

GreenCOM Egypt III

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[Implementing a MPWWR Participatory Communication Program for Supporting
Water Policy Formulation and Implementation]

SUBMITTED BY:

Academy for Educational Development
Chemonics International Inc

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TABLE OF TERMINOLOGY

Acronyms

AED	Academy for Educational Development
APRP	Agricultural Policy Reform Project
DT2	Developmental Training II
EPIQ	Environmental Policy
GreenCOM	Environmental Education and Communication Project
LAN	Local Area Network
MPWWR	Ministry of Public Works and Water Resources
NGO	Non-Governmental Organization
PARC	Pan Arab Research Center
RDI	Reform, Design and Implementation Unit
TA	Technical Assistance/Assistant
USAID	US Agency for International Development
WB	Water Boards
WCU	Water Communication Unit
WPRP	Water Policy Reform Program
WUA	Water User Association

Arabic Irrigation Terms

<i>Baha</i>	A technical worker in the irrigation district
<i>Sakia</i>	An irrigation tool that is running using cows or other livestock
<i>Handasa</i>	Irrigation district – one engineer per irrigation district Comparable in size to administrative district
<i>Hiiza</i>	Land holding
<i>Mesqa</i>	The lowest level of canal to which the MPWWR provides water
<i>Tanbour</i>	A manual pump for raising water from the mesqa to the field

Irrigation System of Canals

Principle Canals begin at Nile barrages
Main Canals begin at principle canals
Branch Canals begin at main canals
Distributor Canals begin at branch canals
Mesqas may begin at either branch or distributor canals

CHAPTER 1

INTRODUCTION

1 INTRODUCTION

Successfully implementing a project requires an effective partnership between the counterpart agency, donor agency and the contractor. In the case of GreenCOM III, these partners were the Ministry of Public Works and Water Resources (MPWWR) Water Communication Unit (WCU), USAID, and GreenCOM. Without the commitment of the Ministry and support of USAID/Cairo, GreenCOM III would not have achieved nearly as much as it has. The support within the MPWWR has been very strong right up to H.E. Minister M. Abu Zeid. Therefore, the accomplishments of the GreenCOM effort in Egypt's water sector has become a model of participatory communication programs throughout the Middle East, as well as other parts of the world.

1.1 Importance of Communication in Egypt's Water Sector

The MPWWR is responsible for managing the waters of the Nile, including the canals, drains, and groundwater. This mission is of the utmost importance, as water sustains the social and the economic well being of Egypt. The Ministry traditionally focused on engineering services delivering water for irrigation, domestic and industrial uses. Egypt's water supply is fixed by an agreement with the 10 nations sharing the Nile waters. Population growth, introduction of intensive agricultural practices, and industrial development demands for Egypt's water will soon overtake the supply.

The late MPWWR Minister, H.E. Dr. Mohammed Abdel Hady Rady, recognized that engineering expertise had to be matched by careful consideration of the people's needs and behaviors. To address this new challenge, Dr. Rady recognized that water users had to be involved in helping the Ministry formulate and implement new policies promoting efficient delivery, use, conservation and protection of limited water resources. Early in his tenure, Dr. Rady requested USAID help to build Ministry capabilities to reach out and work with various water user groups.

Minister Rady embarked MPWWR on a new way to do business, one that combines engineering concerns with people concerns. Ultimately, it is people—Egypt's water users—who will conserve water and prevent its pollution. Only with their understanding and active participation in water conservation and pollution prevention, will Egypt succeed in addressing growing water scarcity. The partnership efforts of MPWWR, USAID, and GreenCOM have created the basic infrastructure and program within the Ministry to support this new exciting participatory communication approach.

1.2 GreenCOM I and II as a Base for GreenCOM III

In 1994, MPWWR requested USAID assistance to help initiate a program to educate the Egyptian public about water conservation and pollution prevention. USAID turned to GreenCOM, the USAID global environmental education and communication project, to help MPWWR initiate a development-oriented, participatory communication program to meet this need. GreenCOM I began in May 1995 and

provided technical assistance to the Ministry in the formulation of a Water Communication Strategy

This strategy, including recommendations to create the Water Communication Unit was presented to the Minister and his senior staff on June 23, 1995. On July 15, 1995, Ministerial Decree No. 219 was issued creating the Water Communication Unit (WCU). The decree described the unit's functions, named staff, and encouraged all departments of the MPWWR to cooperate with the unit. GreenCOM I then assisted MPWWR by 1) conducting a pilot participatory communication program for farmers focusing on *mesqa* clean-up, 2) training the WCU staff to produce a monthly newsletter, and 3) formulating an Institutional Development Plan for the WCU.

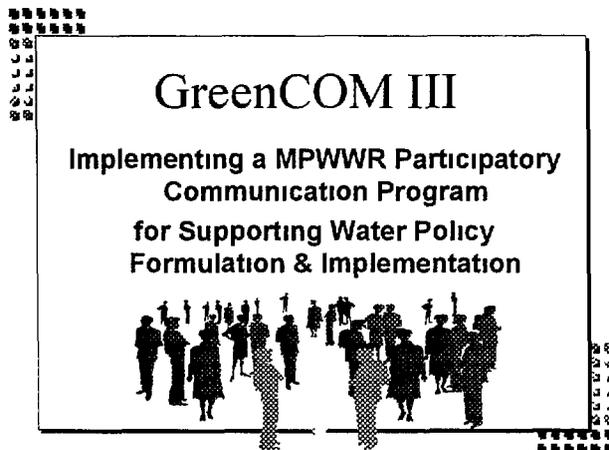
In May 1996, GreenCOM II began to assist MPWWR in the development and implementation of Egypt's first national communication campaign in the water sector. This campaign was the first undertaken by the new WCU staff. GreenCOM advisors guided the campaign design and production. As 83% of the Nile water is used in agriculture this general awareness campaign was designed specifically for farmers. The key themes/messages of this campaign were 1) Egypt has a fixed water supply, 2) population growth, agricultural expansion, and industrial development all contribute to an increased need for water, and 3) farmers are key in conserving water by cleaning *mesqas*, watering at night, leveling their land, and selecting crops which use less water. The campaign was launched in November 1996, and was considered very successful.

Based upon the successes of GreenCOM I and II, and the obvious commitment of MPWWR for this program, USAID decided to provide continued technical assistance to strengthen the Ministry's ability to communicate effectively with farmers and other water users.

1.3 GreenCOM III Objectives

GreenCOM III began May 6, 1997 and operated until October 28, 1999. GreenCOM III was part of the USAID Agricultural Policy Reform Project (APRP). The purpose of the GreenCOM III Task Order was to provide technical assistance to the Water Communication Unit of the Ministry of Public Works and Water Resources to achieve the following objectives:

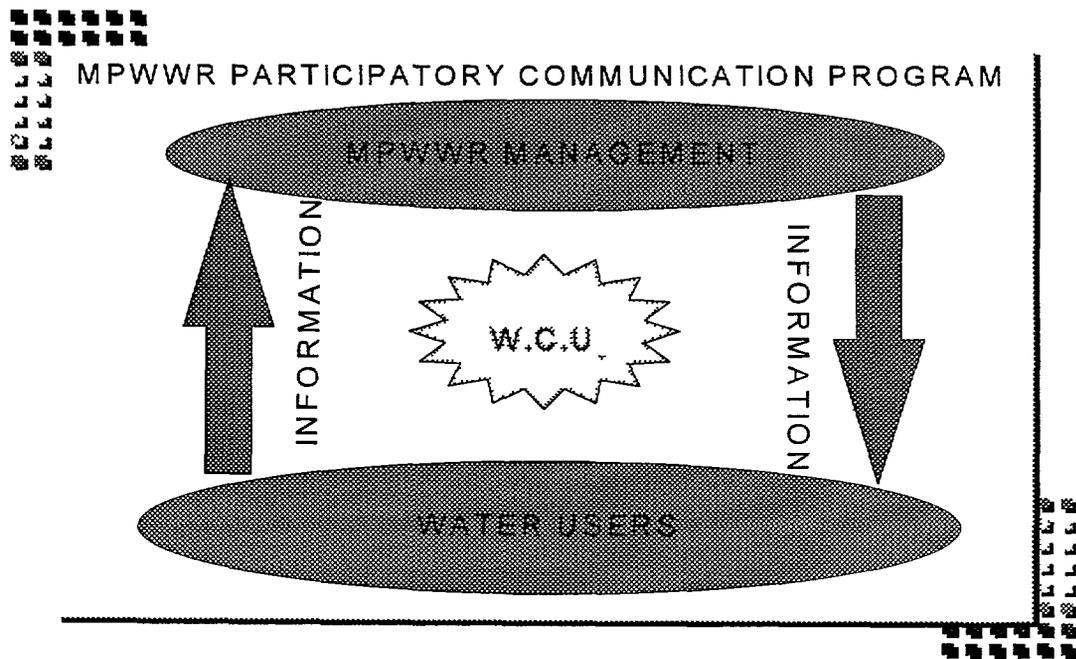
1. Improve the MPWWR staff capability and skills to organize and communicate with water users
2. Increase farmer participation in
 - a. Water Users Associations (WUAs) at the *mesqa* level and through Water Boards (WB) at the district level,
 - b. Cost sharing by water users of irrigation services including operation and maintenance costs at the main system level, and



c Protection of the environment through reducing water pollution

3 Change farmer behavior towards water resources and management

GreenCOM III built upon the MPWWR Communication Strategy and the experience gained in the national campaign to provide assistance in the implementation of a participatory communication program aimed at supporting policy reform in the water sector. The following chart illustrates the concept of the participatory communication, as envisioned in the Ministry's Water Communication Strategy, with the WCU serving as an important link between MPWWR senior management and water users.



This final report summarizes the project inputs, activities and results to achieve these GreenCOM III objectives

CHAPTER 2

IMPACT OF THE PROJECT · THE RESULTS

2 IMPACT OF OF THE PROJECT: THE RESULT

GreenCOM III accomplished much in a short time. Work was done throughout the GreenCOM III project monitoring the impact of the project. This work started at the beginning of the project when indicators were identified and baseline data collected. The indicators were reviewed at the Tripartite Reviews and where possible the current situation data and targets updated. At the end of the project the same indicators were once again reviewed and where possible data collected.

RESULTS HIGHLIGHTS

- 193% increase in farmer meetings held by district engineers
- 122% knowledge increase by district engineers on how farmers can save water
- Increase from 53% to 100% district engineer knowledge of water user associations
- Increase from 0 to 7 personal contacts with MPWWR field staff per month by each WCU staff member
- Increase from 0 to 10 fact sheets/technical information materials per quarter
- During a three month period, Egypt TV stations ran GreenCOM/WCU produced TV spots 1,028 times for free, the value of the air time was LE632,382, the spots were seen by almost 26 million people

This chapter compares the baseline data with the end-of-project data—the impact of the project. It summarizes the achievements and identifies areas where additional work is needed. Attachment 1 in this Final Report contains the detailed information on all indicators.

2.1 GreenCOM Results Framework within APRP

Between GreenCOM II and III USAID shifted to its new results oriented program which was developed cooperatively with the Government of Egypt (GOE). GreenCOM III came under Strategic Objective SO #1, *“Accelerated Private Sector-Led, Export-Oriented Economic Growth”*. Under SO #1, Intermediate Result # 1.3 was, *“Accelerated Privatization and Improved GOE Support of Competitive Markets”*. Under this Intermediate Result, a “Results Package” called the Agricultural Policy Reform Project (APRP) was created to support agriculture and water sectors. The APRP Results Package was the funding mechanism for GreenCOM III.

Under the APRP Results Package, Activity 3.3 was *Communication and Public Awareness*. This activity stated that, “In light of the increasing demand on a fixed supply of water, the MPWWR is going to formulate and implement new policies and services to deal effectively with the people and organizations that demand more water.” This activity recommended continued support to the recently established Water Communication Unit “to heighten public awareness of priority water issues through its general awareness program.” The specific result to be achieved was “Increase water user’s awareness of the need for water conservation and protection of the Nile system from pollution.”

2.2 Results Targets

The GreenCOM III Statement of Work, Section 2.1, page 11, stated

“The results to be achieved are

- i. Improve MPWWR’s field staff and senior officials’ attitudes toward water users and improve the staff’s skills to deal with their clients and resolve conflicts
- ii. Increase water users’ awareness of the need for water conservation and protection of the Nile system from pollution ”

2.3 GreenCOM III’s Approach to Measuring Results

At the beginning of the GreenCOM III project, USAID and the GreenCOM team decided to establish indicators which would serve two functions (1) to guide the management of the project and (2) to provide baseline data to monitor project results

USAID and the GreenCOM III team concluded that the 30-month project period was not long enough to see significant behavioral change in water users as given in the project objectives, which were long-term goals. Therefore, the decision was made to develop indicators that would allow the stakeholders to monitor progress being made toward achieving future behavioral change. In other words, to tell us if we were going in the right direction

Diffusion of innovations research conducted throughout the world by rural sociologists identified a decision making process people and groups go through in adopting new practices. In general terms, the stages include (1) securing knowledge of the innovation, (2) developing a positive attitude towards the innovation, (3) trying the innovation on a trial basis, and (4) adopting the innovation—behavioral change using the recommended new practice

Using this well grounded approach from the diffusion of innovations research, the GreenCOM team, in consultation with USAID and MPWWR officials, identified two sets of indicators (1) Impact Indicators, and (2) Predictor Indicators

2.4 Impact Results

The GreenCOM III team realized that changing knowledge, attitudes and practices (KAP) of Egyptian water users was the responsibility of the MPWWR/WCU since they were operating the participatory communication program. The role of GreenCOM was to advise, train, provide equipment, contract subcontractors, and carry out other activities to support the WCU in their tasks. Therefore, the impact of the participatory communication program was linked to the work of the WCU and only indirectly linked to the inputs of GreenCOM III

The Impact Indicators were used on three target audience groups that the WCU had identified (1) MPWWR district engineers, (2) farmers, and (3) the general public. Baseline studies were conducted for each group. Time permitted follow up studies on

the district engineers. The detailed findings of the KAP studies with all the indicators used to monitor the project are in Attachment 1 of this Final Report.

The following highlights the impact results:

2.4.1 District Engineers

The follow-up KAP study was conducted on the district engineers after their training was completed. The impact indicators for the MPWWR district engineers show an increase ranging from 22% (in this case the baseline was quite high) up to 623%. At the same time the indicators showed areas where additional work is needed.

The following are selected indicators. All indicators reported on the district engineer KAP study show statistically significant improvement ($p \leq 0.05$).

	<i>Baseline</i>	<i>End</i>	<i>Percent Increase</i>
Water situation in Egypt			
• Know that 10 countries share the Nile	35%	90%	157%
• Know that Egypt might face a water scarcity	66%	88%	33%
• Able to cite 3 ways a farmer can save water	32%	71%	122%

The indicators above suggest that district engineers have a considerably better understanding of the regional context in which water is provided to Egypt, and the growing regional demand for water. Their awareness of a potential water scarcity has become much stronger. They also have substantially increased their knowledge on how to improve on-farm water management, but there is obviously room for improvement in this indicator. As the Ministry's efforts to conserve water move from improving knowledge and attitudes to changing farmers' behaviors, they will need to focus on engineers' knowledge of behaviors farmers should adopt.

	<i>Baseline</i>	<i>End</i>	<i>Percent Increase</i>
Farmer participation			
• Know Ministry policy on farmer participation in decision making	60%	91%	52%
• Able to cite at least two advantages of farmer participation in decision making	51%	67%	31%

The Ministry's policy on farmer participation in decision making underpins its plans to expand WUAs and rationalize the use of water in agriculture. The baseline survey suggested that a small majority of district engineers had positive knowledge and attitudes towards farmer participation. The impact survey conducted at the end of GreenCOM documents a significant increase in knowledge of the policy, and a trend in improved attitudes towards farmer participation, although this is clearly an area that would benefit from further, more focused training.

	<i>Baseline</i>	<i>End</i>	<i>Percent Increase</i>
Water User Associations			
• Ever heard of a WUA	53%	100%	89%
• Able to cite at least two reasons why a farmer would join a WUA	51%	76%	49%

Since most of the district engineers had little or no involvement in the IIP project, roughly half had never heard of WUAs in the baseline study. The training was very successful in bringing the knowledge of WUAs up to 100%, the first step in getting their support for this important new program. The second indicator documents a significant increase in the proportion of engineers who have some knowledge of how WUAs work and also makes clear that they will need additional training in this area if they are to be highly effective in promoting WUAs.

	<i>Baseline</i>	<i>End</i>	<i>Percent Increase</i>
Communication			
• Received the last issue of the WCU newsletter	27%	35%	30%

When the baseline district engineers' study was reviewed by the WCU, the staff set a target of 100% for this indicator. The fact that this target was not achieved illustrates the amount of work that is needed with the WCU to create and strengthen the unit's capabilities in managing and monitoring the distribution of print materials.

