as competition ruled among co-residents. Conflicting perceptions and the desire to maintain things as they were, to reduce disputes among wives, did not encourage any of the women to take the initiative of changing practices.

On the other hand, the remainder of the households in that same neighborhood accepted most of the hygiene messages and changed practices accordingly. The reported hygienic practices that were promoted ranged from those related to latrine cleanliness, (i.e. covering latrine opening with any available object, pouring a few drops of

gasoline and washing it daily), water storage (i.e. covering water storage container and washing it on a regular basis, careful washing of hands and change of garment after preparing dung cakes, raising chickens in a specified place in the house as well as building a door to the zereeba or using any other object to keep animals from moving into the ~~house~~. One of the PS indicated in her final report:

"Most of the households have improved a lot in respect to their hygienic condition. An observable change can be noticed, even by simply looking at the cleanliness of the house and the children. It seems that women have really benefitted from the hygiene education they have received. Such benefit is not only confined to the household where we have been communicating about hygiene, but to neighbors as well, who imitated our women in adopting new practices."

A further significant indicator as to the effectiveness of this approach was the ability of women recipients to comprehend the connection between unhygienic practices and the prevalence of diseases, a relation they became aware of even if it transcended the specific messages they have received.

"After the consecutive visits, Sadiya seemed to care more and more about anything that related to cleanliness, even if it appeared to be very trivial. She cares for her family with the understanding that any pollution, whatever its source, could be very harmful to the health of her children. From this understanding arose her meticulous care for the cleanliness of her house and children."

In the second residential area where this group of HP are pursuing the same approach in disseminating hygiene information, the educational process is still underway. Findings are not yet conclusive, though some indicators show that similar positive results might be obtained.

On the whole, one can deduce that the success of such an approach can be attributed to the intensive nature of the educational process. The weekly

visits to the women recipients allowed the HP to continuously repeat the hygiene messages to women until it was established that these messages were retained. It also helped to develop relations on a personal basis between the HP and recipients of hygiene education which facilitated the communication process. The HP were perceived as more educated and knowledgeable and this in its turn encouraged women to trust them and adopt some of the promoted hygienic practices. Consequently, women adopted the promoted practices once they became aware of the health hazards associated with unhygienic practices.

#### CONCLUSION IN RESPECT TO THE WATER AND SANITATION EDUCATIONAL PROGRAMS

Based on the follow-up and evaluation of the HEP to date the following conclusions can be drawn:

- \* Recruitment and training of further prospective HP continues to be an on-going activity to enable the expansion of scale of the HEP. This is an objective to be achieved during Phase II of the project.
- \* Various recruitment methods of further HP are being currently tested. However, it has been proven that a snow-ball technique and a neighborhood-based recruitment system can serve better the function of selecting interested and competent HP as well as allowing for the expansion of the HEP.
- \* A more indepth and overall evaluation of all HP approaches pursued is planned during Phase II of the project.
- \* A systematization of the HEP carried out by informal HP will be worked out during Phase II of the project. One suggested strategy is to select and train an informal leader to take over the follow-up and evaluation processes of the program. Such an activity is being currently experimented in Kafr Shanawan.
- \* Efforts will be directed during Phase II to evaluate and institutionalize the HEP carried out by public service candidates. First this requires

negotiations with the responsible administrative body for their continuous recruitment to carry out the HEP. RT and policy-makers will identify the institutional structure that would be responsible for their training, follow-up and evaluation. A package program will be prepared and shared at length with policy-makers to modify the PS system to include HE as one of its service fields.

\* Negotiations with policy makers in the different sectors, i.e., Social Affairs, Local Government, and Health Departments at the governorate and markaz levels are underway and planned to continue during Phase II of the project. This would get the various sectors involved in the training, follow-up and evaluation of the HEP carried out by the nursery staff and at the health units in the villages. A package program will be prepared and shared with policy-makers as a guideline for the spread of the HEP in other villages.



APPENDICES





APPENDIX I

American University in Cairo  
Social Research Center

Women, Water and Sanitation  
December 1987

Interview Schedule  
for  
Service Workers in the Educational Sector  
Teachers

Village : Age :  
Name : Year:  
Degree Obtained:  
Occupation :  
Residence :

1. What are the environmental sanitary problems in the village?
2. What are your proposed solutions to these problems?
3. What does environmental sanitation mean to you?
4. What are the most common diseases among children in the village?
5. What are the main causes of these diseases?
6. If the students do not wash their hands with soap, do you think they will become more vulnerable to diseases?

Yes  No

How?

7. What are the sources of microbes that cause diseases?

Know  Does not know

What are these sources?

8. How can one protect himself against the microbes that cause diseases?

Know  Does not know

How?



9. Are there any health hazards from poorly kept latrines?

Know

Does not know

Like What?

10. How can one protect himself against bilharzia?

11. Can school children have a role in improving village sanitary conditions?

Yes

No

How?

12. What school grades are you responsible for teaching?

13. What course do you teach? (if the course is related to hygiene)

14. What are the themes and topics discussed in this course? (state in details)

15. Is this course part of the curriculum assigned by the Ministry or the teacher in charge is responsible for planning it?

16. Are you responsible for any other activities at school?

Yes

No

If Yes:

17. What is the activity you are in charge of?

18. How many students participate in that activity?

19. How frequent and when do you meet to carry out this activity?

20. Do you employ any audio-visual aids?

Yes

No

What are these?

21. What is the program of this activity group?

22. Who is in charge of designing the work plan of this activity?

23. Do you encounter any problems in carrying out this activity?

Yes

No

What problems do you face?

24. What are your suggestions as to the improvement of the activity?

25. Is it possible to renovate the activity without consulting with higher authorities?

26. Do you hold a summer club at the school?

Yes

No

27. Is it possible to hold a summer club at the school?

Yes

No

28. If a summer club is held at the school evolving around the theme of hygiene, what topics and activities can be covered?

29. Who among the teaching staff can supervise activities carried out at the summer club?

## Results of Teachers' Interview Schedule

### (1) Interviewees by Village (N=53)

| Village       | #  | %   |
|---------------|----|-----|
| Babil         | 31 | 58  |
| Kafr Shanawan | 22 | 42  |
| Total         | 53 | 100 |

### (2) Age of Interviewees (N=53)

| Age Group | #  | %   |
|-----------|----|-----|
| 20-29     | 12 | 23  |
| 30-39     | 23 | 43  |
| 40-49     | 14 | 26  |
| 50+       | 4  | 8   |
| Total     | 53 | 100 |

### (3) Educational Degrees Obtained by Interviewees (N=53)

| Educational Degrees    | #  | %   |
|------------------------|----|-----|
| Educational diploma    | 24 | 45  |
| Technical diploma      | 23 | 24  |
| Agricultural diploma   | 11 | 21  |
| Nursing diploma        | 2  | 4   |
| Than. Amma             | 2  | 4   |
| Public service diploma | 1  | 2   |
| Total                  | 53 | 100 |

### (4) Position at School (N=53)

| Position              | #  | %   |
|-----------------------|----|-----|
| Teacher               | 40 | 76  |
| School Headmaster     | 5  | 9   |
| School health visitor | 2  | 4   |
| Other                 | 6  | 11  |
| Total                 | 53 | 100 |

## (5) Residence (N=53)

| Residence      | #  | %   |
|----------------|----|-----|
| In village     | 28 | 58  |
| Out of village | 25 | 47  |
| Total          | 53 | 100 |

## (6) Perceived Sanitary Problems (N=53)

| Sanitary Problems   | #  | %  |
|---|----|----|
| No problem  | 6  | 11 |
| Disposal of garbage, sullage & manure in streets          | 21 | 40 |
| Lack of a sewerage system                                 | 16 | 30 |
| Other non-sanitary constraints                            | 16 | 30 |
| Improper child care                                       | 8  | 15 |
| Polluted stretch of the canal                             | 8  | 15 |
| Frequent water cut-offs & poor condition of piped network | 6  | 11 |
| High ground water table                                   | 5  | 9  |
| Frequent electricity cut-offs                             | 5  | 9  |
| Polluted canals   | 4  | 8  |
| No answer   | 1  | 2  |

## (7) Perceived Solutions to Sanitary Problems (N=53)

| Preceived Solutions  | #  | %  |
|--|----|----|
| No problem   | 6  | 11 |
| Village Council should solve all sanitary constraints                  | 13 | 25 |
| Establish solid waste & sullage collection systems                     | 11 | 21 |
| Solutions to non-sanitary problems                                     | 10 | 19 |
| Establish a sewerage system  | 9  | 17 |
| Fill the polluted stretch of the canal                                 | 6  | 11 |
| Carry out hygiene education programs                                   | 6  | 11 |
| Improve the piped water network  | 2  | 4  |
| Regulate the construction of septic tanks in the homes                 | 2  | 4  |
| Villagers should be responsible for solid waste disposal & cleanliness | 1  | 2  |
| No solutions   | 6  | 11 |