	<i>Baseline</i>	<i>End</i>	<i>Percent Increase</i>
Practice			
• Ever held a meeting for farmers	33%	91%	176%
• Number of meetings held for farmers	1 4	4 1	193%
• Number of meetings of agricultural cooperative attended in last 6 months	4 0	7 4	85%
• Holding awareness meetings as a means of helping farmers to save water	18%	38%	111%

The practice indicators show unexpectedly significant improvements. In fact, the GreenCOM III project team did not expect to achieve changes in engineers' practices, but these indicators suggest that engineers have rapidly begun to implement what they have learned in the training. This may be due to the fact that they developed individual action plans in the first session of training, and that they did act on them with the help of the reinforcement period. If so, it suggests that engineers would benefit from continued, regular follow-up from the WCU to increase the quantity and quality of their contacts with farmers. These results achieved with changing the practices of district engineers could well be the greatest success of GreenCOM III and could have significant impact on future MPWWR behavioral change campaigns.

2 4 2 Farmers and General Public

Changing knowledge, attitudes and practices of large segments of the population take a considerable amount of time, more time than was available in the 30 months of GreenCOM III. We recommend that these follow up KAP studies be conducted in May 2002.

Changing behaviors of water users will be a long-term priority program of MPWWR. Egyptian water users will have to gradually be moved through the adoption process involving changes in knowledge, attitudes and eventually practices. The following table summarizes the findings in the baseline surveys for farmers and the general public. It illustrates the challenge that the Ministry participatory communication program is facing.

INDICATOR	FARMERS	GENERAL PUBLIC
Knowledge—Know Egypt might face a water scarcity	33%	50%
Knowledge—Know that ten countries share the Nile	2%	4%
Knowledge—Ever heard of a Water User Association	3%	Not Relevant
Knowledge—Able to cite one way a farmer can save water	20%	Not Relevant
Communication—Seen anything on TV about conservation of irrigation water	6%	Not Relevant
Communication—Seen on TV or heard on Radio about saving water	See last question	69%

2 5 Predictor Results

Experience around the world has shown that units like the MPWWR/WCU go through an evolutionary process—usually taking from 10-20 years—in building their capabilities in designing and implementing development-oriented participatory communication programs. In general terms, such a unit and its staff go through the following stages of development: (1) gaining the basic communication skills such as writing, desktop publishing, photography, video production, etc.; (2) developing experience and skills in program planning, focusing on the messages and what the communication activity is to achieve, and (3) installing management systems related to effective linking with clientele, distribution of materials, administrative systems, filing systems for negatives and other items, etc. Projects to support such programs generally operate from 6-10 years. Therefore, these predictor indicators are measuring only the early stages of the evolution of the MPWWR Water Communication Unit.

To monitor the development process of the WCU and to focus the work of the GreenCOM advisors, a second set of indicators—the predictor indicators—was established to measure the growth in capabilities of the WCU as a result of GreenCOM.

technical assistance. The assumption was that if the WCU can not do the work required, then there would be no participatory communication program and, therefore, no impact.

The WCU staff and GreenCOM team had discussions early in the project to develop appropriate predictor indicators and to collect the baseline data. These indicators were also reviewed during each tripartite review and at the end of the project. This process provided an excellent opportunity for the GreenCOM advisors and WCU staff to discuss what was expected from each of them.

The predictor indicators show significant increases in the capabilities gained by the WCU as a result of the GreenCOM III project. This was in all the program areas: (1) fieldworker support, (2) media production, and (3) monitoring and evaluation. The primary gains have been in acquiring skills in basic communication techniques. The following are a selection of some of the predictor indicators used. The complete list with baseline, May 1998 target for October 1999, and actual for October 1999 is in Attachment 1 of this Final Report.

Two different types of data is included in these predictor indicators:

1. Normal measurement numbers--such as the number of news releases sent to newspapers.
2. Other indicators could not be quantified in that manner and, therefore, used the following four level measurement criteria of capabilities of the WCU—called a “capability scale”:

- 0 = no capability
- 1 = can do the task under guidance from GreenCOM advisors
- 2 = can do the task, but with review and oversight from GreenCOM advisors
- 3 = can do the entire task without GreenCOM advisor inputs

2.5.1 Component #1 – Fieldworker Partnership

Within the MPWWR, the WCU has provided the leadership in supporting the field staff to be more effective communicators with the Ministry’s clientele groups. The WCU staff has been active participants in almost all aspects of this component. The following are a couple of the predictor indicators used:

	Baseline capability	End of project capability	Baseline number	End of project number
• Accessing fieldworker training needs	0	2		
• Planning training program for fieldworkers	0	2		
• Personal communication with field staff per month – visits, telephone calls, meetings (number per WCU staff member)			0	7

These indicators show that the WCU staff have grown considerably during GreenCOM III and are moving forward to developing a viable Field Support Division within the WCU. Most impressive is the increased contact between the WCU and the field staff. Anecdotal information indicates that the field staff is very appreciative of this contract. At the beginning of GreenCOM III, the WCU was unknown by most field staff. That has changed dramatically.

2 5 2 Component #2 – Communication Programs/Campaigns

Much of the work in this component was expanding upon distribution on the campaign developed under GreenCOM II and as well as training in video production. And during this period, the WCU achieved a considerable amount of recognition and support from the Ministry. For example, the WCU secured its own budget, enabling the unit to pay for communication materials designed by GreenCOM advisors and begin producing some materials on their own.

The following are several indicators used in this component:

	Baseline capability	End of project capability	Baseline number	End of project number
• Number of fact sheets and other technical information materials produced for field staff, in addition to the newsletter			0	10
• Formal visits per month with Cairo-based print and broadcast media			5	25
• Video clips made for training, research, and on-air interviews per quarter			0	1
• Number of news releases sent to newspapers per month			0	0
• Preparing campaign strategy	0	1		

These indicators show that progress has been made in the production of communication materials for field staff and the mass media. However, some basic services such as producing news releases which are basic outputs from this type of communication program, are still missing. And, more work is needed in training the staff on how to design and implement campaigns.

2 5 3 Component #3 –Monitoring and Evaluation

This component focused primarily on the KAP studies. The WCU staff participated in this communication research. They actually conducted the interviews and analyzed the

data for the district engineer KAP study. The farmer and general public KAP studies were contracted to outside firms. It is standard procedure for any communication unit to contract large complex research studies to outside firms who have the special skills required, large numbers of interviewers, and the statistical analysis capabilities.

The following are a couple of the predictor indicators used for this component:

	Baseline capability	End of project capability
• Questionnaire design	0	1
• Coding data	0	3
• Interpret findings for reporting	0	1
• Develop a strategy for monitoring	0	1

The WCU staff has gained skills in updating a sample frame, data collection, data entry, and questionnaire coding—still under some guidance from advisors. In the case of survey design, sample design, questionnaire design, data analysis and reporting, and programmatic interpretation of the findings, the staff do not have the required skills and more training and guidance is needed for them to develop these capabilities. It was never envisioned that the WCU would have a fully operating research program. However, the staff does need basic skills to be able to do applied research, continue to monitor what the field staff are doing, and to work with professional research firms to design, conduct and interpret research studies.

2.5.4 Cross Cutting Activities

Cross cutting activities involved project assistance focusing on building WCU capabilities, which supported the three primary components. Therefore, these indicators focus on activities that reflect strengthened planning and management capabilities.

The following are several of the indicators used for the cross-cutting activities:

	Baseline capability	End of project capability	Baseline number	End of project number
• Contacts with MPWWR departments initiated by WCU staff per month			0	6
• Organizing briefing meetings	0	2		
• Number of staff sending at least one e-mail message per day			0	2
• Number of staff meetings per month			0	1

Many of the indicators in the cross cutting activities assumed that the WCU would have early in the project sufficient offices allowing all the staff to be in one location with computer LAN and other equipment installed. The Ministry decided to provide a large area which had to be remodeled requiring a considerable amount of design and construction. At the end of the GreenCOM III project the unit was still not in their new facilities. The staff was spread around in at least four offices. The computer LAN, video editing and other equipment could not be installed. Therefore, this greatly affected the last two indicators above and many other management concerns. In the case of the email indicator, the WCU does not currently have the capability to send emails, however, two staff opened their own "Hot Mail" accounts and used the GreenCOM project office connection to the INTERNET to send emails. This illustrates the interest and motivation of the staff to improve their communication capabilities.

2.6 Other Monitoring Activities

As part of Component 2 and 3, GreenCOM III contracted an Egyptian firm, PARC, to monitor the TV broadcast of the public service spots produced by GreenCOM/WCU. More details of this research and the findings are in a separate report and in Chapter 6 of the Final Report.

Six TV spots began airing on 1 July 1998. The actual placement—number times shown and time of day—was monitored by PARC for three months. The monitoring was for all eight television channels in Egypt. For the three-month period, the spots were shown a total of 1,028 times. The Ministry of Information aired the spot free which is unusual in Egypt. If a commercial company had paid for the airtime it would have cost them LE 2,150,098 or US\$632,382.

It is estimated that these spots were seen at least once by 90% of the rural population or 13,310,000 people and 87% of the total population or 25,838,000 people.

This is very significant exposure to the messages that Egypt's water is limited and will be more limited in the future. For general awareness campaigns, diffusion of innovations research has shown that mass media is extremely important at the awareness stage, as contrasted with the behavioral change stage which requires greater face-to-face communication efforts.

2.7 Summary and Conclusions

Considerable progress has been made in a short time assisting MPWWR to establish a viable participatory communication program. At the beginning of GreenCOM III the WCU was almost unknown within the Ministry and by outside agencies such as MPWWR field staff, media representatives and other groups. The WCU is now widely recognized and respected by these groups. A very important indicator is the Government allocating a significant budget to the WCU. During GreenCOM III, the WCU was able to pay for much of the printing of materials which GreenCOM advisors helped design. This is impressive and shows the commitment of the Ministry to the participatory communication program.

The WCU will need a considerable amount of assistance during the next several years. Because of the delays in remodeling their facilities, the unit could not recruit the additional staff needed. Currently, there are 10 staff. The organizational plan for the WCU calls for basic staffing of 42 people. New staff members will have to be trained and management systems put in place for the expanded program. The unit is still at the first phase of development—gaining the basic skills in the communication field. Unfortunately, Egypt does not have “Development Communication” programs in the universities and, therefore, the Ministry will have to find a way to get this type of training for their new staff as well as to continue with training of the core staff. The predictor indicators show that much more work will be required in the second and third stages of development—program planning and management.

CHAPTER 3

OVERVIEW OF THE PROJECT

3 OVERVIEW OF THE PROJECT

The Statement of Work and Inception Report established the framework which GreenCOM III operated. The Inception Report contained a Life of Project Work Plan, which was adjusted every six months to meet the changing situation. This chapter provides an overview of the approach GreenCOM III took to achieve the results given in the last chapter.

3.1 Primary Activities of GreenCOM III

The Inception Report set out a road map for four sets of activities which GreenCOM III would focus on.

3.1.1 Establish a Partnership Relationship Between MPWWR Field Staff and Local Groups

A communication system is as powerful as its weakest link. Research done through GreenCOM I and II showed that MPWWR field engineers often had poor working relationships with the Ministry's various clientele and local leaders. Therefore, a high priority of the Ministry was to improve the capabilities of these staff to become facilitators of two-way communication between the MPWWR and water users. What was needed was more dialogue with farmers and other Ministry clientele rather than merely communication to them. This component took a systems approach looking at the entire field network and focusing on making it more interactive internally and with Ministry clientele groups. As MPWWR moves more toward behavioral change campaign this face-to-face communication channel will become much more important. However, there is now a base to build upon as a result of the accomplishments of GreenCOM III.

3.1.2 Design and Implement Communications Programs/Campaigns to Support the Ministry's Policy Changes

This component involved the development of communication programs and campaigns which supported the Ministry's efforts to introduce new water policies. The overarching result to be achieved through communication programs and campaigns was to increase water user's awareness of the need for water conservation and protection of the Nile system from pollution. Knowledge (awareness) is a prerequisite to increasing participation in decision making and behavior change. This component began with the awareness campaign produced in GreenCOM II.

3.1.3 Monitor and Evaluate the Program

The purpose of this component was two fold: (1) to guide the development of the other components and provide valuable inputs to the MPWWR as it undertook the broader water policy agenda, and (2) monitor and evaluate the project to provide USAID and MPWWR evidence of the progress toward the strategic objectives with measurable indicators.

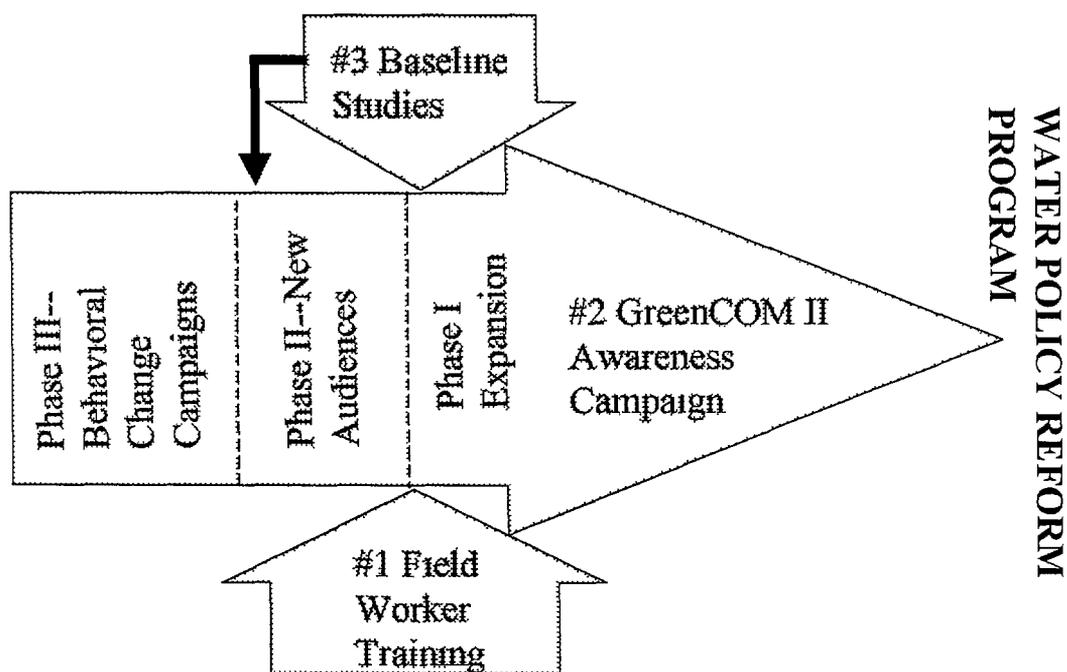
3 1 4 Cross Cutting Activities

The overall goal of GreenCOM III was to build the capabilities and capacity within the Water Communication Unit to implement a participatory communication program that supported the Ministry's efforts to formulate and implement new policies. Therefore, all components involved staff training and the design of systems that moved the WCU towards becoming an effective communication operation. These sets of activities brought together the institutional and staff development programs, oversaw the procurement of equipment, helped the Ministry develop a institutional development plan for the unit, and other activities which supported the three primary program components.

3 2 The Inter-Relationship of the Project Components

The three program components of GreenCOM III—field worker partnerships, campaigns, and monitoring/evaluation—are inter-related and complementary. Therefore, there was a lot of interaction and cooperation among the GreenCOM advisors and WCU staff involved in the various components. The following chart illustrates how the scope of work involves all three components.

The basic approach to GreenCOM III was



GreenCOM III SCOPE OF WORK

3 2 1 Phase I

Focused on increasing the number of copies of materials produced by GreenCOM II directed towards farmers and ensuring that they were distributed widely, including the radio and TV spots. During this phase the knowledge, attitude and practice (KAP)

baseline studies were done on key target audience groups. The field worker training would also start during this phase. This phase was a general awareness theme introducing the concept that Egypt has a limited supply of water and it was going to become more limited in the future.

3.2.2 Phase II

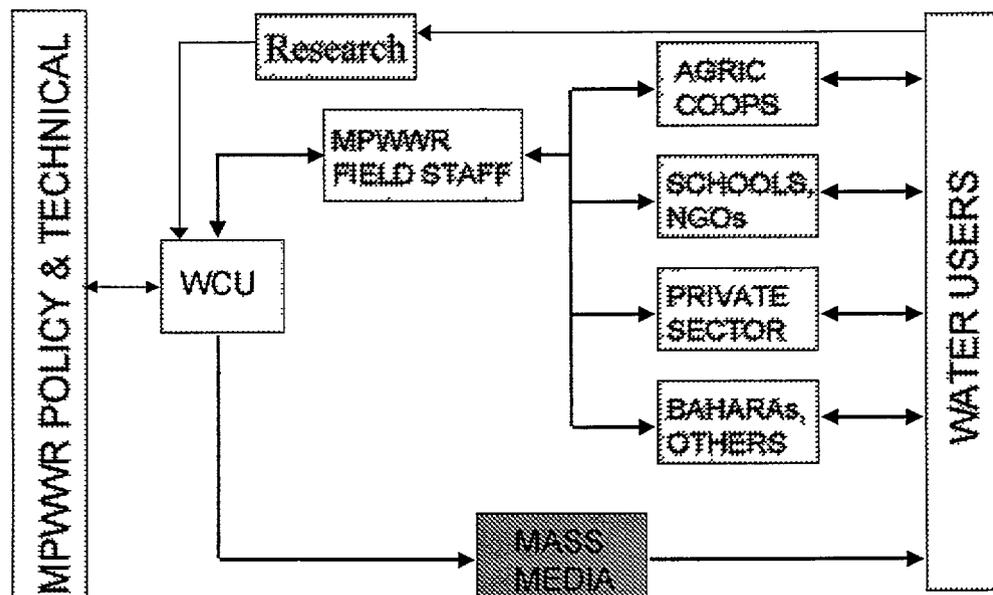
The communication campaign continued the same general awareness theme as the GreenCOM II campaign, but directed to different audiences. The field worker training continued during this time focusing on how the field staff could support the campaigns. The plan was for follow-up KAP studies to be done to guide the decision making of when it was appropriate timing to introduce Phase III campaigns.