(8) Prevailing Diseases Among Children (N=53)

| Diseases                              | #  | %  |
|---------------------------------------|----|----|
| No diseases                           | 1  | 2  |
| Bliharzia                             | 22 | 42 |
| Respiratory                           | 16 | 30 |
| Gastrointestinal                      | 11 | 21 |
| Malaria-Dephtary-Smallpox,<br>Measles | 8  | 15 |
| Parasitic diseases                    | 7  | 13 |
| Mums                                  | 5  | 9  |
| Eye diseases                          | 2  | 4  |
| Skin diseases                         | 2  | 4  |
| Anaemia                               | 2  | 4  |
| Does not know                         | 2  | 4  |

(9) Causes of Diseases (N=53)

| Causes   | #  | %  |
|--|----|----|
| No diseases  | 3  | 6  |
| Unhygienic environment (garbage,<br>fecas, sullage in the streets) | 24 | 45 |
| Use of canal water   | 16 | 30 |
| Lack of health awarness  | 10 | 19 |
| Lack of child care   | 10 | 19 |
| Unhealthy food (polluted, un-<br>coverd)                           | 7  | 13 |
| No personal hygiene  | 4  | 8  |
| No proper nutrition  | 2  | 4  |
| No proper ventilation  | 2  | 4  |

(10) Vulnerability to Diseases from Dirty Hands (N=53)

| Response  | #  | %  |
|---|----|----|
| Not vulnerable to diseases                            | 2  | 4  |
| Dirty hands carry microbes<br>which transmit diseases | 26 | 49 |
| Lead to gastrointestinal dis.                         | 19 | 36 |
| Lead to eye diseases                                  | 2  | 4  |
| Does not know   | 4  | 7  |

## (11) Microbe Sources (N=53)

| Sources  | #  | %  |
|--|----|----|
| Does not know                                    | 3  | 6  |
| Disposal of sullage & solid waste in the streets | 19 | 36 |
| Spread of swamps & stilled water points          | 17 | 32 |
| Polluted food and water                          | 12 | 23 |
| Flies and mosquitoes                             | 7  | 13 |
| Lack of personal hygiene                         | 6  | 11 |
| Dusty environment                                | 6  | 11 |
| Contaminated canal water                         | 5  | 9  |
| Polluted air                                     | 4  | 7  |
| Human and animal remains & excreta               | 3  | 6  |

## (12) Protective Measures Against Microbes (N=53)

| Response                                   | #  | %  |
|--|----|----|
| Does not know                              | 1  | 2  |
| General hygiene in streets & homes         | 28 | 53 |
| Personal hygiene                           | 22 | 42 |
| Covering food & water & washing vegetables | 11 | 21 |
| Carry out hygiene education                | 7  | 13 |
| Washing hands from any pollution           | 6  | 11 |
| Filling canals                             | 6  | 11 |
| Prevent use of canal water                 | 2  | 4  |
| Combating flies                            | 1  | 2  |
| Prevent child defecation in street         | 1  | 1  |

## (13) Vulnerability to Diseases from Dirty Latrines (N=53)

| Response  | #  | %  |
|---|----|----|
| Does not know   | 4  | 8  |
| Full of microbes that transmit diseases                           | 18 | 34 |
| Lead to parasitic diseases  | 18 | 34 |
| Bilharzia from walking barefoot or defecating in place of another | 8  | 15 |
| Place for flies which transmit microbes & diseases                | 7  | 13 |
| Bad smell & microbes spread in the air & pollute it               | 6  | 11 |
| Lead to gastrointestinal diseases                                 | 7  | 3  |



(14) Protective Measures Against Bilharzia (N=53)

| Response   | #  | %  |
|--|----|----|
| No use of canal water (swimming & washing)         | 25 | 47 |
| No walking barefoot                                | 23 | 43 |
| No drinking of canal water                         | 13 | 25 |
| Treatment of those inflicted & regular examination | 8  | 15 |
| No urinating or defecating in canals/streets       | 6  | 11 |
| No eating of polluted food                         | 5  | 9  |
| Combating snails in canal                          | 1  | 2  |
| Staying away from polluted areas                   | 1  | 2  |
| More care for nutrition                            | 1  | 2  |
| Staying away from swamps                           | 1  | 1  |