3.2.3 Phase III

The purpose of this phase was to begin introducing behavioral change campaigns on selected subjects. The research was to guide the decision of timing and subjects. The training of the field staff would be at the stage where they would strongly support this effort. Research has shown that as you move from awareness towards behavioral change that face-to-face communications becomes more important and mass media less important. Unfortunately, there was not sufficient time in GreenCOM III to fully make operational this phase.

The following chart illustrates how these components work together in a campaign.

MPWWR EDUCATION/COMMUNICATION CAMPAIGNS



During GreenCOM III the WCU became an important facilitator of two-way communication between what was happening in the field and Ministry policy makers.

and senior managers. The work done in components one and three—field partnerships and monitoring/evaluation—was instrumental in securing the information feedback from water users and local groups. The work with the field staff focused on them developing effective partnerships with local groups which in turn work with farmers and other water users. Examples including the district engineers working with agricultural cooperatives and schools. The mass media is a powerful way to get information directly to water users, but does not provide any opportunity of feedback from them.

As a result of GreenCOM III, this basic system is in place. There is, however, much more work needed to make the system work more effectively.

3.3 Summary of Inputs

The attachments at the end of the Final Report give the detailed inputs provided through GreenCOM III. In general terms, the following inputs were provided:

- **Advisors** – GreenCOM III had one long-term technical advisor and over the course of the project six short term advisors. There were over ten Egyptian technical experts involved in the project.
- **Training** – All the advisors were responsible for on-the-job training of WCU and other MPWWR staff involved in the participatory communication program. There were two study tours to the U.S. during the project. A contract to MEAG was let to conduct the training for the field staff. GreenCOM advisors also helped the Ministry and DT2 to develop and implement a coordinated training plan.
- **Equipment** – Approximately \$67,000.00 worth of equipment was purchased for the WCU. This included computer systems (desktop and laptop), audio-visual components (professional Video Cassette Recorder, video and digital cameras, editing and mixing equipment) and office equipment (tables, chairs, stools, filing cabinets, digital photocopier and air conditioners).
- **Subcontracts** – GreenCOM issued subcontracts for the field worker training, production of campaigns, production of videos, and for printing materials.
- **Meetings** – An important aspect of GreenCOM III was meetings for Ministry officials and WCU staff. This provided briefing and training to these officials.
- **Other** – In addition, GreenCOM provided reference materials, Internet and magazine subscriptions and, basic supplies for running the office, computers, and audio-visual equipment.

CHAPTER 4

**ESTABLISH A PARTNERSHIP RELATIONSHIP BETWEEN MPWWR
FIELD STAFF AND LOCAL GROUPS**

4 ESTABLISHING A PARTNERSHIP BETWEEN MPWWR FIELD STAFF AND LOCAL GROUPS

4.1 Overview Of Accomplishments – Outputs & Deliverables

Building partnerships between district engineers and Ministry field clientele – especially farmers -- was based on the following logic. The farmer is the most important actor because agricultural production uses about 83% of the total Nile water. The district engineer is the next most important actor because of his proximity to the farmer. The farmer, as the largest water user, is by implication the biggest potential water conserver. District engineer communication with other field actors in the agricultural production process also is key to collectively helping farmers make the best use of available water.

Building field partnerships implies increasing two-way communication. Interaction requires cooperation in which experts, policy makers and the public work together in defining the decision-making process, setting the goals, examining the alternatives, clarifying values, and defining outcomes. MPWWR Senior Staff and Inspectors (middle-managers) also are important participants in improving this two-way communication process.

The accomplishments in establishing better two-way communication and improved organizational linkages are summarized as follows:

- 180 District Engineers participated in a three-phase process which included initial training, a reinforcement period and a follow-up training.
- Water Communication Unit representatives made a total of 19 official visits to District Engineer sites during the Reinforcement Period. During these field visits, WCU staff distributed educational materials (posters) to support the 19 Field Partnership meetings with farmers hosted by District Engineers. These meetings included approximately 500 farmers.
- District Engineers hosted additional meetings with farmers, as follow-up to their own action plans developed during their first week of training.
- District Engineers and WCU staff hosted four educational meetings with nearly 5,000 school children during the training reinforcement period.
- 45 Senior Staff participated in a three-day seminar on Management and Problem-solving training.
- Four 3-day seminars for 80 Inspectors were completed emphasizing their critical role as middle managers.
- Participant evaluation reports of each training week were administered and prepared by the Middle East Advisory Group (MEAG), the subcontractor.

responsible for field staff training. Instructors and their subject matter rated very high throughout the training process.

- Overall, the training has increased the self-confidence of the participants, promoted a concern for water conservation, and improved the skills of the field engineers to communicate with each other, with colleagues from related agencies with whom they need to collaborate, and with water users. The district irrigation engineers repeatedly voiced their appreciation for the training program, a keen interest in participating in future workshops, and an enthusiasm for continuing efforts with farmers and other water users.
- The training was highly regarded by the MPWWR and USAID, and there have been requests to expand the training activities to include the Drainage Sector, and other field staff groups serving the ministry, as well as to consider on-going, periodic training events for those already trained.

4.2 Key Activities Conducted To Achieve Results

Selected members of the WCU used the Colorado State University study tour experience to develop an initial outline for Field Partnership training in Egypt. They focused on the need to

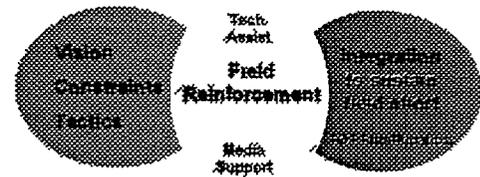
- Develop formative research techniques which seek client participation (focus groups, video “feedforward” from field staff members)
- Identify management constraints which impede two-way communication flow
- Reduce crisis management at the management and field levels by generating a proactive problem-solving process
- Develop effective listening techniques
- Earn farmer trust and credibility by implementing two-way communication skills
- Determine communication campaign support materials necessary to reinforce field workshop activities

The WCU Field Partnership Team conducted several meetings with district engineer field staff to determine some of the current constraints to effective two-way communication with farmers.

Concurrently, the WCU Monitoring and Evaluation Team began a series of focus groups to help guide the development of a KAP study which would, in turn, help establish baseline information on farmer demographics and attitudes toward water use issues. The KAP study results later became a major input into the Field Partnership training curriculum. The development of the KAP study are covered in detail in Chapter 6 – Program Monitoring and Evaluation – of this report.

The Field Partnership Training was designed to include an adult education based three-cycle process. Initial Two-way Management Communication skills, followed by a Reinforcement Period to implement concepts in the field, followed by a Integrative workshop to share and evaluate interim field experience. All three cycles were designed as interdependent and additive in impact.

FIELD PARTNER MODEL A Three Cycle Process.



The more complex and comprehensive three-phase process was suggested by Professor Dan Hilleman, Field Workers Training Specialist, because the field reinforcement period was based on sound adult education theory of practical field reinforcement and gave the WCU and the district engineers the opportunity to actually gain field experience and contact in the interim between the two trainings.

GreenCOM then selected MEAG as the training contractors who could meet the above adult education objectives in the three-phase concept while introducing district engineers to management and problem-solving skills. MPWWR specialists were recruited to provide irrigation subject matter inputs to complement the training process.

District Engineer Training

The Phase I campaign logo, the “hand conserving water”, was used in the production of materials for training, covers for 3-ring binders, block notes, stickers, and programs for initial training sessions. In addition, the logo was used on retractable tape measures given to the district engineers at the close of the training. These “give-aways” were produced in sufficient number for use throughout the entire District Irrigation Engineer training program. Pens and key chains bearing the Phase I slogan were also produced and distributed in a variety of settings.

The one-half hour documentary program on a cooperative *mesqa* maintenance, entitled “It’s Our Country,” was duplicated on VHS for use in the District Irrigation Engineer training. Additional copies were made for engineers to use during the reinforcement period with farmers’ groups.

Field Partnership activities have included training over 180 district engineers in managing two-way communication processes during the three-phases educational process. Twenty to twenty-five irrigation engineers participated in each program. Each program consists of three mutually supportive cycles: 1) a 6-day training course, 2) a 3-month reinforcement period, and 3) a 6-day follow-up training course. The training is designed to

- encourage field engineers to see themselves as valued public servants,
- recognize the benefits of farmer participation in water resource management, and

- provide the skills necessary to build partnerships with farmers and local groups as well as improve two-way communication between the ministry and water users

Field engineers received a total of 72 hours of classroom training, as well as practical support during the reinforcement period. The Middle East Advisory Group (MEAG) was contracted to undertake the instruction with participation of selected senior MPWWR staff providing specific content area expertise as key speakers.

District Engineer Training Reinforcement

Reinforcement of District Irrigation Engineers was an on-going activity. During this period the WCU staff assisted District Irrigation Engineers to conduct an additional number of meetings. These meetings were video taped by WCU staff. Mr. Khaled Tawfik, the Local Broadcast Media Specialist, helped the staff to improve the quality of the video footage by assisting them in the field with camera, sound and lighting techniques. A training reinforcement matrix of location, number of participants, date, WCU staff involved, and materials distributed is attached. (See Final Report Attachment)

Middle School Involvement

Reinforcement Period meetings also included five water conservation events involving middle school students. District Engineers and WCU staff hosted these educational meetings with nearly 5,000 school children during the training reinforcement period. At these meetings, students were given posters, T-shirts and caps to reward their participation in water conservation educational efforts. Creating new linkages with the Ministry of Education was a continuation of earlier GreenCOM I and II efforts.

District Engineer Follow-up Training - Week #2

Training Video

The 15-minute video focusing on the District Irrigation Engineer training program and reinforcement meetings was completed and presented during the second week of training for field engineers as well as during the Senior Staff Seminars. The video also was used during the Inspector workshops.

Training Model Demonstrated

After the reinforcement period, a follow-up training course was refined and the second round training completed. A follow-up course held in Luxor for 24 field engineers from four Delta governorates *helped establish a model for conducting the remaining Phase 2 training activities*. The Luxor model included the following elements:

- A trainee presented a well-prepared session for his peers on the Irrigation Improvement Project and the organization of Water User Associations. The session was highly participatory, and the topic of great interest to the trainees.

- Trainees were given a tour of the Esna Barrage. This was the first time any of the participants had visited the facility and they clearly valued the experience, which provided new information, as well as a sense of being part of the “big water picture” in Egypt. Similar field trips were part of each second week training course.
- Development of panel discussion with local community leaders representing not only the Irrigation Department, but also the Agricultural Extension service, the Agricultural Cooperative, the Egyptian Environmental Affairs Agency, the Department of Education, a village mayor and a number of farmers. Information was exchanged on water conservation policy regarding the country’s most highly water consumptive crops, rice and sugar cane. Inclusion of a “Local Panel” became part of each Second Week course. The objective was to foster the development of cooperative field partnerships, because collaboration is “doing together what you can’t do alone.”
- A farmers’ meeting provided an opportunity for trainees to observe and participate in a community meeting organized by colleagues from Upper Egypt who have also received training through the project. The District Irrigation Engineer led the meeting on water conservation with excellent presentations by the village religious leader, the agricultural extension officer, the director of mechanical engineering for irrigation, farmers as well as a spirited district irrigation engineer from the visiting contingent.
- Approximately 40 farmers participated in the meeting. Farmers were told the cost of delivering water to each feddan of sugar cane is approximately 5,000LE. The benefits of gated pipe irrigation were presented. Farmers expressed willingness to conserve water, but requested that the ministry line canals and channels. The meeting clearly demonstrated the value of information sharing, and served as a good model for the trainees.

Senior Staff Training Seminars

According to the original Scope of Work (SOW), approximately 25 senior officials would receive 32 hours of training on management and strategic planning, including segments on communication skills, conflict resolution, leading meetings, team work, and customer participation. The curriculum development was based upon interviews conducted by the Middle East Advisory Group (MEAG), the training firm responsible for implementation, as well as input from the MPWWR and USAID. Dr. John Woods, provided Technical Assistance to finalize the curriculum and launch the initial seminar. Given the limited time Undersecretaries and General Directors can be spared from duty, it was decided that the total number of participants would be increased to forty-five and that the three-day seminar would provide approximately 24 hours of training. To integrate the entire training effort, Dr. Ahmed Ali, the instructor for the District Irrigation Engineers' program, was hired by GreenCOM to serve as facilitator with Dr. Hadidi serving as primary instructor.

The approved seminar curriculum included 1) implications of both the Farmer KAP and the Irrigation Engineer KAP surveys, 2) an overview of Irrigation Engineers training program, including presentation of the training video, 3) an introduction to

policy reform agenda given fixed water supply and increasing demand, 4) problem solving, 5) crisis management, as well as 6) delegation of authority and leadership skills

Senior Staff Training also included

- Senior Staff feedback on issues around communicating future water scarcity
- Senior Staff inputs on how District Engineers and Inspectors could help them address these issues
- How increased community participation through two-way communication helps address limited water and future water scarcity
- Problem solving communication from both PROACTIVE and REACTIVE perspectives How proactive "risk" communication reduces the need for crisis intervention

Inspectors Training Workshops

The importance of the Inspector's role in middle management was recognized by their addition to the training process These sessions generally paralleled the Senior Staff Seminars, but emphasized the direct relationships between field engineers and inspectors

Originally conceived as a half-day workshop, the Inspectors Training Workshop was expanded to a three-day event that complemented the Senior Staff Seminars Four 3-day seminars for 20 participants each were completed during August-October, 1999 A total of 80 Inspectors participated in this program As for the Senior Seminars, both Dr Hadidi and Dr Ahmed Ali were responsible for the instruction

4.3 Summary of Inputs

Implementation of the above activities included inputs of Field Workers Training Specialists Dan Hilleman and Mimi Shinn working with a WCU Field Partnership Team

These specialists worked with the WCU to build and then narrow the list of potential training contractors for the field training effort With the selection of the Middle East Advisory Group (MEAG) as the training firm, the training specialists worked with the local training consultants to revise and adjust the training curriculum for field staff Particular focus was given to ensuring that participants understood the Awareness Campaign objectives and themes and prepared an implementation plan to carry out contacts with farmers and other collaborators in their district

The Field Partnership Team was charged with the responsibility for reinforcement period activities for the field engineers training program This included supporting participants in conducting community meetings which used messages and materials from the Awareness Campaign and new materials specifically designed for the reinforcement period

Slippage in the production of educational support materials to reinforce the training required the Field Workers Training Specialist to take on a dual role in materials production and training coordination. The initial three fact sheets were expanded to eight and three new posters were generated to complement future training activities.

4.4 Assessment of Program and Lessons Learned

Ministry Confirmation of Increasing Staff "People" Skills

At the Senior Staff workshops, Eng. Abdel Aziz stated, "Engineers are very largely managers, they live a management life. No one is completely an engineer. It's better that management training begins early on. Field engineers are like the line management -- they are the doers -- the implementers. The Inspectors are supervisors -- supervising what the District Engineers (DE) are doing, but not doers. All management levels need exposure to management training as early as possible," he concluded.

Since traditional Ministry emphasis had been on technical skills for water delivery, the above reinforcement of complementary social and management skills indicates organizational recognition of the importance of good field relations.

Increased Communication Across Three Management Levels

Similar curricula for field engineers, inspectors and senior staff has developed a *mutual appreciation* that they share similar problems across management levels. District Engineers began to see that general managers and undersecretaries *have much the same problems*, but at a higher level. They also began to appreciate that their direct supervisors (Inspectors) were supportive of their field efforts in meeting with farmers in a proactive way to reduce conflict. Parallel training allowed all levels of participants to talk the same language in terms of organizational management and problem solving.

Recognition of the Importance of Collaboration

Agricultural Cooperatives and Extension agents have an important role in helping District Engineers develop field partnerships. Such collaboration is "doing together what you cannot do alone." For example, Cooperative and Extension staff offer direct input on what farmers are actually doing on the land and can pass these observations on to the MPWWR field staff.

As evidence of this growing appreciation of wider collaboration during the training, District Engineers cited problems of helping farmers understand Law 48 and Law 12 and not to grow unauthorized rice. An Agricultural Cooperative member invited to participate in training mentioned that Coops hold monthly meetings about new crops with less water consumption. The DEs asked to be invited to these meetings so they could become collaborators in these educational efforts.