(15) Role of Primary School in Sanitary Improvements (N=53)

| Role   | #  | %  |
|--|----|----|
| No role for children   | 4  | 8  |
| Carry out hygiene education programs among children  | 30 | 57 |
| Children could spread hygiene knowledge in their homes                                     | 14 | 26 |
| Children could participate in campaigns to improve sanitary conditions in school & village | 13 | 24 |
| Train children on proper hygiene practices   | 13 | 24 |
| Carry out hygiene education among children's parents                                       | 3  | 6  |
| Participate in collective efforts with the village youth club                              | 2  | 4  |

(16) Interviewee Being Responsible for School Activity Groups (N=53)

| Responsibility for Activity Group | #  | %   |
|-----------------------------------|----|-----|
| Yes                               | 45 | 85  |
| No                                | 8  | 15  |
| Total                             | 53 | 100 |

(17) Responsibility for Setting Program of Activity Group (N=53)

| Response                              | #  | %   |
|---------------------------------------|----|-----|
| Not responsible of any activity group | 8  | 15  |
| Interviewee himself                   | 36 | 68  |
| Higher authorities                    | 9  | 17  |
| Total                                 | 53 | 100 |

(18) Problem Confronting Activity Groups (N=53)

| Role                               | #  | %  |
|------------------------------------|----|----|
| Not responsible any activity group | 8  | 15 |
| No problem confronted              | 25 | 47 |
| Lack of funds & resources          | 12 | 23 |
| No sufficient time                 | 7  | 13 |
| Lack of space                      | 6  | 11 |

(19) Approving the Establishment of Summer Club (N=53)

| Response | #  | %   |
|----------|----|-----|
| Yes      | 41 | 79  |
| No       | 11 | 19  |
| Total    | 53 | 100 |

(20) Proposed Program for Summer Club (N=53)

| Response  | #  | %  |
|---|----|----|
| Not approving idea of summer club   | 11 | 19 |
| No suggestions  | 7  | 13 |
| Seminars & group discussions relating religion to hygiene                             | 19 | 36 |
| Sport activities & games  | 10 | 19 |
| Open library  | 7  | 13 |
| Use of audio-visuals  | 5  | 9  |
| One-day campaigns for cleaning village streets  | 4  | 8  |
| On-job training about hygienic practices & manufacturing baskets for garbage disposal | 3  | 6  |
| Vocational training   | 2  | 4  |
| Visits to some areas in the village to carry out hygiene education among residents    | 2  | 4  |
| Short plays & drawing posters on the issue of hygiene                                 | 2  | 4  |

APPENDIX II

American University in Cairo  
Social Research Center

Women, Water and Sanitation  
January 1987

Interview Schedule  
for  
Primary School Children

Village: Babil  Kafr Shanawan

Name of School:

Name: Sex: Male  Female

Grade: 4th grade  5th grade  6th grade

1. Are you a member in any of the following activity groups at the school:

|                            |                              |                             |
|----------------------------|------------------------------|-----------------------------|
| School News group          | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Religious group            | <input type="checkbox"/>     | <input type="checkbox"/>    |
| Hygiene group              | <input type="checkbox"/>     | <input type="checkbox"/>    |
| Art group                  | <input type="checkbox"/>     | <input type="checkbox"/>    |
| Home Economic group        | <input type="checkbox"/>     | <input type="checkbox"/>    |
| Media & Broadcasting group | <input type="checkbox"/>     | <input type="checkbox"/>    |

2. In your opinion when we describe another student as nice and clean looking, how would he/she appear like?

3. When should we wash our hands with soap? (this requires probing)

before attending to:

after attending to

4. Do you think the latrine at school is clean?

Clean

Not clean

5. In case of not clean: In your opinion, what can we do to keep it clean?
6. Do you think village streets are clean? clean  not clean
7. In case of not clean: In your opinion, what can we do to keep it clean?
8. Do you think the following items can cause or transmit diseases?

|  | Transmit Disease |    | How |
|--|------------------|----|-----|
|  | Yes              | No |     |
| Garbage<br>Flies<br>Mosquitoes<br>Sullage<br>Canal water<br>Unwashed vegetables<br>Uncovered food<br>Animal excreta<br>Child feces |                  |    |     |

9. Where did you receive this information from?
- a. Family members: Father  Mother  Sibling   
Other (specify)
- b. At school: Teacher  School Health Visitor   
Friends
10. Have you suffered from bilharzia?
- doesn't know  Yes  No

In case of yes: Did you take any medical treatment?

Yes  No

Where? \_\_\_\_\_

Have you been cured or are you still being treated medically?

Cured  Receiving medical treatment

11. Do you know bilharzia symptoms?

Know

Does not know

What are these?

12. Do you know how one catches bilharzia?

Yes

No

How?

13. How can we protect ourselves against bilharzia?

Results of Primary School Children  
Interview Schedule

(1) Village (N=230)

| Village       | No. | %   |
|---------------|-----|-----|
| Kafr Shanawan | 90  | 39  |
| Babil         | 140 | 61  |
| Total         | 230 | 100 |

(2) Schools (N=230)

| School         | No. | %   |
|----------------|-----|-----|
| Shanawan Girls | 50  | 22  |
| Shanawan Boys  | 40  | 17  |
| Babil Girls    | 30  | 13  |
| Abou Salem     | 60  | 26  |
| Shahid Gamil   | 50  | 22  |
| Total          | 230 | 100 |

(3) Sex (N=230)

| Sex    | No. | %   |
|--------|-----|-----|
| Male   | 110 | 48  |
| Female | 120 | 52  |
| Total  | 230 | 100 |

(4) Educational Grade (N=230)

| Grade  | No. | %   |
|--------|-----|-----|
| Fourth | 80  | 35  |
| Fifth  | 70  | 30  |
| Sixth  | 80  | 35  |
| Total  | 230 | 100 |

## (5) Garbage/Disease Relation (N = 230)

| Response                                    | No.        | %          |
|---|------------|------------|
| No relation between garbage & diseases      | 2          | 1          |
| Does not know                               | 28         | 12         |
| Flies stand on garbage & transmit diseases  | 154        | 67         |
| If we touch garbage while waling or playing | 19         | 8          |
| Garbage smells bad                          | 7          | 3          |
| Garbage transmits diseases                  | 7          | 3          |
| Garbage may contain glass that wounds us    | 4          | 2          |
| Garbage pollutes streets                    | 4          | 2          |
| It is dusty                                 | 3          | 1          |
| Garbage is a place for breeding flies       | 2          | 1          |
| <b>Total</b>                                | <b>230</b> | <b>100</b> |

## (6) Flies/Disease Relation (N = 230)

| Response   | No.        | %          |
|--|------------|------------|
| No relation between flies & diseases                           | 2          | 1          |
| Does not know  | 24         | 10         |
| Flies transmit disease   | 41         | 18         |
| Flies stand on face & transmit diseases                        | 62         | 27         |
| Flies stand on garbage then on us & transmit diseases          | 47         | 20         |
| Flies stand on garbage & transmit diseases by standing on food | 18         | 8          |
| Flies stand on food & transmit diseases                        | 15         | 6          |
| <b>Total</b>   | <b>230</b> | <b>100</b> |

## (7) Mosquitoes/Disease Relation (N = 230)

| Response  | No.        | %          |
|---|------------|------------|
| No relation between mosquitoes & diseases                                       | 14         | 6          |
| Does not know   | 51         | 22         |
| Mosquitoes bite us & suck blood   | 79         | 34         |
| Mosquitoes bite us, suck blood & transmit diseases from one person to the other | 36         | 16         |
| Mosquitoes stand on garbages then bite us & transmit diseases                   | 25         | 11         |
| Mosquitoes transmit diseases  | 19         | 8          |
| Mosquitoes stand on our food  | 4          | 2          |
| Stands on garbage then on our food & ransmit diseases                           | 2          | 1          |
| <b>Total</b>  | <b>230</b> | <b>100</b> |



## (8) Polluted Water/Disease Relation (N=230)

| Response   | No. | %   |
|--|-----|-----|
| No relation be between polluted water & diseases             | 8   | 3   |
| Does not know  | 56  | 24  |
| When we get in contact with polluted water we catch diseases | 50  | 22  |
| Polluted water is a place for breeding flies                 | 49  | 21  |
| Polluted water transmits diseases                            | 34  | 15  |
| When in contact leads to bilharzia                           | 11  | 5   |
| Flies contact leads polluted water & diseases                | 9   | 4   |
| Polluted water dirties streets                               | 7   | 3   |
| Polluted water has bad smell                                 | 6   | 3   |
| Total  | 230 | 100 |

## (9) Canal/Disease Relation (N = 230)

| Response   | No. | %   |
|--|-----|-----|
| No relation between canal water & diseases                             | 3   | 1   |
| Does not know  | 6   | 3   |
| We catch bilharzia by using canal water                                | 131 | 57  |
| When we use canal water (swimming, wash- & drinking) we catch diseases | 38  | 17  |
| Canals are a place for garbage disposal                                | 28  | 12  |
| Canal water contains microbes  | 16  | 7   |
| Canals are a place for breeding flies because of garbage disposal      | 4   | 2   |
| When we use canal water we catch all microbes in it                    | 4   | 2   |
| Total  | 230 | 100 |