District educators invited to the community session in Ismailiya suggested to start school programs by giving awareness sessions to headmasters and the teachers. The teachers would then convey the message to children (school broadcasting, etc.)

An Ismailya Popular Council member said during a training community meeting that this is the first MPWWR water conservation message he has heard in 20 years of community service. The Council member noted that he must take the side of his constituency in water issues because of the election process. However, he suggested District Engineers contact him in cases concerning water violations so he can help them resolve conflicts.

Training Provided the Opportunity for Field Staff Networking

Participant interaction during the training process yielded a strengthening of formal and informal communication networks among Field Engineers. For example, a Field Engineer representative from Kafr Zī Ed explained to Ismailya community members how they had conducted community meetings in Upper Egypt. This DE also had previous experience with the Irrigational Advisory Service (IAS) and the Irrigation Improvement Project (IIP). He and other former IAS associates were instrumental in overcoming previous misconceptions DEs had about these projects and farmer involvement in them. Such “*networking*” among field staff members was an *additional benefit* of the training process.

In another networking example, Faiyum DEs discussed practices that didn’t make sense to Minefaya DEs, but after interaction and discussion the practices made sense for Minefaya adoption. Also, DE discussions about contracting *mesqa* cleaning (particularly in residential blocks) yielded a change in charging by lineal kilometer rather than cubic meter. Many management decisions could be made as “by products” of problem-solving meetings scheduled on a regular basis.

Additional networking fostered by Field Partnership Training included

- Getting to know peers on a one-to-one basis
- Camaraderie
- Follow-up after training sessions
- Informal linkages as important as official contacts

4.5 Recommendations

4.5.1 Continued Emphasis on Community Meeting

A very important complement to Week 2 of District Engineer Training was the inclusion of a “**Local Panel**” to help guide and sustain the development of **cooperative field partnerships**. This panel included important **collaborators** the DE needs to work with at the field level (farmers, agricultural cooperative representatives, local banks and credit sources, agricultural extension agents and community council members).

From this experience with community members, DEs recommended future MPWWR field activities include regular contact with

- Formal and informal farmer groups (WUA)
- Bahara and technicians
- The religious community and school teachers

- Popular council members cooperatives and extension workers, women (both engineer wives and farmer wives)

4 5 2 Training Recognition and Follow-up

Field engineers appreciated certificates for the energy invested in their two-part training process. However, they also **requested Ministry /WCU follow-up to further monitor their accomplishments** as they implement training experience in the field.

4 5 3 Plan for Training Other MPWWR Field Staff

As noted above, the **MPWWR has requested that the training program be expanded to provide training for additional field staff** as well as on-going reinforcement training for those who had already participated in the program. Drainage engineers were identified as the first group for whom training would be provided in the coming year. However, during this period USAID indicated that the GreenCOM Egypt III project would not be extended as hoped. Therefore, work on activities 1 6 1 Inventory/Map of all MPWWR field staffs, and 1 6 2 Prepare Plan for Additional Training, was cancelled.

4 5 4 Expand Problem-solving Efforts

Initiate a Third DE training, but in the field and targeted toward actual problems for solution. Need to focus on a specific problem until we reach a practical solution. Take brainstorming sessions upward to management -- expose to higher managerial levels where appropriate action can be taken. Include a *mix of participants* / field engineers / Inspectors / senior staff. (Feedback from Field Engineer 2nd Training, Port Said 8/99)

4 5 5 Provide Additional Information on Water User Associations

Continued information on Water User Associations will further assist District Engineers move from reactive to proactive interactions with farmers. Without farmer involvement, water delivery problems can become emotional exercises in crisis-management. With farmer input, a proactive stance can include forward planning for preventive *mesqa* maintenance, problem solving, equitable water delivery from head to tail and peer monitoring of system abuse.

4 5 6 Establish a Field Support Directorate Within WCU

The project completed work on an organizational chart for the Water Communication Unit in November/December of 1997, complete with staffing needs. This plan was submitted to the MPWWR at that time. The organizational chart, as well as the recommendation to increase the staffing numbers substantially, is being used by the MPWWR to develop a formal request to the GOE to institutionalize the Water Communication Unit within the MPWWR.

CHAPTER 5

**DESIGN AND IMPLEMENT COMMUNICATIONS PROGRAMS /
CAMPAIGNS TO SUPPORT THE MINISTRY'S POLICY CHANGES**

5 DESIGN AND IMPLEMENT COMMUNICATIONS PROGRAMS/CAMPAIGNS TO SUPPORT THE MINISTRY'S POLICY CHANGES

5.1 Overview of Accomplishments--Outputs & Deliverables

The result to be achieved through communication programs and campaigns in support of Ministry policy changes was to increase water users' awareness of the need for water conservation and protection of the Nile system from pollution. GreenCOM III activities specified in the GreenCOM III Statement of Work and the Inception Report Implementation Plan and Workplan to achieve this goal were

- Continuation of the Phase I Awareness Campaign and expansion of coverage to new target groups,
- Systematic study of key target audiences to allow better message design and the later measure of communication impact,
- Design and implementation of communications programs and campaigns in support of Ministry Water policy measures focused on farmer participation in water allocation decision making, water conservation by farmers, water users' participation in cost sharing and participation in reducing water pollution,
- Design and implementation of campaigns directed at behavioral change by water users for specific water conservation and pollution prevention practices,
- Expanded pre-testing of concepts, messages and materials,
- An increase in the quality and quantity of communication support materials
- Technical assistance to improve staff capability to communicate effectively with water users to continue in parallel with the communication initiatives specified above

A media plan was created which provided for the production of new materials promoting behavior change and the expansion of the Phase I awareness campaign. Materials produced included fact sheets, posters, brochures, radio and television spot announcements, video documentaries, a "Water News For Farmers" television series, video stock footage and print materials for rural youth. A KAP study of farmers, MPWWR field engineers and the general public was conducted to help determine communication strategies, priorities and message design. Pre-testing was intensified, and the number of materials produced increased dramatically for mass media, interpersonal instruction and for field staff support.

Training in graphics production, video production, materials pre-testing and evaluation continued throughout the project. Six WCU staff, including the Project Director, attended an overseas media production training program. Project deliverables were

disseminated through mass media exposure, training sessions, seminars, staff briefings, press conferences, delivery to schools and other organizations by field staff and interpersonal contact with water users. Video and audio production equipment was procured and installed for use by the WCU.

5.2 Key Activities Conducted To Achieve Results

A draft media plan was prepared in April 1998, which outlined activities to be undertaken to strengthen the communication capabilities and production skills of the WCU in preparation for the implementation of Phase II campaign activities. The plan was revised and expanded in December 1998 to include sample scripts for proposed television and radio spots. The centerpiece of the electronic media campaign was a series of six television spots in which farmers are seen congenially interacting as colleagues with a water engineer as behaviors for improved irrigation and water purity maintenance are modeled. The spots exemplify the theme of Government and farmers as partners, joined in a common endeavor to confront the problem of growing water scarcity. Farmers are portrayed as successful businessmen who recognize that water is an essential input upon which their prosperity depends. The benefit/rationale for behavior change is financial security and increased income for farmers who adopt recommended water management practices. This concept pre-tested extremely well with rural focus groups.

Decisions regarding the desirability of portraying farmers and the Ministry as partners in water decision making and, in particular, field engineers as approachable and creditable sources of information which can improve the farmers prosperity were based in part on findings from the KAP study of October 1998. The study revealed that no farmers had asked an irrigation engineer for advice about crop selection, only 9% had talked with an engineer during the previous year and only 13% knew the name of their irrigation engineer.

A further reason for the approach chosen links to the specific objectives of increasing farmer participation in Water User Associations, cost sharing of irrigation expense and protection of the environment by reducing water pollution. While Water Associations could not be promoted because they are yet to be established, the concept of cost sharing was foreshadowed through defining water as a capital input and the linkage of irrigation to farmer income.

The plan to repeat the earlier campaign, to produce more spots and to seek increased exposure through mass media derived from KAP findings that only 6% of farmers had seen anything about conservation of irrigation water or about pollution of irrigation water on television. Only 15% of farmers had heard about these subjects on radio.

Additional television spots based on the content of the six "farmer" spots, including three spots for children featuring animal puppets and three "quiz" spots for general audiences were designed and scripted. Radio versions of all the spots, except those for children were prepared. A comic book and a poster for rural youth, based on the puppet characters, was created for distribution to schools by field staff.

A Cairo advertising agency, Copyright, was contracted to produce the broadcast materials for the new campaign, which were ready for release in October 1999. Multiple tape copies in a variety of formats were produced for distribution to broadcasters, for archiving and promotional purposes.

The video/audio package consisted of the following:

- Six 60 second "Farmer" television spots
- Three 60 second "Puppet" television spots
- Three 30 second "Quiz" television spots
- Six 60 second "Farmer" radio spots
- Three 30 second "Quiz" radio spots

Six television spots with basic awareness messages on Egypt's growing water scarcity produced during GreenCOM II were rebroadcast from July - September 1998 nationally and regionally over eight channels. Airing of the spots was very limited as GreenCOM II came to an end. A decision was made at the start of GreenCOM III to delay full release until data from the KAP could be considered. A local media research firm, PARC Research, was hired to monitor the airing. The spots were broadcast more than 300 times per month for a total of 1,208 airings. While there was no charge for these broadcasts, PARC estimated the cost for airtime at \$200,000 per month. The spots were pulled from the air because Nile flooding and the resulting temporary abundance of water conflicted with the water scarcity messages of the spots.

The comic book and poster for schools, featuring Ziko, the camel character from the puppet television spots, were produced by artist Yasser Gaessa. The art and stories in the comic book followed the style of the puppet television spots for cross-promotional purposes. Limited numbers of the book and poster were ready by the end of October 1999. The camel character was designed with the hope that it will come to be a familiar and attractive spokesperson for good water management practices, especially in materials designed for young audiences. Preliminary feedback from Egypt TV suggests that the camel character and the puppet television spots will be well received by the adult audience as well as by young viewers.

A campaign launch event attended by approximately 100 officials, media managers, NGO representatives and journalists was held on October 26 to formally introduce the materials for the new campaign and to generate publicity to mark its start, also on October 26. An informal lunch for senior television and radio management, including the Director of Egypt TV, was held on October 24 to pre-view the television spots to regional broadcast managers and to communicate the commitment of senior media officials to support the campaign.

The first broadcast cycle of the new campaign will extend for a period of three to four months, after which an evaluation should be conducted. During the first cycle, broadcast materials from the first campaign may be mixed with the new spots at a ratio

of three new to each old, if appropriate, based on the water situation After the first cycle, the campaign should be repeated as often as media outlets agree to schedule it

Two 15-minute video documentaries were produced as part of a regional behavioral change campaign linked to the goal of producing materials focused on specific water conservation practices in certain geographical areas and particular agricultural sectors These videos were designed not for mass media release but for use with small groups and in one-on-one interaction The first featured a water-saving method of sugar cane irrigation The second encouraged farmers to plant new varieties of rice which consume less water because of a shorter growing season The need for such a video was underscored by data from the KAP study revealing that only 36% of farmers believed they had sufficient information to choose new crops to try English language versions of both videos also were produced WCU media personnel cooperated with a commercial producer to create the videos, which provided an opportunity for on-the-job training for the Ministry staff Both videos were well received by the agencies whose programs were spotlighted and have been extremely useful in increasing awareness and promoting adoption of new practices One hundred copies of the sugar cane irrigation video were provided to the APRP Sugar Cane Farmers Work Group and another fifty copies are being used by MPWWR in their training programs Approximately the same number of prints of the rice video were produced and distributed

Twenty-six ten-minute episodes of "Water News For Farmers" were produced with the cooperation of Channel 5 Television in Alexandria The weekly program began in November 1998 and ended in June 1999 The program contained news about water developments, recommendations and schedules for irrigation water delivery and interviews with local farmers Channel 5 covers the entire Delta area in Lower Egypt where agriculture is intensive The station reaches an audience of more than three million viewers The program was very useful both as an outlet for the timely dissemination of water messages and as a model for future co-production with regional broadcasters

A number of special purpose video materials were prepared by the media section of the WCU A 14-minute video which illustrates some aspects of field engineer staff training and meetings with farmers was produced for field training support and as a practical exercise as part of a video editing training classes conducted by local Video Editing Consultant Khaled Tawfik The video was used for Field Engineer training, Senior Staff Seminars and Workshops for Inspectors Other video for documentation of activities of interest to the Ministry for use in additional videos, archiving and stock footage uses was collected For example, video documenting policy initiatives, such as the formation of Water User Associations and footage on intermediate drainage reuse, was gathered The WCU staff also videotaped virtually all training events during the first six months of 1999 and covered the Nile 2000 Conference which was hosted by MPWWR

It was determined early on that little technical assistance would be required for the Ministry sponsored TV drama series beyond pre-production consultation to choose a dramatic vehicle, production style and to explore how to successfully combine technical content desired by the Ministry with dramatic content in the correct ratio to

sustain audience interest. Several meetings were held with Egypt TV to discuss these points. It was later agreed that further technical assistance with the actual production phase would not be needed because production would be in the hands of qualified professionals. Twenty-fourty-five minute episodes were produced. A WCU staff member served as liaison person to arrange for the required input of technical content at the scripting stage and to represent Ministry interests during production.

Other video productions undertaken directly by the Ministry with the assistance of WCU personnel include spot announcements, educational/instructional tapes, water messages based on verses from the Koran and two documentaries. Training and experience provided through GreenCOM III has contributed to the Ministry's ability to plan and design media materials produced with Ministry funds.

An extensive library of print materials was produced as a part of GreenCOM, both by the project and by the Ministry. These included posters, booklets, logo reproductions, leaflets and brochures, wall charts, calendars, notebooks, coloring books for children, T-shirts and an assortment of promotional give-aways with logos. For example, 650,000 print pieces were produced from June - November 1998. In many cases the Ministry provided funding to increase printing runs substantially and to produce English language versions of selected materials. MPWWR expended LE 800,000 for materials with water messages during the period mentioned above. In addition, all the print materials developed during the Phase I campaign were revised, reprinted and distributed.

Eight fact sheets were produced containing core messages and technical content which became the basis for many other materials, print and electronic. Consultant Bob Kern provided assistance and training on the planning, design, writing, editing and production of Fact Sheets. GreenCOM produced seven posters and MPWWR produced three featuring illustrations and photographs by highly-regarded Egyptian artists, illustrators and photographers. In every case, a major effort was made to combine clear messages with outstanding graphics. As with all materials, extensive pre-testing with target groups was conducted to ensure message comprehension. Reports from field staff, trainers and farmers confirm the appeal and usefulness of WCU print materials.

Consultant Robert Cowell did a thorough analysis of the MPWWR News Letter and offered advice on improving the content and style of the publication. Unfortunately, most of these recommendations were not implemented.

5.3 Summary of Inputs

GreenCOM inputs in support of Component #2 were long and short-term technical assistance, local and external training courses and video production and computer hardware and software. MPWWR inputs were staff salaries, office and working spaces, training, transportation and financial support for reproduction of media products.

Cheryl Groff, Chief of Party, provided on-going guidance, advice and assistance to staff members producing media materials. Short-term consultant Bill Mackie,

Broadcast Media Specialist, conducted training courses in video production and set up the video equipment procured through the project. He produced a handbook on video editing and assisted with the production of the two short video documentaries. Mackie formulated a media plan and helped coordinate the production of television and radio spots for the Phase 2 national awareness campaign. Short term consultant Dan Hilleman, Field Worker Training Specialist, in addition to his training duties, coordinated the production of training support materials and provided assistance with concept development, text/information gathering, graphic design, desktop publishing, photography and video production. Consultant Robert Cowell worked on improving the quality of the MPWWR News Letter and Consultant Bob Kern advised on the production of Fact Sheets. Local consultants provided instruction in video editing and writing.

5.4 Assessment Of Program and Lessons Learned

GreenCOM III has increased the communication skills of the WCU significantly and has moved the unit much closer to the day when it can function successfully as the means for bringing the Ministry and farmers closer together to ensure on-going, effective, two-way communication for the continuing benefit of both. A strong beginning has been made, but additional, substantial assistance will be required to realize this goal fully.

GreenCOM III has established an appropriate pattern and solid framework for continuing growth and improvement by the media section of the WCU. Good models have been offered and high professional and personal standards have been demonstrated. It now remains for the WCU staff to recognize the importance and magnitude of the role they are being invited to play and to make the extra commitment necessary to measure up to the task ahead. Certainly more technical training is required, but it is equally important that the WCU staff make the personal decision to seize this opportunity to move from information processor to professional communicator and to assume greater responsibility when the opportunity is presented.

GreenCOM III has trained well, produced well and researched well. Training of WCU media staff has proceeded rigorously. A very large number of print and electronic materials have been produced and distributed. Research and evaluations have accompanied every communication campaign activity and will help determine the future inputs required for the WCU media section to grow and strengthen.

Among lessons learned is the need for an adequate number of staff from the outset to undertake such a demanding mission. The WCU Organizational Plan adopted by the MPWWR calls for 13 staff in the media services section alone, which is more than the total number of persons now assigned to the WCU. Under staffing has complicated training and has made the required specialization proceed more slowly than is desirable. While the staff have done their best to satisfy all the demands made upon them, the need for so few to do so many different things in so many places in so short a time has led to some inefficiency and, one can be sure, occasional bewilderment among the staff. A few more people would make a big difference in output and efficiency.

Attention must be paid early on to designing and establishing a mechanism for timely approval of message content. Without such a system, delays and frustration inevitably result. This was attempted under GreenCOM III, but not fully realized, in part because of senior level personnel changes within the Ministry as GreenCOM III began which required a period of time for the evolution of new networks for access to those empowered to act approve messages and materials.

A lesson that continues to be learned by projects with mass media components is the need to establish a good relationship and close ties with the media you depend upon to disseminate project materials. The best basis for such a relationship is one in which airtime is purchased. Without this, the probability of good placement of public service announcements is problematical, save in those cases where intense pressure from government is brought to bear. While payment for air time is not always possible, it may be advantageous to join with other government agencies, projects and NGOs to negotiate a special, low cost "public service rate," if none exists, to allow greater control over program placement through being a paying customer.

Another consideration is that materials of higher professional quality tend to be aired more frequently than poorly produced product, so all materials presented for broadcast should meet at least minimum professional standards. All of GreenCOM's television and radio spots from the earlier campaign and for the new campaign were produced to a high standard and were readily accepted for broadcast by the national television and radio services. Egypt TV and Radio have been extremely generous in providing air time for GreenCOM and Ministry media materials and the Project is grateful for their help.

Another lesson learned is the need for sufficient, appropriate and permanent working space in advance of the time when a full work schedule is to be implemented. Media production requires specialized spaces to accommodate a variety of complex and environmentally sensitive equipment. Moving such equipment from place to place is disruptive to work flow and risks damage to expensive hardware. While this problem was not during GreenCOM III, a new suite of offices and workroom for the WCU will soon be ready in the Ministry building. Staff will be housed together for the first time in a facility designed as a communication facility. The improvement in internal communication and the availability of dedicated work spaces for the production of media materials will do much to improve coordination, increase output and boost morale.

5.5 Recommendations

- WCU staff must be increased substantially at the earliest possible opportunity to sustain output, allow for training to proceed without interruption to other activities and to facilitate specialization.
- Approval of media material content must be streamlined through the establishment of a mechanism to ensure speedy travel of drafts through the review process, complete with a contingency plan to allow the process to continue in the absence of key people. The approval mechanism must be mandated from the top and consistently followed.

- Relationships with media organizations must be widened and strengthened to facilitate the placement of WCU materials. A system used successfully in other countries is to create an advisory group of media representatives who can be encouraged to invest themselves in the causes being promoted. This advisory group should have both professional and social dimensions.
- Co-production with regional broadcasters should be continued and expanded to allow the tailoring of messages according to geographical areas and unique irrigation requirements.
- The sooner the permanent working space now being prepared for the WCU can be ready to occupy, the more productive and efficient the unit will become. Completion, furnishing and installation of equipment must be given a very high priority.
- The unit must cultivate contacts with other groups with the potential to disseminate water education materials in behalf of the WCU, for example, the LearnLink Project, the Sesame Street program, and NGOs involved with environmental concerns.
- A secure media archive should be established at once to protect print, video and audio materials already collected and those produced in the future. The materials must not only be securely stored, but an indexing and retrieval system must be developed to make them readily accessible.
- Examples of outstanding media materials, electronic and print, should be collected by the WCU for teaching, study and analysis.
- Efforts must continue to connect WCU staff with ad agencies, production houses, graphics producers and broadcasters to provide opportunities for both formal internships and observation of professional communicators at work.
- WCU staff should be urged (and perhaps subsidized) to join relevant professional organizations to provide increased contact with media personnel and to encourage a constructive spirit of competition with other producers to foster higher performance standards within the media unit.
- A broadcast-monitoring firm should be hired to check the airing of GreenCOM III campaign television and radio spots. After a suitable interval, research should be conducted to ascertain the effectiveness of the campaign.

CHAPTER 6

MONITOR AND EVALUATE THE PROGRAM

6 MONITOR AND EVALUATE THE PROGRAM

Research activities under GreenCOM III were designed to support the first two components of the project –the field partnership between Ministry field staff and local groups, and communications programs to support the Ministry’s policy changes. The major research focus was baseline research to assist in the design and evaluation of communication interventions.

Research activities were mainly large-scale and quantitative, building on small-scale qualitative research that had been undertaken under GreenCOM II, and anticipating the expansion of communication activities to encompass new messages for new audiences.

To reflect the MPWWR’s policy of increasing participation in decision-making, the research activities were based on a worldwide GreenCOM methodology that calls for stakeholders’ participation in selecting target behaviors for environmental programs. Two large meetings were convened at the beginning of the engineers’ and farmers’ research to brainstorm the ideal behaviors of engineers and farmers, and the results of these meetings were incorporated in the study designs.

GreenCOM III communication activities were targeted at knowledge and attitude changes among three audiences: district irrigation engineers, farmers, and the general public.

The project initially had a fourth target audience, policy makers, but during the second Tripartite Review (November 1998), it was decided that the project had insufficient resources to conduct research and design communication activities for a fourth audience.

6.1 Overview of Accomplishments – Outputs and Deliverables

The accomplishments under Component III can be summarized as follows:

- Baseline research on district engineers that served as the basis for curriculum design for two phases of training. Over twenty baseline indicators with target values were developed. Over 200 copies of the report on this survey were disseminated. The results were presented at 16 training sessions for district engineers, inspectors, and senior staff, and at a meeting of stakeholders at the beginning of the multi-part team meeting to brainstorm farmers’ ideal behaviors in November 1997.
- Impact research on the effectiveness of the district engineers’ training sessions in improving the Ministry’s field staff attitudes towards water users, skills in dealing with their clients, and resolving conflicts. The report includes an assessment of the final values of the indicators. Fifty copies of the report were disseminated to senior staff at the end of project conference.
- Baseline research on farmers that provided key input to the design of a media campaign targeted at farmers. Almost thirty baseline indicators with target

values were developed. Eight hundred copies of the English report and 1400 copies of an Arabic summary¹ were widely disseminated within the MPWWR, to other projects, and donor agencies. Dr. Hesham M. Ali, Director of the WCU, presented the results to senior staff of the Ministry at 16 training sessions for district engineers, inspectors, and senior staff. The dataset was shared with other USAID subcontractors.

- Baseline research on the general public that provided additional input to the design of the television spots targeted at the general public. Program planners used an executive summary with baseline indicators, which was also circulated to the MPWWR and USAID.
- Monitoring data on the spots prepared under GreenCOM II and aired under GreenCOM III. Fifty copies of the report detailing the frequency of airings, monetary value of free airtime, and estimated audience exposure were disseminated to senior staff at the end of project conference.

6.2 Key Activities Conducted To Achieve Results

6.2.1 Field Engineers

6.2.1.1 Baseline Study

The twofold purpose of the baseline study was to provide information to help design training programs and to set baseline indicators for the engineers' training.

The WCU developed a 134-question questionnaire based on two main inputs: focus groups conducted by WCU staff with farmers under GreenCOM II, and a multi-part team. The WCU invited thirty resource persons including senior MPWWR staff, field engineers, and experts from associated fields, who spent half a day at the MPWWR brainstorming the "ideal behaviors" of a district irrigation engineer. Five working groups developed a list of 22 suggested ideal behaviors, which were then used to draft the questionnaire.

WCU staff undertook a census survey of the Ministry's district irrigation engineers, resulting in an 86% response rate. Fieldwork was conducted in October-November 1997, and the report was completed at the end of November 1997.

The study showed surprisingly low results on some knowledge indicators, considering that the average engineer had seven years of experience. For example, only 53% had ever heard of a WUA, 60% knew the policy on farmer participation, 35% knew that ten countries share the Nile, 69% thought that farmer participation was a good idea, and 33% had ever held a meeting for farmers.

The results were used to design the curriculum for the district engineers' training program.

¹ The MPWWR paid the costs of printing 1,000 Arabic copies.

The results of this study were presented to stakeholders at the beginning of the multi-part team meeting to brainstorm farmers' ideal behaviors in November 1997. They were also presented at eight training sessions for district engineers, four training sessions for inspectors, and four training sessions for senior staff. This provided a means for the WCU to communicate issues raised by the engineers in their responses to the baseline questionnaire to senior Ministry staff, and to provide a basis for the two levels of staff to get to know each other better.

6.2.1.2 Monitoring the field engineers' training programs

The quality of the training program was also monitored by a two-page questionnaire administered to participants by the trainer at the conclusion of each of the two training sessions. The training subcontractor used the findings from these interviews to make modifications to the training program. One main modification they made was to add parallel training sessions for inspectors and senior staff, to build communication between different levels of management. A second major modification they introduced was to incorporate a meeting with local leaders in the second phase of training as a way for the engineers to get hands-on practice with their problem solving, brainstorming, and meeting management skills.

6.2.1.3 Impact survey

The project made a big effort to conduct this survey in the closing weeks of the project. Scheduling conflicts over the summer and with other MPWWR activities in September delayed completion of the last phase of training into October. However, recognizing the great value of quantifying the impact of the training, the research team worked quickly to implement an impact survey.

In order to do so in the limited time available, only minor modifications were made to the questionnaire. The listing of engineers to be interviewed was updated for the 18 governorates by telephone, to include only those engineers who had attended two training sessions and who were still working as district engineers. The fieldwork resulted in a 70% response rate, due to the lack of time for callbacks. Fieldwork was conducted in September 1999 and the report was completed in October 1999.

There was significant improvement on indicators in all four categories: knowledge, attitudes, communication, and practice. The training achieved the target values on nine of the 22 indicators. For example, 100% of trained engineers had heard of a WUA, 91% knew the policy on farmer participation, 90% knew that ten countries share the Nile, 84% thought that farmer participation was a good idea, and 91% had ever held a farmers' meeting.

Fifty copies of the impact report were disseminated at the end of project conference. In addition, four data packages were made available to the WCU, USAID, and AED, comprising notes on the dataset, the English and Arabic questionnaires, and the data on disk.

6 2 2 Farmers

6 2 2 1 KAP

GreenCOM III invested substantially in a sizeable, nationally representative study of farmers' knowledge, attitudes, and practices regarding the use of water on their farms. The purposes of the study were to provide detailed information for communication activities under GreenCOM III as well as subsequent activities the Ministry will initiate to communicate with farmers, and to provide baseline indicators for those activities.

The project contracted with a survey research firm, El Zanaty and Associates, to develop a multi-stage sample frame of 9410 farmers on 245 *mesqas* throughout the country. The frame was designed to reflect the MPWWR's water distribution scheme, enabling the analyst to differentiate between findings at the heads and tails of *mesqas* and canals. A proportionally representative, systematic sample of 2,000 farmers was selected.

These farmers responded to a questionnaire covering knowledge of and attitude towards water as a limited resource, on-farm water management, crop selection, exposure to existing message on water scarcity and water management, media habits, patterns of interpersonal communication, and the role of the MPWWR and staff. The questionnaire was developed based on inputs that included a second multi-part team of about 40 resource persons, including senior MPWWR officials, staff from related institutes, field engineers, and five farmers. The draft questionnaire was widely distributed to key persons in the MPWWR, other components of the APRP, as well as to the GreenCOM home office. The feedback was extensive, and although it was very helpful, the process of revision proved time consuming.

The study was designed to incorporate gender considerations by oversampling women farmers, and by interviewing a 20% sample of farmers' wives with a shortened version of the farmer's questionnaire. A separate chapter in the report analyzed women's knowledge, women's role in irrigation, experience of irrigation problems, communication, and access to mass media. The conclusion of the gender analysis was that there were not enough women farmers to merit focusing on women as a target audience.

The fieldwork was undertaken in May 1998, with a response rate of 96% for farmers and 90% for farmers' wives. The report was completed in October 1998.

The study provided baseline values for almost 30 indicators. For example, 2% of farmers knew that ten countries share the Nile, 61% knew that Egypt has a fixed water supply, 20% were able to cite one way a farmer can save water, 16% consider water requirements in crop selection, and 13% knew the name of their irrigation engineer.

The results of the study were used to develop communication materials, and were shared widely to decision makers in the MPWWR in policy formulation.

The survey was not repeated under GreenCOM III given the minimal impact that was likely to have occurred among farmers in the project's short timeframe. The survey

should be repeated in May 2002 to measure the impact of MPWWR communication activities directed at farmers. The investment of resources in the sample frame permits high quality frames to be updated from the listing for either a follow-up survey or smaller in-depth surveys with much less effort.

Eight hundred copies of the English report and 1400 copies of an Arabic summary were printed. The results were presented to an audience of about 150 at a Ministry presentation in December 1998. The results were also presented at eight training sessions of district engineers, and four training sessions each of inspectors and senior staff. Fifteen data packages were made available to interested researchers at APRP and USAID, comprising notes on the dataset, the data dictionary, the English and Arabic questionnaires, and the data on disk.

6 2 2 2 Testing Materials

A variety of materials were produced under Components I and II: twelve television spots, nine radio spots, six new posters, a series of eight double-sided fact sheets in English and Arabic, a comic book, two 15-minute regional crop-specific videos,

A series of six 60-second television spots was developed under GreenCOM III with the theme of farmers as businessmen and water as a capital input linked to profit. Animatics of these spots were tested with 41 adults in four focus groups, three rural and one urban. The focus groups addressed comprehension, attention, believability, acceptability, personal relevance, language, and suggestions.

Most respondents believed the spots were informative and reflected real life, and they readily grasped the main ideas of all six spots. Respondents particularly liked seeing the impact of more cost-effective use of water on the farmer's lifestyle, and they liked the idea of the farmer as businessman, emphasized in shots showing the farmer holding money. There were no major differences between rural and urban groups on most issues. Respondents also debated whether crops which consumed less water could actually be substituted for the current crops, enjoyed statements about the high productivity of the Egyptian farmer, were reassured that new projects would not reduce the amount of water available to farmers, and appreciated efforts to improve cooperation between the MPWWR, farmers and engineers.

Respondents felt that the dialogue between the engineer and the farmer was too quick in most spots, and the dialogue was reduced to make it easier to understand. Respondents also requested images depicting the ideal behaviors or solutions, and these were added in the final spots. Additional modifications were made to the spots based on input by senior MPWWR staff, WCU staff, and USAID.

In addition, three 60-second television spots featuring puppets and a comic book were designed to teach children about water conservation in an entertaining way. Animatics of the spots and a draft of the comic book were tested with three rural and one urban focus group comprised of 45 children. The spots feature a camel and a donkey puppet, and originally the donkey was portrayed as the wise one, in order to generate extra interest by casting against type. This logic proved too complex for the children, since the donkey is ingrained in Egyptian culture as an insultingly stupid animal. Hence, the

roles of the two characters were reversed. Other reviewers suggested that a child actor act alongside the puppets, but when this was tried in the studio, even a professional child actor was unable to act alongside puppets.

Four stories were tested for the comic book. The children rejected one of the stories, based on Aladdin, as simplistic and unbelievable. The Aladdin story was dropped, and the remaining three stories were used. They also preferred that the comic book be written in simple classical Arabic similar to their schoolbooks, since they are unaccustomed to reading colloquial Arabic. This revision was incorporated.

The six posters were pre-tested by the WCU among farmers. The radio spots were not pre-tested since they contained the same text as the television spots. The fact sheets were not pre-tested but were reviewed through the Ministry approval process. Subject matter specialists reviewed the content of the two 15-minute regional crop-specific videos before production, and technical specialists and farmers reviewed rough cuts. Their feedback was used to shape the final version.

6.2.3 General Public

The project participated in an omnibus survey of the general public in order to provide material to assist with the design of television spots aimed at the general public, and to provide baseline indicators for this target group.

In November 1997, the project contracted with a market research firm to undertake a baseline study of the general public through an omnibus survey. An omnibus survey is a survey using a questionnaire that is a compilation of questions purchased by several firms or agencies. These firms or agencies may wish to ask only a small number of questions of a large number of respondents, and this is an economical way to do so. Omnibus surveys are typically repeated three to four times per year.

The omnibus survey proved to be an excellent research tool for a low priority target audience. It is not resource-intensive, either in terms of price (\$5,000 for eight closed- and two open-ended questions), consultant's time, or follow-up. Currently, only three firms in Cairo carry out this type of survey, and only one firm carries out a nationally representative survey.

The questions for this survey were a small set of questions selected from the field engineers' and farmers' questionnaires, and additional questions designed to provide a baseline for anticipated broadcast campaigns. This was the first time the MPWWR had considered the general public a target audience for communication activities.

The sample of 1,000 was distributed equally among urban and rural, male and female respondents, and represented a range of socio-economic groups. Fieldwork was conducted in November 1997, and the tables were provided by MEMRB in mid-January 1998. An executive summary was completed in February, providing baseline indicators for the general public. Program planners used an executive summary with baseline indicators, which was also circulated to the MPWWR and USAID.