## (10) Unwashed Vegetables/Disease Relation (N=230)

| Response  | No.        | %          |
|---|------------|------------|
| No relation between unwashed vegetables & diseases    | 3          | 1          |
| Does not know   | 38         | 17         |
| Dirty vegetables are covered with dust                | 110        | 48         |
| Dirty vegetables lead to stomach aches                | 28         | 12         |
| Flies stand on dirty vegetables                       | 24         | 10         |
| Dirty vegetables contain microbes                     | 11         | 5          |
| Dirty vegetables lead to diseases                     | 8          | 3          |
| The microbes and dust on it lead to stomach aches     | 4          | 2          |
| Flies that stand on it transmit diseases and microbes | 4          | 2          |
| <b>Total</b>  | <b>230</b> | <b>100</b> |

## (11) Uncovered Food Disease Relation (N=230)

| Response                                      | No.        | %          |
|---|------------|------------|
| No relation between uncovered food & diseases | 4          | 2          |
| Does not know                                 | 20         | 9          |
| Flies that stand uncovered food & diseases    |            |            |
| Uncovered food is spoiled                     | 9          | 4          |
| Uncovered food leads to diseases              | 5          | 2          |
| Uncovered food is full with dust              | 4          | 2          |
| <b>Total</b>                                  | <b>230</b> | <b>100</b> |

## (12) Manure/Disease Relation (N=230)

| Response   | No.        | %          |
|--|------------|------------|
| No relation between manure & diseases                      | 11         | 5          |
| Does not know  | 61         | 27         |
| Flies stand on manure & transmit disease to us             | 61         | 27         |
| Manure smells bad  | 38         | 17         |
| If we touch it (play, walk) microbes are transmitted to us | 35         | 15         |
| Manure contains microbes                                   | 20         | 9          |
| Leads to diseases  | 4          | 2          |
| <b>Total</b>   | <b>230</b> | <b>100</b> |

(13) Fecas/Disease Relation (N=230)

| Response   | No. | %   |
|--|-----|-----|
| No relation between fecas & diseas                               | 13  | 6   |
| Does not kdnow   | 49  | 21  |
| Fecas is a place for breeding flies                              | 55  | 24  |
| When we touch it we catch diseases                               | 31  | 14  |
| Flies that stand on it transmit diseases                         | 29  | 13  |
| Fecas smells bad   | 24  | 10  |
| Fecas is a source for disease transmittion                       | 7   | 3   |
| Fecas pollutes streets and this increases<br>the number of flies | 5   | 2   |
| Fecas leads to bilharzia   | 3   | 1   |
| Total  | 230 | 100 |

(14) Source of Information (N = 230)

| Source                | No. | %  |
|-----------------------|-----|----|
| Does not know         | 2   | 1  |
| Teacher               | 199 | 87 |
| Mother                | 155 | 67 |
| Father                | 139 | 60 |
| Siblings              | 34  | 15 |
| School Health Visitor | 80  | 35 |
| Grandparents          | 6   | 3  |
| Friends               | 4   | 2  |

(15) Membership in Activity Groups (N = 230)

| Activity Group       | No |    | No. | %  |
|----------------------|----|----|-----|----|
| Health Group         | 22 | 10 | 208 | 90 |
| Religious Group      | 22 | 10 | 209 | 90 |
| Hygiene Group        | 31 | 13 | 199 | 87 |
| Art Group            | 14 | 6  | 216 | 94 |
| Home Economics Group | 29 | 13 | 201 | 87 |
| News Group           | 49 | 21 | 181 | 79 |
| School-Police Group  | 14 | 6  | 216 | 94 |
| Library Group        | 7  | 3  | 223 | 97 |
| Other                | 5  | 2  | 225 | 98 |

(16) Concept of Clean Child (N=230)

| Response  | No. | %  |
|---|-----|----|
| Does not know   | 2   | 1  |
| Clean (general without specification)   | 44  | 19 |
| Clean clothes   | 143 | 62 |
| Clean, combed hair  | 99  | 43 |
| Clean face, hands & body  | 65  | 28 |
| Cut finger nails  | 47  | 20 |
| Follow hygienic practices & good manners<br>(no swimming in canals, no disposal of<br>garbage in streets, clean house & food,<br>polite, religious) | 30  | 13 |
| Clean shoes   | 8   | 3  |
| Carry an handkerchief   | 4   | 2  |

(17) Handwashing Practices (N=230)

| Response                          | No. | %  |
|-----------------------------------|-----|----|
| Before:                           |     |    |
| Eating                            | 219 | 95 |
| School                            | 30  | 13 |
| Sleeping                          | 18  | 8  |
| Praying                           | 13  | 6  |
| After:                            |     |    |
| Eating                            | 215 | 93 |
| Latrine                           | 174 | 76 |
| Work (field, house, school, play) | 34  | 15 |
| Sleeping                          | 23  | 10 |
| No answer                         | 2   | 2  |

(18) Latrine Cleanliness (N=230)

| Response  | No. | %  |
|---|-----|----|
| Clean   | 96  | 42 |
| Not clean:  | 134 | 58 |
| Does not know how to clean latrines                 | 18  | 8  |
| Wash latrines daily                                 | 104 | 45 |
| Prevent urination on floor                          | 11  | 5  |
| Prevent throwing of stones or garbage<br>in opening | 11  | 5  |
| Use insecticides                                    | 9   | 4  |
| Evacuate tanks regularly                            | 4   | 2  |

(19) Street Cleanliness (N=230)

| Response                                     | No. | %  |
|--|-----|----|
| Clean  | 90  | 39 |
| Not clean:                                   | 140 | 61 |
| Does not know how to clean                   | 6   | 3  |
| Everyone cleans in front of his place        | 107 | 47 |
| Prevent disposal of wastes in streets        | 34  | 15 |
| Burn garbage                                 | 21  | 9  |
| Council be responsible for cleaning streets  | 17  | 7  |
| Dispose garbage in barrels                   | 11  | 5  |
| Prevent urinating/defecating in streets      | 4   | 2  |
| Organize youth campaign for village cleaning | 1   | 1  |

(20) Students Suffering from Bilharzia (N = 230)

| Response                | No. | %   |
|-------------------------|-----|-----|
| Have bilharzia          | 31  | 13  |
| Does not have bilharzia | 184 | 80  |
| Does not know           | 15  | 7   |
| Total                   | 230 | 100 |

(21) Medication to Treat Bilharzia N = 230)

| Response                | No. | %   |
|-------------------------|-----|-----|
| Does not have bilharzia | 184 | 80  |
| No treatment taken      | 18  | 8   |
| At hospital             | 12  | 5   |
| From doctor             | 7   | 3   |
| At health Unit          | 4   | 2   |
| At school               | 2   | 1   |
| From pharmacy           | 1   | 1   |
| Does not know           | 2   | 1   |
| Total                   | 230 | 100 |

(22) Being Cured from Bilharzia (N = 230)

| Response                   | No. | %  |
|----------------------------|-----|----|
| Does not have bilharzia    | 184 | 80 |
| Cured from bilharzia       | 19  | 8  |
| Not being cured yet        | 9   | 4  |
| Did not take any treatment | 15  | 7  |

(23) Bilharzia Symptoms (N = 230)

| Response                           | No. | %   |
|------------------------------------|-----|-----|
| Does not know                      | 144 | 63  |
| Blood in urine                     | 40  | 17  |
| Yellowish color of face            | 17  | 7   |
| Weakness                           | 10  | 4   |
| Yellowish color & blood in urine   | 9   | 4   |
| Weakness & yellowish color of face | 3   | 1   |
| Black face                         | 2   | 1   |
| Stomach aches & weakness           | 2   | 1   |
| Stomach aches & bleed in urine     | 1   | 1   |
| Alergies on body                   | 1   | 1   |
| Total                              | 230 | 100 |

(24) Bilharzia Infection Mechanisms (N= 230)

| Response                  | No. | %  |
|---------------------------|-----|----|
| Does not know             | 58  | 25 |
| Swimming in use of canals | 167 | 73 |
| Playing in sullage        | 22  | 10 |
| Walking bear foot         | 20  | 9  |
| Eating dirty food         | 1   | 1  |

(25) Protection from Bilharzia (N = 230)

| Response                | No. | %  |
|-------------------------|-----|----|
| Does not know           | 3   | 1  |
| No use of canal water   | 207 | 90 |
| No walking bear foot    | 38  | 17 |
| No contact with sullage | 17  | 7  |
| Taking medication       | 8   | 3  |
| Regular examination     | 5   | 2  |
| No eating of dirty food | 5   | 2  |
| No urinating in canal   | 1   | 1  |

### APPENDIX III

#### PROGRAM OF THE SUMMER CLUB INITIATED BY THE WOMEN, WATER & SANITATION PROJECT AT THE PRIMARY SCHOOLS IN BABIL & KAFR SHANAWAN