6 2 4 Media Monitoring

Broadcast media monitoring services were purchased from PARC for the 1998 broadcast campaign. The airing of this campaign was timed to follow the collection of the omnibus data in November 1997, and the collection of the farmers' KAP data in May 1998, in order to ensure that baseline indicators were not influenced by premature campaign broadcast.

The broadcast began in July 1998 but was halted in October 1998 due to the fact that coincidentally, 1998 was a high water year and some parts of the country experienced flooding, calling into question the credibility of the spots. The monitoring data were collected for July – September 1998.

Media monitoring was a cost-effective strategy that provided data on Gross Rating Points, reach, and frequency for a reasonable fee - \$100 a month to monitor the frequency of airing of one set of spots and \$265 to obtain audience exposure data among the rural population and the total population.

The results of the monitoring were extremely favorable. The spots aired an average of 343 times per month over the three-month period, and 20% of the airings were on the channel with the highest viewership, Channel One. The monetary value of the free airtime was \$632,000. Out of a rural target population of 14,843,000, a total of 13,310,000 people were exposed to the campaign at least once (90% reach), and the average number of times exposed was 36. Out of a total target population of 29,760,000, a total of 25,838,000 people were exposed to the campaign at least once (87% reach), and the average number of times exposed was 37.

Fifty copies of the report were disseminated at the end of project conference. It is attached in this report as Attachment 10.

In addition, a media plan with expected cost of airing for peak and non-peak times and expected GRP and reach among the target populations was purchased and given to the Ministry to assist in planning the airing of spots developed under GreenCOM III.

6 3 Summary of inputs

Inputs under Component III can be summarized as follows:

- Technical assistance
 - Louise F. Kemprecos
- Research subcontracts
 - Farmers' KAP – El Zanaty and Associates
 - Omnibus – MEMRB (Middle East Market Research Bureau)
 - Monitoring data – PARC (Pan Arab Research Center, a Gallup affiliate)

6 4 Assessment of Program and Lessons Learned

The research component provided valuable information for policy formulation, training program design, and campaign message design. Following is an assessment of the main research activities.

The most significant piece of research conducted was the farmers' KAP, in terms of sample size, cost, and volume of reports. The fact that the MPWWR itself paid to print 1,000 copies of the Arabic report reflects the usefulness of this research within the Ministry. The results of this survey will be incorporated in many communication efforts over the next few years, both within the Ministry and by other donors working with farmers and water.

The engineers' research demonstrated the efficacy of the training approach that was taken to increase engineers' skills in collaborating with farmers, and provided grounds for expanding the training to other engineers, and thus expanding the network of Ministry staff collaborating with farmers.

The monitoring data provided valuable information for program planners for a very low price. Contracting with PARC was the only way to learn how many times the spots had aired, who had seen them, and what proportion of the target population the spots had reached. Information about frequency of airing gives program planners information they need to liaise with RTU to ensure that the campaign is actually broadcast and assess when a new campaign is needed, and audience exposure data give planners information they need to consider when to evaluate message recall. All media campaigns should be monitored.

6 5 Recommendations

- As the Ministry continues to train new district engineers or expands and modifies the training program for new engineers, such as drainage engineers, the WCU should implement a carefully designed, short, pre-coded, quantitative questionnaire before and after training sessions in order to monitor the impact of the training on important indicators.
- The Ministry should repeat the farmers' KAP in May 2002, after communication interventions and comfortably before the end of the EPIQ project in September 2002.
- The Ministry should consider using the sample frame devised for the farmers' KAP study to implement smaller, in-depth studies of topics important to policy and message development.
- The omnibus survey should be repeated 3-4 months following the conclusion of the campaign.
- The omnibus survey should be repeated in May 2002 to measure the impact of communication interventions aimed at the general public.

- The Ministry should contract with PARC to monitor the airing of the new spots This should be set up before the spots begin airing
- The Ministry should conduct a baseline survey of policy makers to assist with policy formulation

CHAPTER 7

CROSS-CUTTING ACTIVITIES

7 CROSS CUTTING ACTIVITIES

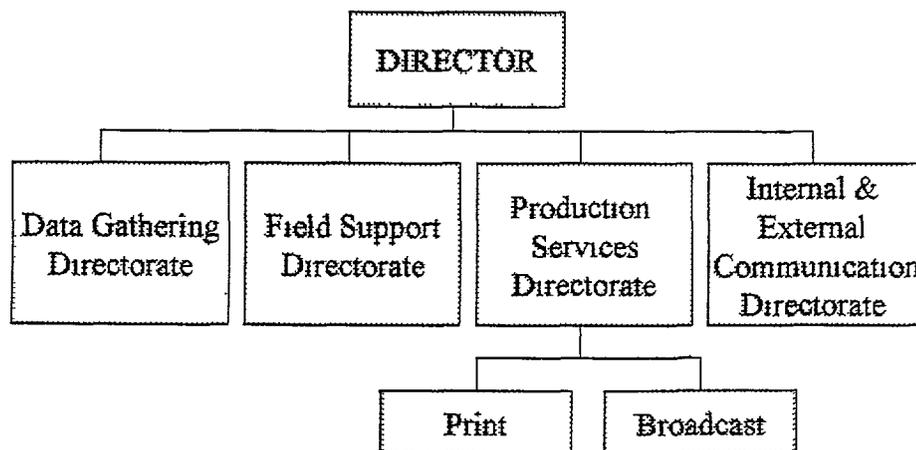
The overall goal of GreenCOM III was to build the capabilities within the Water Communication Unit to implement a participatory communication program that supported the Ministry's efforts to formulate and implement new water policies. Therefore, all components involved staff training and the design of systems that moved the WCU towards becoming an effective communication operation. There were, however, some special cross cutting activities that were critical to the success of the WCU's ability to support the policy reform agenda. These cross cutting activities are described in this section.

7.1 Overview of Accomplishments – Outputs and Deliverables

The Inception Report set out a map for the cross cutting activities. The following summarizes the significant accomplishments:

- **Gender Issues** – Gender concerns received priority throughout the project especially in the farmer and general public KAP studies where information was collected on the role and responsibilities of women in water resources management.
- **Institutional Development Plan** – A revised institutional development plan for the WCU was completed on 13 February 1999 showing the following structure and a staffing requirement of 42. This plan has been adopted by MPWWR and is being used to prepare their requests to the GOE establishments department to officially institutionalize the WCU as a government unit. The WCU has been successful in securing from the Planning Ministry a budget line for MPWWR communications and an annual budget.

MPWWR WATER COMMUNICATION UNIT



- **Result Indicators** – Two sets of indicators were prepared at the beginning of the project and baseline data collected. These were Impact Indicators focusing on the knowledge, attitudes and practices of district engineers, farmers and general public, and Predictor Indicators to monitor the effect of the technical assistance provided by GreenCOM III. The Predictor Indicators were reviewed and updated at the Tripartite Reviews. A follow up KAP study was done with the district engineers at the end of project and all the Predictor Indicators were updated. A report on the results achieved by GreenCOM III was prepared and is included in this Final Report. The results show that much progress has been made in the short time available to GreenCOM III.
- **Staff Retreat** – One staff retreat was held for the WCU staff in Port Said. It was combined with the Tripartite Review, which focused on reviewing the predictor indicators for each of the components. This exercise gave the staff a much better understanding of their role as educational communication specialists within the Ministry and what functions they needed to perform.
- **Field Trips** – The project supported extensive field trips for the staff, which enhanced their on-the-job training in all the components. WCU staff conducted the district engineer KAP study, attended all the field staff training, helped with community meetings, shooting video, pre-tested materials, and participated in many other field activities.
- **Procurement** – The project procured computer hardware and software for establishing a local area network (LAN), video equipment for doing training and feedback video production, and other items needed by WCU. A computer procurement plan was completed early in the project, which included a complete list of hardware and software, which would be purchased by GreenCOM funds and by MPWWR funds.
- **Study Tours** – The project funded and organized two study tours to the United States. The first to Colorado State University supported Component #1, field worker partnerships, the second to Iowa State University supported Component #2, development and implementation of campaigns. Each study tour involved six WCU staff. The second study had three female participants.
- **Training Master Plan** – A training master plan was prepared for coordinating the training conducted by GreenCOM III and by DT2. Much of the in-country training conducted by GreenCOM was on-the-job training conducted by both expatriate and Egyptian consultants. The DT2 training needs assessment contained 30 training courses for the WCU. In addition, English Language classes conducted by the American University in Cairo were coordinated through the project. Because of the extensive training and limited number of WCU staff, there were difficulties of having staff available to work with GreenCOM advisors.
- **Project Meetings** – At the beginning of GreenCOM III a Mobilization Workshop was conducted, which developed the base for the Inception Report and Life-of-Project Work Plan. At the end of GreenCOM III an End-of-

Project Briefing was conducted for senior MPWWR and USAID staffs, and other key stakeholders

- **Tripartite Review** – Two Tripartite Reviews were conducted focusing on the target results to be achieved, updating the work plan, and identifying constraints the project encountered. The Tripartite Reviews involved two sessions. The first involved the WCU staff, USAID COTR, and GreenCOM advisors. The second session was a briefing of senior MPWWR and USAID staffs focusing on the achievements, work plans and overcoming the constraints encountered.
- **Project Reports** – The project reports included an Inception Report, Tripartite Review reports, Semi-Annual Reports and this Final Report. Several versions of the Institutional Development Plan were prepared during the project. Also, an APRP benchmark was drafted to institutionalize the WCU, but in the end it was not accepted by USAID. Numerous other reports were prepared by GreenCOM III advisors for specific tasks they were involved.

7.2 Key Activities Conducted to Achieve Results

For some of the outputs and deliverables listed above the activities are obvious. Therefore, they will not be included in this section. The following highlights the key activities that were carried out as part of the cross cutting support to the project.

- **Gender Concerns** – Addressing the gender issues involved consultation with the GreenCOM global program gender specialist, USAID WID Coordinator, and others. A considerable amount of effort was made to integrate gender concerns into the farmer and general public research. However, the results of the research showed that women had similar KAPs as men, but little involvement in decision making on the use of irrigation water and, therefore, it was decided that at the current time the communication campaigns would not have any major focus on women as a target audience.
- **Institutional Development** – At the beginning of GreenCOM III a review was made with the WCU of the Institutional Development Plan formulated under GreenCOM I. This was updated in September 1997. In November 1998 the plan was once again reviewed and updated. This review recognized that the WCU would have to perform as one of its tasks public information functions. Therefore, that function was added as another division. In February 1999, a larger review was made with a Ministry committee assigned to prepare a plan for the WCU that would be submitted to the GOE establishments. This review resulted in the organizational chart shown above. For each Directorate the functions were identified and the staffing requirements determined. A total of 42 staff members were identified as necessary for the WCU.
- **Results Indicators** – At the beginning of the project Fenton Sands, USAID person responsible for the APRP results framework, provided guidance to the GreenCOM team on developing the indicators which could be used to manage the project and to monitor the results. The Impact Results were developed for

the KAP studies, which guided the communication program and provided baseline data for monitoring the impact of the Ministry's participatory communication program. Baseline KAP studies were done on the MPWWR district engineers, farmers and the general public. At the end of the project a follow up KAP study was done on the district engineers. More details of these KAP studies are included in Chapter 6 and selected indicators are included in Chapter 2. The Predictor Indicators were developed at the beginning of the project by the GreenCOM advisors and the baseline data assembled by the advisors and WCU staff. At each Tripartite Review the Predictor Indicators were updated and the projections for the end-of-project also updated. At the end of the project the advisors once again consulted with the WCU staff and to update the data. A report was prepared on the results and is included in Chapter 2 and Attachment 1 of this Final Report.

- **Study Tours** – The two study tours were fully integrated into the technical assistance provided by GreenCOM III. In the case of the first study tour to Colorado State University, Prof. Dan Hilleman combined his GreenCOM III consulting work in Egypt with being the leader in Colorado for the training. Following the training he returned to Cairo and continued to work on developing the field worker training program. In the case of the Iowa State University study tour, Dr. John Woods identified the needs and prepared the participants while in Cairo and then returned to the United States where he worked with the Iowa State University trainers in developing the program. Also, Dr. Robert Kern, who served as a GreenCOM consultant on GreenCOM I and III was one of the trainers. In both cases the training was focused and practical, addressing specific needs of the MPWWR participatory communication program.
- **Training Master Plan** – At the beginning of GreenCOM III, DT2 sponsored a Training Needs Assessment for MPWWR. The Training Needs Assessment related to the GreenCOM III project was done by Dr. John Woods, so it was possible to carefully coordinate the planning with the GreenCOM III needs and plans. The Training Needs Assessment identified 30 training activities for the WCU over a four-year period. Once the DT2 training began, it was apparent that the training was consuming a considerable amount of WCU staff time. Since the unit was understaffed this caused difficulty in its normal operations and also affected the availability of WCU staff to work with GreenCOM advisors. Therefore, USAID, MPWWR, DT2, and GreenCOM advisors decided that a training master plan was needed. Dr. John Woods did this in consultation with WCU, USAID and GreenCOM staff. The result was a coordinated with DT2.
- **Tripartite Review** – A unique project management tool was introduced in GreenCOM. The purpose of the Tripartite Review was to enable all key stakeholders to participate in the planning and monitoring of the project. Two Tripartite Reviews were held. The first was held one year after the project start-up (May 1998) and the second six months later (November 1998). Prior to both Reviews the GreenCOM Chief of Party prepared a summary of what had been achieved using the work plan matrix. During each Tripartite Review the agenda included a review of the results framework and indicators for the

project, status of what was achieved in the work plan, revising the work plan for the coming year, and determining constraints the project faced. A report was prepared summarizing all these subjects and sent to senior officials in MPWWR and USAID for review. The following week a meeting with these senior officials was held to review the progress made and the constraints. During this follow up meeting, commitments were made by the stakeholders to address the constraints. The Tripartite Reviews proved to be excellent team building events and provided a clear understanding what GreenCOM III was to achieve and the role of each group.

7.3 Summary of Inputs

The following inputs were involved in the cross cutting program

- The leadership for this program was provided by Dr. John Woods, Institutional Development/Communication Planner who worked most closely with Dr. Hesham Ali, WCU Director and other senior level MPWWR officials. Other GreenCOM advisors were also involved in certain activities such as the work planning exercises, Tripartite Reviews, and so forth. Dr. Woods was a short-term consultant during this project.
- Computer equipment purchased and turned over to the WCU was valued at \$42,000.
- Video equipment purchased and turned over to the WCU was valued at \$8,000.
- Office equipment purchased and turned over to the WCU was valued at \$19,000.
- Other equipment purchased and turned over to the WCU was valued at \$2,000.
- Supplies provided to WCU were valued at \$19,000.
- The approximate cost for the Mobilization Workshop, Tripartite Reviews, End-of-Project Briefing, and other meetings/workshops was \$12,000.
- The approximate cost for per diems provided to the MPWWR staff for attending training events, workshops, retreats, and performing various fieldwork was valued at \$252,000.

7.4 Assessment of Program and Lessons Learned

As Chapter 2 shows, excellent progress was made in establishing the MPWWR participatory communication program. Typically to establish a participatory communication program requires a duration of at least six years to ten years. The following is an overview of the strengths and constraints, which GreenCOM faced

- The most important positive factor was the strong commitment within MPWWR, including H.E. the Minister, to establish an effective participatory

communication program. This was repeatedly illustrated by the Minister and other senior staff participating in field worker training, multi-part planning workshops for the research, providing information for fact sheets, etc. It is also reflected in how fast the Ministry was able to secure a significant budget for the WCU which enabled them to pay for much of the printed materials rather than drawing upon the GreenCOM budget. This commitment of senior governmental officials is critical if a communication program is to succeed.

- Maybe the most important lesson learned was how long it takes the government system to remodel office facilities. The Ministry allocated a large space to the WCU during the first year of the project. Plans were drawn up for the remodeling and then the process of letting contracts began. After numerous delays, the contract was let. The remodeling should be finished in January 2000. This has had significant impact on the management of the unit as staff members were located in at least four offices throughout the building. It also prevented the WCU from recruiting additional staff, which were urgently needed for supporting the GreenCOM III program. And, it prevented installation of equipment for fully operating video editing suite as well as the computer local area network (LAN) which are essential for a communication unit.
- Staffing was a major constraint that couldn't be addressed because of limited office space. The institutional development plan identified 42 staff members were needed for the WCU. The unit had 10. Therefore, it was not possible to organize the staff into specialized directorates. Often the entire staff had to be involved in supporting a single GreenCOM activity, such as conducting the district engineer KAP study. Therefore, specialized training could not move forward to the required teams for specific tasks such as print media production, field worker training, research, etc. It also meant that there were often not enough staff to serve as counterparts to GreenCOM advisors.
- As mentioned in Chapter 2, establishing a development communication unit involves three phases: (1) staff mastering basic communication skills, (2) planning communication programs, and (3) establishing effective management systems for the unit. Time available for GreenCOM III permitted work on the first phase, with the WCU staff that was available. Therefore, inputs in basic skills development will also have to be provided for new staff as they join the WCU and specialized planning and management training for all staff will be required.

7.5 Recommendations

The following recommendations relate to the cross-cutting activities of GreenCOM III.

- Once the remodeling is completed and the WCU unit moves in, it will be important to install the computer LAN and video editing equipment purchased by GreenCOM III. The staff will have to receive specialized training on how to work on a LAN, skills in which the WCU staff have had no exposure.

- As new staff members are added, a basic training program will have to be established for them. This will be difficult, as "development oriented" communication training is not available in Egypt. Some of this will have to be carried out by outside experts or by sending the staff overseas.
- Once the WCU staff moves into their new integrated office a number of management and program procedures will have to be developed and institutionalized. This includes systems for gathering information from departments and getting technical approvals, production planning, distribution of materials such as the newsletter and printed materials, contracting with production and research firms, procurement of supplies and equipment maintenance.
- The WCU needs to buy, install, and establish procedures for archiving a wide variety of materials including still photographs and negatives, video footage, audio tapes, publications, research data, and graphics. This will be essential for use in future communication programs.
- It is important that the WCU install secure storage facilities for equipment such as video and still cameras, projectors, and so forth. A system for checking out and maintaining equipment must also be established.
- Once the WCU is installed in their new office and has experience working as an integrated unit, it is recommended that the Director and two senior staff participate in the approved DT2 study tour on organizational structure and management procedures for development communication units in the water and agricultural fields. The purpose would be to study the organization structure and management procedures of the TVA communication unit and a state agricultural extension communication unit so they have models to follow in the future development of the WCU in terms of staffing, programs, management procedures, and so forth.

CHAPTER 8

LESSONS LEARNED AND RECOMMENDATIONS

8 LESSONS LERNED AND RECOMMENDATIONS

Each chapter contains details on lessons learned and recommendations for that set of activities. This chapter highlights the overall recommendations. They are grouped into two categories. The first is follow up required for the communication programs initiated under GreenCOM III. The second relates to sustaining the participatory communication program by the WCU.

8.1 Follow up to the Communication Programs Initiated under GreenCOM III

The following activities should be given priority by MPWWR/WCU to ensure that the communication programs initiated under GreenCOM III are successfully completed. A team of GreenCOM advisors and WCU staff prepared these activities:

- One-day follow-up workshops for all trained District Irrigation Engineers, Inspectors and General Directors to keep them apprised of new policy initiatives and communication materials should be conducted semi-annually.
- Water Communication Unit support to MPWWR field staff to conduct local community meetings with farmers and other water users should be continued.
- Monitoring of broadcast schedule immediately following campaign launch for a period of 4-6 months. PARC is the only provider of this service in the country.
- A training program to improve two-way communication and management skills, as well as provide participants with information on policy initiatives, as conducted for District Irrigation Engineers should be expanded to include Drainage and other Field staff.
- Continued development and production of Fact Sheets on various topics.
- Local TA to assist the WCU staff as needed to edit and shoot video programs. The first activity should be completion of the intermediate drainage reuse video.
- Baseline KAP Survey of policy makers to be conducted.
- Support for the Water Communication Unit to design and produce materials as well as conduct outreach activities based upon the policy maker KAP survey to promote new policy initiatives with decision-makers.
- Water Communication Unit work with other intermediary groups, such as the media outside Cairo, NGO's, schools, religious groups, business associations and related government agency's should be on-going.

- Follow-up Omnibus Survey and Farmer KAP survey should be conducted in May 2002
- In 2001 the design, production and implementation of a national Phase III Water Conservation and Pollution Awareness campaign should be undertaken
- Design, production and implementation of additional regional behavior change campaigns in support of new policy initiatives as they emerge
- Design, production and implementation of the Farafra Groundwater campaign
- Continued distribution of the regional behavior campaigns for Short Season Rice and Gated-pipe for Sugar Cane Irrigation A PSA on short season rice should be done as the national program expands

8 2 Sustaining the Participatory Communication Program by the WCU

The following is needed to ensure the Water Communications Unit is capable of continuing the educational participatory communication program over the long term. The Ministry will need to continue the education of Egyptian water users to conserve and prevent water pollution for many years into the future, at least 20 years. The assistance that GreenCOM provided was to initiate a general awareness campaign to begin to get Egyptian water users to accept the fact that there is a limited amount of water and it will be more limited in the future. Two initial regional campaigns were also started to begin to encourage farmers to change their behaviors related to rice and sugar cane. There will be a need for the MPWWR to build a strong Water Communication Unit to operate a long-term educational participatory communication program. The following are some suggestions for what has to be done to achieve this.

- Complete the remodeling of the new WCU offices and move all the staff into these facilities as soon as possible
- Install the computer LAN, video editing and other equipment in the new offices as soon as possible. Procure the additional computer equipment that is the Ministry's share
- Train the WCU staff on how to use the computer LAN and other equipment in the new offices
- As soon as the new offices are completed, begin a major effort to recruit new staff to get the WCU staffing level to 42 as described in the February 1999 WCU Recommended Organizational Structure and Staffing report
- Develop a training plan for the new staff so they receive the basic skills that the existing staff has acquired through GreenCOM
- Once the WCU has moved into the new offices and additional staffing begin to be recruited, activate the DT2 study tour to visit two water/agricultural communication units to study the organizational structure, staff specialization

and operating procedures Assistance will be needed for the WCU to adapt what they have studied for the Egyptian situation

- Technical assistance for the establishment of office management procedures, for example, LAN network, filing system, subcontracting, procurement, a video and still image archive, library, and so forth, will be needed
- Specialized training will be needed for the staff as the four WCU Directorates are created and made operational
- In September 2002 a review of the status of the WCU should be made by an outside group of experts who are familiar with water/agricultural communications programs This group should make long-term recommendations on what the WCU should do and what assistance is needed by the unit

ATTACHMENT 1

INDICATOR TABLES

ATTACHMENT 1 PROJECT RESULTS INDICATORS

At the beginning of the GreenCOM III project, the Chief of Party and Institutional Development/Communication Management Specialist met with Mr Fenton Sands who was responsible for developing and monitoring the USAID/Cairo APRP results framework and preparing the R4 reports for APRP. In line with the new USAID results framework approach, the GreenCOM team decided to establish indicators which would serve two functions: (1) to guide the management of the project and focus the work of the technical assistance advisors, and (2) to provide baseline data to be used to monitor the results of the project. This attachment contains the indicators with the baseline data, targets, and where available end-of-project data.

In the discussion with Mr Sands, it was concluded that in the 30 month period of the GreenCOM III project, there was not sufficient time to see significant behavioral change in water users which was the long-term goal stated in the project objectives. Therefore, the decision was made to develop indicators that would allow the stakeholders (USAID, MPWWR and GreenCOM) to monitor progress being made toward achieving future behavioral change. In other words, to tell us if we were going in the right direction.

Diffusion of innovations research conducted throughout the world by rural sociologists has identified a decision making process people and groups go through in adopting new practices. In general terms, the stages include (1) securing knowledge of the innovation, (2) developing a positive attitude towards the innovation, (3) trying the innovation on a trial basis, and (4) adopting the innovation—behavioral change using the new practice. Of course, researchers have also found that at any stage a farmer, water user, or other target audience groups could reject the innovation.

Using this well grounded approach from the diffusion of innovations research, the GreenCOM team in consultation with USAID and MPWWR officials identified two sets of indicators: (1) Impact Indicators, and (2) Predictor Indicators.

Impact Indicators – It was realized that the actual changes in knowledge, attitudes and practices (KAP) of Egyptian water users were the responsibility of the MPWWR/WCU who were operating the participatory communication program. The role of GreenCOM was to advise, train, provide equipment, contract subcontractors, and other activities to support the WCU in their tasks. The Impact Indicators were used on three target audience groups that the WCU had identified: (1) MPWWR district engineers, (2) farmers, and (3) the general public.

Baseline studies were conducted for each group. A follow up KAP study was conducted on the district engineers. This was done after the completion of the training of the district engineers. Therefore, the GreenCOM interventions were completed for this target audience. Since the campaigns were being launched at the end of the project, it was not feasible to do the follow up KAP studies for the farmers and general public as there was not sufficient time for the campaigns to have any impact. It is recommended that these KAP studies be conducted in May 2002. It is also recommended that the MPWWR/WCU continue conducting these KAP studies on these three target audiences in the future. It is also recommended that the WCU establish KAP studies on policy makers as there was not sufficient time or resources for this to be done under the GreenCOM III project.

Predictor Indicators – Experience has shown that units like the MPWWR/WCU go through an evolutionary process in building their capabilities of designing and implementing development-oriented participatory communication programs. In general terms, such a unit and its staff go through the following stages of development: (1) gaining the basic communication skills such as writing, desktop publishing, photography, video production, etc. (2) developing experience and skills in program planning focusing on the messages and what the communication activity is to achieve, and (3) installing management systems related to effective distribution of materials, linking with clientele, administrative systems, filing systems for negatives and other items, etc.

To monitor this process and focus the work of the GreenCOM advisors, a second set of indicators—the predictor indicators—was established to measure the growth in capabilities of the WCU as a result of the GreenCOM technical assistance. The assumption was that if the WCU could not do the work then there would be no participatory communication program and, therefore, no impact. The predictor indicators were discussed early in the project by the WCU staff and GreenCOM team. This provided the baseline data. The indicators were also reviewed during each tripartite review and then at the end of the project. This process provided an excellent opportunity for the GreenCOM advisors and WCU staff to discuss what was expected from each of them.

Conclusions – Chapter 2 in the final report discusses the results contained in the following tables. Given the time and limited resources available in the GreenCOM project, the results are impressive. For example, the impact indicators for the MPWWR district engineers show an increase ranging from 22% (in this case the baseline was very high) up to 623%. At the same time the indicators showed areas where additional work will be needed in the future. The baseline data for the farmers and general public shows the challenge which the MPWWR/WCU faces in coming years to achieve results in changing water user behaviors in water conservation and pollution prevention.

The predictor indicators show significant increases in the capabilities of the WCU in all the program areas: (1) fieldworker support, (2) media production, and (3) monitoring and evaluation. The primary gains have been in acquiring skills in basic communication techniques. One constraint during the project was the fact that the unit was not able to move into their new facilities which would have brought all the staff together, installed the equipment required (especially the computer LAN), and enabled the unit to add the staff required. At the current time the unit has 10 staff. The plan is to increase this to 42 once the new facilities are completed. This will mean that the new staff will have to go through extensive training to gain the basic skills. Unfortunately, Egypt does not have “Development Communication” programs in the universities and, therefore, the Ministry will have to find a way to get this type of training for their staff and to continue the training of the original staff as there are still gaps in their skills (such as preparing news releases). The predictor indicators show that much more work will be required in the second and third stages of development—program planning and management.

GreenCOM III

PROJECT PROGRESS INDICATORS

IMPACT INDICATORS

The purpose of this attachment is to present complete ratings of the Impact Indicators used to track the progress of the MPWWR/WCU communication program in implementing the awareness campaign that Egypt's water is limited and will be more limited in the future. The indicators in this section are the result of the work of the WCU. A separate attachment (Predictor Indicators) measures the impact of the technical assistance provided by the GreenCOM project in increasing the capability and capacity of the WCU to design and implement a participatory communication program. Therefore, this section focuses on the results as stated in the GreenCOM project Statement of Work.

Results to be Achieved -- The GreenCOM III Statement of Work, Section 2.1, page 11 for the GreenCOM project stated:

“The results to be achieved are:

1. Improve MPWWR's field staff and senior officials' attitudes toward water users and improve the staff's skills to deal with their clients and resolve conflicts.
11. Increase water users' awareness of the need for water conservation and protection of the Nile system from pollution.”

Impact on Target Groups by WCU Communication Program -- The indicators in this attachment focus on the changes in knowledge, attitudes, and practices/behaviors (KAP) for three target audience groups. Baseline surveys were conducted for the MPWWR District Engineers, farmers, and the general public. There was not sufficient time to do the baseline KAP study for the policy makers. For each target audience group, key indicators were selected to guide MPWWR, USAID, and GreenCOM in the development of the communication program and to monitor impact.

There was not sufficient time available to do follow-up KAP studies on farmers and the general public target audience groups. Therefore, the end-of-project indicator ratings are only available for the MPWWR District Engineers. Those ratings are included in the following table:

The baseline study for the district engineers was completed in November 1997, for the general public in November 1997, and farmers in October 1998. The follow-up study on the district engineers was completed in October 1999. This table includes:

Column #1 – Is the base line data for all three target audience groups collected as part of the baseline studies.

Column #2 – At the time of analyzing the baseline data, the GreenCOM advisors and WCU staff established targets for each target group. The target for the district engineers was set for September 1999. The targets for the follow-up studies of farmers and general audience were established for May 2002.

Column #3 – This column exists only in the table for the district engineers and contains the data collected in the follow up KAP study at the end of the project

Column #4 – For the MPWWR District Engineers follow up data was collected. Therefore, it was able to make a comparison between the baseline data (Column #1) collected early in the project and with the data on the same questions at the end of the project (Column #3)

Column #4 gives the percentage increase in KAP between the beginning of the project and the end

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INDICATORS OF IMPACT ON TARGET GROUPS

INDICATORS	BASE LINE	TARGET SEPT 1999	OCT 1999 ACTUAL	% INCREASE BASELINE TO OCTOBER 1999
MPWWR District Engineers				
Knowledge--Know Egypt might face a water scarcity	66%	90%	88%	33% Increase
Knowledge--Know that Egypt has a fixed water supply	45%	90%	64%	42% Increase
Knowledge--Know that ten countries share the Nile	35%	90%	90%	157% Increase
Knowledge--Know that pollution affects water quantity	53%	90%	75%	42% Increase
Knowledge--Know MPWWR policy on farmer participation	60%	90%	91%	52% Increase
Knowledge- Ever heard of a Water User Associations (WUA)	53%	90%	100%	89% Increase
Knowledge- Able cite 2 reasons why farmer would join a WUA	51%	80%	76%	49% Increase
Knowledge--Able to cite 3 key ways a farmer can save water	32%	90%	71%	49% Increase
Attitudes--Able to cite 2 key advantages of farmer participation in decision making	51%	65%	67%	31% Increase
Attitudes Think farmer participation is a good idea	69%	85%	84%	22% Increase
Communication Received last issue of WCU Newsletter	27%	100%	35%	30% Increase
Communication Read last issue of WCU Newsletter	20%	80%	33%	65% Increase
Comm Feels there is a relationship between him and Ministry	35%	64%	53%	51% Increase
Practice Ever been trained to organize meetings	16%	90%	99%	519% Increase
Practice Ever been trained to make	13%	90%	94%	623% Increase

INDICATORS	BASE LINE	TARGET SEPT 1999	OCT 1999 ACTUAL	% INCREASE BASELINE TO OCTOBER 1999
presentations				
Practice Ever held a meeting for farmers	33%	NA	NA	175% Increase
Practice Number of meetings held for farmers	1 4	NA	NA	193% Increase
Practice Number of meetings of agricultural coop attended in last 6 months	4 0	NA	NA	85% Increase
Practice Holding awareness meetings as a means of helping farmers save water	18%	NA	NA	111% Increase

INDICATORS	BASE LINE	TARGET MAY 2002	REMARKS
Farmers			
Knowledge--Know Egypt might face a water scarcity	33%	65%	From KAP Study of Egyptian Farmers
Knowledge--Know that Egypt has a fixed water supply	61%	80%	From KAP Study of Egyptian Farmers
Knowledge--Know that ten countries share the Nile	2%	50%	From KAP Study of Egyptian Farmers
Knowledge--Know that Egypt cannot negotiate an increased quota	10%	25%	From KAP Study of Egyptian Farmers
Knowledge- Ever heard of a Water User Associations (WUA)	3%	50%	From KAP Study of Egyptian Farmers
Knowledge--Able to cite one key way a farmer can save water	20%	50%	From KAP Study of Egyptian Farmers
Knowledge--Know that night watering takes less water	57%	70%	From KAP Study of Egyptian Farmers
Attitudes Consider water requirements			From KAP Study of Egyptian

INDICATORS	BASE LINE	TARGET MAY 2002	REMARKS
in crop selection	34%	50%	Farmers
Attitudes Would join Water User Association if formed in their area	78%	85%	From KAP Study of Egyptian Farmers
Communication Talked with irrigation engineer last year	9%	15%	From KAP Study of Egyptian Farmers
Communication Seen anything on TV about conservation of irrigation water	6%	25%	From KAP Study of Egyptian Farmers
Communication Seen anything on TV about pollution of irrigation water	6%	25%	From KAP Study of Egyptian Farmers
Communication Heard anything on radio about conservation of irrigation water	15%	40%	From KAP Study of Egyptian Farmers
Communication Heard anything on radio about pollution of irrigation water	15%	40%	From KAP Study of Egyptian Farmers
Communication Read anything about conservation of irrigation water	14%	25%	From KAP Study of Egyptian Farmers
Communication Read anything about pollution of irrigation water	14%	25%	From KAP Study of Egyptian Farmers

INDICATORS	BASE LINE	TARGET MAY 2002	REMARKS
General Public			
Knowledge--Know Egypt might face a water scarcity in the future	50%	70%	From Omnibus Questionnaire
Knowledge--Know that Egypt has a fixed water supply	39%	65%	From Omnibus Questionnaire
Knowledge--Know that ten countries share the Nile	4%	50%	From Omnibus Questionnaire
Communication—Seen on TV or heard on Radio about saving water	69%	75%	Most appear to be from NCWCP campaign which was before the GreenCOM campaign From Omnibus Questionnaire
Communication—Seen on TV or heard on Radio about water pollution	60%	75%	From Omnibus Questionnaire
Attitude- Feel there is waste in consumption of irrigation water	85%	95%	From Omnibus Questionnaire
Attitude--Feel there is a problem with pollution of canals or the River Nile	90%	100%	From Omnibus Questionnaire
Attitude—Which sector is most responsible for pollution of canals			
1) Industry	42%	To be used as Program Planning Guide	From Omnibus Questionnaire
2) Individuals & Households	38%		
3) Agriculture	9%		

GreenCOM III

PROJECT PROGRESS INDICATORS

PREDICTOR INDICATORS

The purpose of this attachment is to present the complete ratings of the Predictor Indicators used to track the progress made by the MPWWR/WCU resulting from the technical assistance provided by the GreenCOM III project. These are indicators related to increasing WCU capabilities resulting from GreenCOM III technical assistance (advisory assistance, training, equipment, and subcontracting local firms) which will predict the ability of the WCU to carry out tasks leading to impact results.