The club was opened twice a week from 10:00 a.m. to 1:00 p.m. The first hour and a half were devoted to covering the main day's theme, followed by a 30-45 minutes break for sports and entertainment, finally, reserved last hour goes for the activity groups.

| <u>No. of Sessions</u> | <u>Subject</u>   |
|------------------------|--|
| 1                      | <ul style="list-style-type: none"><li>- Introducing the idea of the summer club and acquainting the children with its goals.</li><li>- Discussion on the club's theme, "Health and Environment".</li><li>- Dividing the children among four groups each according to his/her interests (e.g Acting, Handi-crafts, Library, Home Economics, and Nutrition). These groups met each session for an hour during which children fulfilled their hobbies and interests while learning about health. For instance, children participating in the Acting Group prepared with their teacher a one act play and a song that deals with issues on health and which they presented at the final party. The Handicraft Group designed different charts, posters and made simple waste-baskets, all evolving around the theme of health.</li></ul> |
| 2                      | <ul style="list-style-type: none"><li>- General discussion on Personal Hygiene; children are asked to cut and paste from magazines or journals pictures and complete phrases that describe what personal hygiene means or by comparing and contrasting pictures relating to hygienic practices.</li></ul>  |
| 3                      | <ul style="list-style-type: none"><li>- General discussion on the importance of home cleanliness; stories that correspond to their home environment were recounted to children using a Home Hygiene Magnetic Board. Children were asked to use the magnetic or felt boards to share with others their own version of the story on how to attend to home cleanliness.</li></ul>   |

| No. of Sessions | Subject  |
|-----------------|--|
| 4               | - General discussion on food handling and nutrition; a meal was prepared with the children as an illustration of the hygienic practices that ought to be followed in that respect.   |
| 5               | - General discussion on the environment; the Sanitary Environment Magnetic Board is employed while having children recount their own experiences in dealing with their environment and how to promote its sanitary conditions.   |
| 6               | - Taking children on a walk around the village to observe carefully scenes and patterns that might be harmful to their health, and others that reflect people's attempts to maintain the cleanliness of their surrounding. This was followed by a general discussion on what they have observed and their role in improving sanitary conditions and changing the unhygienic patterns.                                      |
| 7               | - Children, their teachers and RT participated in cleaning up the school and its surrounding.  |
| 8               | - Participation in a cleanliness campaign of some village neighborhoods.   |
| 9               | - General discussion on disease transmission, and its prevention; a flip chart on "How Disease Travels" was employed to illustrate to children different mechanisms by which diseases are transmitted. Children were then asked to explain in their own ways what they have understood either by drawing cycles of disease, cutting pictures from magazines, singing, acting a play, or telling a story using felt boards. |
| 10              | - Displaying two educational films, one on bilharzia prevention and the other on means to control and prevent diseases by enforcing hygienic practices. The film display was followed by group discussion.   |
| 11              | - Group evaluation of the summer club in terms of its activities, what the children liked and disliked, what new information they have gained and what practices adopted.  |
| 12              | - Final Party where the different activity groups presented their products (e.g. charts, waste-baskets, table-clothes, songs, plays, etc.).  |



APPENDIX IV

PROPOSED THEMES FOR EVALUATION OF  
THE SUMMER CLUBS AT THE PRIMARY SCHOOLS  
BY TEACHERS AND RESEARCH TEAM

1. Theme of summer club (Health and Environment).
2. Program of the summer club.
3. Material used during the summer club.
4. Methods of communicating information to children.
5. Timing and duration of the summer club.
6. Age group of children selected to participate in the summer club.
7. Number of children who participated in the summer club.
8. Benefit that children obtained from summer club.
9. Training and preparation for summer club.
10. Criteria for teachers' selection to participate in summer club.
11. Administrative organization of summer club.
12. Activities carried out by children.
13. How to replicate summer club experience and to institutionalize it.
14. Channels of cooperation between Women, Water and Sanitation Project and the schools during regular academic year to spread hygiene education among children.
15. Advantages and disadvantages of summer club experience.
16. General comments.

Appendix V

List of Forms Administered During the Period

- |   |             |
|---|-------------|
| 1) Interview Schedule for Primary School Children   | June 1988   |
| 2) Interview Schedule for Service Workers in the<br>Educational Sector: Teachers              | June 1988   |
| 3) Interview Schedule for Service Workers in the<br>Educational Sector: School Health Visitor | June 1988   |
| 4) Evaluation Form: Student Participants in the<br>Summer Club                                | August 1988 |