These indicators were used throughout the project to measure progress. This table includes

Column #1 – These indicator ratings were done at the beginning of the project by the GreenCOM advisors assigned to each component.

Columns #2 & #3 – These indicator ratings were developed during the GreenCOM III Tripartite Review held in Port Said on May 21 and 22, 1998. All the tripartite participants—WCU staff, USAID COTR, and four GreenCOM advisors—worked together to develop the ratings for May 1998 and September 1999 targets.

Column #4 – These indicator ratings were done in October 1999, at the end of the project. The GreenCOM advisors in consultation with the WCU staff developed these ratings.

How these ratings were developed

Two different types of data is included in these predictor indicators:

1. Normal measurement numbers--such as the number of news releases sent to newspapers.
2. Other indicators could not be quantified in that manner and, therefore, used the following four level measurement criteria of capabilities of the WCU—called a “capability scale”.

0 = no capability

1 = can do the task under guidance from GreenCOM advisors

2 = can do the task, but with review and oversight from GreenCOM advisors

3 = can do the entire task without GreenCOM advisor input

INDICATOR	BEGIN	MAY 1998	PROJ OCT 1999	ACT OCT 1999	MEASUREMENT
Component #1. Fieldworker Partnership					
Assessing Fieldworker Training Needs	0	1	2	2	Ranking of capabilities on a scale of 0-3 for at least 3 staff
Planning Training Program for Fieldworkers	0	1	2	2	Ranking of capabilities on a scale of 0-3 for at least 4 staff
Managing Training Contract	0	1	2	1-2 (a)	Ranking of capabilities on a scale of 0-3 for at least 2 staff
Evaluating Fieldworker Training Program	0	1	2	2	Ranking of capabilities on a scale of 0-3 for at least 2 staff
Personal Communication with Field Staff per Month – visits telephone meetings (per staff member)	0	1	5	7	Actual number of visits (trips) in the field with MPWWR field staff
Any Type of Communication with Field Staff (per staff member)	0	1	5	9	Actual communications with Field Staff

Within the MPWWR, the WCU has provided the leadership in supporting the field staff to be more effective communicators with the Ministry's clientele groups. The WCU staff have been active participants in almost all aspects of this component.

- (a) This is normally a function of a field relations program or training unit of a ministry. The WCU staff had extensive contact with the MEAG subcontractor instructors and facilitators. However, the administrative and financial management of the contract, which was the responsibility of the GreenCOM contractor, was attended by two WCU staff at each of the training sessions and served as:
1. Coordinators of training support materials (posters, fact sheets, etc.)
 2. Video documentors
 3. Collectors of participant feedback on materials being developed (i.e. TV spots)

INDICATOR	BEGIN	MAY 1998	PROJ OCT 1999	ACT OCT 1999	MEASUREMENT
Component #2 Communication Programs/Campaigns					
Evaluating Campaign Exposure	0	2	3	1	Ranking of capabilities on a scale of 0-3 for at least 4 staff
Number of News Releases Sent to Newspapers per Month	0	0	10	0	Actual number of different news releases sent to newspapers
Number of Scripts Prepared for MPWWR Interviews on R-TV	0	0	5	0	Number of scripts prepared for R-TV interviewers to use
Video Clps for Training Research & On-Air Use for Interviews per Quarter (3 months)	0	0	5	1	Number of video clips prepared by WCU staff for use in training research reporting or by TV
Number of Fact Sheets & Other Technical Information Materials (not Newsletter) for Field Staff per Quarter (3 months)	0	0	6	10	Actual number of printed technical materials produced and distributed to field staff (not posters or visual materials)
Preparing Campaign Strategy	0	1	2	1	Ranking of capabilities on a scale of 0 3 for at least 4 staff
Manage Production Contracts for Media Materials	0	1	2	2	Ranking of capabilities on a scale of 0-3 for at least 4 staff
Formal Contacts Per Month with Cairo-Based Media (broadcast & print) -- visits to media outlet or their visiting WCU	5	3	12	25	Actual number of contacts
Formal Contacts Per Month with Out of Caro Media (broadcast & print) - visits to media outlet or their visiting WCU	1	1	4	8	Actual number of contacts
Providing Information to Press & Media Per Month	0	1	3	3	Ranking of capabilities on a scale of 0 3 for the unit

During the project the WCU has secured its own budget and began paying for production of communication materials designed by GreenCOM technical assistance

INDICATOR	BEGIN	MAY 1998	PROJ OCT 1999	ACT OCT 1999	MEASUREMENT
Component #3 Monitoring and Evaluation					
Questionnaire Design	0	2	2	1 (a)	Ranking of capabilities on a scale of 0-3 for at least 2 staff
Data Collection	0	2	2	2	Ranking of capabilities on a scale of 0-3 for at least 2 staff
Coding Data	0	3	3	3 (b)	Ranking of capabilities on a scale of 0-3 for at least 3 staff
Data Entry	0	1	2	2 (c)	Ranking of capabilities on a scale of 0-3 for at least 3 staff
Interpret Findings for Reporting	0	1	2	1 (d)	Ranking of capabilities on a scale of 0-3 for at least 2 staff
Developing Presentations	1	3	3	3 (e)	Ranking of capabilities on a scale of 0-3 for at least 2 staff
Developing Strategy for Monitoring	0	1	2	1 (f)	Ranking of capabilities on a scale of 0-3 for at least 2 staff

The WCU has participated in communication research activities under GreenCOM II and III with research technical assistance. In Phase II of the project, the team helped a research expert to develop focus group discussion guidelines and led focus group discussions. In Phase III, the team has worked with another research specialist to sharpen their research tools and findings. Since the WCU is a communication unit, the objectives for the team's research skills are that they be able to

1. Work knowledgeably with a research specialist or research contractor
 2. Provide input to research tools and interpretation of findings based on an appreciation of the role of research in communication programs
- (a) Questionnaire design: Several staff members are able to work with a researcher to develop a questionnaire, but have little experience in how to design a questionnaire to reflect communication messages, how the questions are best analyzed by computer, and how findings can be presented and acted upon.
 - (b) Coding data: Several staff members are skilled at implementing a codebook, and can assist in developing the codes for a codebook.
 - (c) Data entry: Several staff members are skilled at data entry using an Epi Info that has been designed for them.
 - (d) Interpret finding for reporting: Several staff members are able to review analytical tables and provide preliminary feedback on the findings, but they are not able to provide major interpretive findings without technical assistance.
 - (e) Developing presentations: Several staff members are skilled at developing Power Point presentation slides from tables.
 - (f) Developing monitoring strategy: Staff members have had little role in developing monitoring strategies, although they are now aware of different monitoring strategies such as post-tests, baseline/impact studies, monitoring of television spots, and omnibus studies.

Management Symposiousts for Irrigation Inspectors

1st Group

August 6-8, 1999

Ismailia

	Name	District	Governorate
1	Mahmoud Nasef	Desouk	Kafr El Shiekh
2	Maher Sobhy Salama	Kafr El Shiekh	Kafr El Shiekh
3	Fathi Abdel Maksoud	Beheira	Beheira
4	Mohamed Ibrahim Bayoumy	Beheira	Beheira
5	Mohamed Soliman El Sayd Rady	Damiatta	Damiatta
6	Mohamed Abdel Hakim Omar	Talkha	Talkha
7	Ahmed Mohamed Ibrahim	Suez/Sinai	Suez/Sinai
8	Mohamed Samir Hamed Mansour	Menoufiya	Menoufiya
9	Samr Attia Osman	Banha	Qalubiya
10	Ahmed Fard Abdel Fattah	Beni Suef	Beni Suef
11	Gamil Abdel Halim Farahat	Sharkiya	Sharkiya
12	El Sayed Ahmed Salem	Hehia	Sharkiya
13	Ali Yehia	Bahary Minya	Minya
14	Naseh Sliman Garas	Samalot west	Minya
15	Adel Shawky Yanee	Assuit	Assuit
16	Abdel Wahab Ahmed	Giza	Giza
17	Fikry Mahmoud Hassan El Teti	El Nasr	Sharkiya
18	Khair Gaber Khair	Qena	Qena
19	Gamal Sedik Adam	Sohag	Soahg

Management Symposiousts for Irrigation Inspectors
4th Group
October 6 - 8, 1999
Port Said

	Name	District	Governorate
1	Mohamed Fouad El Nemory	Gharbya	Gharbya
2	Mohamed Badr El Dien Bedewy	El Mahmoudya	El Mahmoudya
3	Zenab El Rayes	El Salam	El Salam
4	Nabieh Abd El Kader Shogier	Dakahlia	Dakahlia
5	Mahmoud Hassan Khashana	Esmailia	Esmailia
6	Shoukry Ahmed Abd El Aal	El Monofya	El Monofya
7	Samir Nasir Faltas	Kalubia	Kalubia
8	Said Aly Saleh	Fayoum	Fayoum
9	Abd El Fataah Ibrahim Atya	Sharkia	Sharkia
10	Mamdouh Ahmed Mohamed	Zagazig	Zagazig
11	Danial Haneen	El Menia	El Menia
12	Adel Zaki	Youssefy	Youssefy
13	Shaheir Amin Afskhyrn	Assuit	Assuit
14	Mohamed Fathy Khalil	Alexandria	Alexandria
15	Salah Hatem El Lakany	El Hager	El Hager
16	Lotfy Mohammed El Taher	Nagaa Hamady	Nagaa Hamady
17	Hany Ibrahim Mohamed	Tahta	Soahg
18	Saad Awad Mendia	MPWWR	
19	Onsy Mekhail Meawad	Fakous	Sharkia
20	Nagy Sabra Abdel Haseeb	Minya	Minya
21	Gerges Shenouda El Koms	Assuit	Assuit

INDICATOR	BEGIN	MAY 1998	PROJ OCT 1999	ACT OCT 1999	MEASUREMENT
Cross Cutting Activities					
Preparing WCU Work Plan using MS Project Program	0	0	2	0 (a)	Ranking of capabilities on a scale of 0-3 for at least 4 the staff
Staff Sending at least one email message a day	0	0	12	2 (a)	Number of staff (as an indication of computer utilization)
Contacts per Month Initiated by WCU Comm Planners with MPWWR Departments	0	0	15	6 (b)	Number of contacts with clients initiated by the WCU Comm Planners (initially 2 staff)
Organizing Briefing Meetings	1	2	2	2	Ranking of capabilities on a scale of 0-3 for 3 staff
Serving as Workshop Facilitators	0	0	1	1	Ranking of capabilities on a scale of 0-3 for 3 staff
Number of Staff Meetings per Month	0	0	2	1 (c)	Actual number of staff meetings per month to develop & review programs

Cross cutting activities involved project assistance focusing on building WCU capabilities which supported the three primary components. Therefore, these indicators focus on activities that reflect strengthened planning and management capabilities.

- (a) Since the WCU has yet to move into its consolidated office it has been impossible to install the computer Local Area Network (LAN) system which will allow these activities to take place. Once the LAN is installed it is anticipated that the WCU staff will quickly achieve and surpass the targets for these two indicators. The two staff doing emails are doing so on their private email accounts as the office email system is not available.
- (b) Because of the delays in the new office facilities, the WCU unit has not been able to recruit new staff. Therefore, there has been available only one Communication Planner. The communication staff have been helping her to gather information from the departments.
- (c) It is anticipated that the number of staff meetings will increase dramatically once the new office facilities are completed and the staff can move into one integrated office.

ATTACHMENT 2

STAFFING TABLE

**Attachment 2
STAFFING TABLE**

Position	Name	LOE Budget	LOE Projected to 10/28/99	LOE Balance
Expatriate Staff / Consultants				
Team Leader	Groff	665	662	3
Administrator	Bongard	226	180	46
Organizational Development Specialist	Woods	198 25	169	29 25
Broadcast Media Specialist	Mackie	179	134	45
Communication Research Specialist	Kemprecos	97	95	-2
Print Media Specialist	Cowel/Kern	72	54	18
Field Worker Trainer	Hilleman/Shinn	192	187	5
Local Consultants				
Local Broadcast Specialist	Tawfik	149	106	43
Local Media relations	El-Attriby	71	60	11
Local Print Media Specialists	Fouad, Salwa, Shawki, Thakeb	53	34 38	18 62
Local Training Specialists	Ali/Shorbagy	196	166	30
Home Office				
Technical Manager – AED	Sebold	23	22 5	5
Financial Specialist – AED	Clark	38	37 50	50
Financial Specialist – AED	Toumbou	111	109	1 22
Logistics Specialist – AED	Mortimer	46	40 5	5 4
Technical Manager – CI	Woods	33 45	32 17	1 87
Logistics Specialist – CI	Youmna/Delila /Morabet	55 157	55 15	0
Procurement – CI	Collier	22 61	9 81	12 19
Field Administration				
Local Administrative Officer	El-Moshneb/ Naguib	195	153	42
Local Executive Secretary	Gomaa	731	680	51
Local Accountant	Heida	168	138	30
Local Procurement	El-Samman	107 6	75 63	32

ATTACHMENT 3

GREENCOM EGYPT III EQUIPMENT PURCHASES

**Attachment 3
GREENCOM EGYPT III EQUIPMENT PURCHASES**

QTY	UNIT	UNIT VALUE	DESCRIPTION	MODEL	SERIAL NUMBER	DATE RECEIVED
					P O NUMBER	
1	se	\$1 170 00	Action Kit	Omni 01-92	GC9703	3/1/98
2	ea	\$1,058 82	Air conditioner, split system	Carrier	8271 & 24808	6/1/97
2	ea	\$1 058 82	Air conditioner, split system	Carrier		5/1/98
1	se	\$2,640 00	AV Mixer	Panasonic WJ-MX30 Digital	GC9703	3/1/98
1	ea	\$50 00	Bulk Eraser	Radio Shack 44-233A		6/1/98
1	ea	\$264 71	Cabinet file, 4 drawers metal	Leabank	97-0286	7/1/97
2	ea	\$294 12	Cabinet, file 6 drawers, wood			3/3/99
1	se	\$2,700 00	Camcorder	Panasonic AG-DP200 P S-VHS	GC9703	3/1/98
1	ea	\$607 00	Camera, digital	Olympus D600L	407 9741	2/1/99
1	ea	\$320 46	Carpet			1/7/99
10	ea	\$147 06	Chair office with wheels			3/3/99
1	se	\$1,685 00	Computer, Internet Desktop	IBM PC300GL	GC9704-1	3/1/98
1	se	\$1,610 00	Computer, LAN Desktop	IBM PC300GL	GC9704-1	3/1/98
1	se	\$1,610 00	Computer LAN Desktop	IBM PC300GL	GC9704-1	3/1/98
1	se	\$1,610 00	Computer, LAN Desktop	IBM PC300GL	GC9704-1	3/1/98
1	ea	\$3,300 00	Computer laptop	AST Ascentia A 503375-801	17710047682	6/1/97
1	se	\$4 050 00	Computer laptop	AST Ascentia P200MMX	GC9704-1	3/1/98
1	se	\$2,755 00	Computer, Presentation Desktop	IBM PC300XL, PII 266	GC9704-1	3/1/98
1	se	\$3 139 00	Computer Pubs Desktop	IBM PC300XL, PII 233	GC9704-1	3/1/98
1	se	\$3,139 00	Computer, Pubs Desktop	IBM PC300XL, PII 233	GC9704-1	3/1/98
1	ea	\$7 941 18	Copier, xerox	Document Center 220DC	213 418465 8	6/1/98
2	ea	\$210 00	Hub Superstation 12 port	3Com 12 port	GC9704-1	3/1/98
1	ea	\$50 00	Light reflector 48"			6/1/98
3	ea	\$50 00	Mic receivers, wireless Radio Shack 170-MHZ multi-channel system			6/1/98
1	ea	\$98 00	Mic, Uni-directional dynamic			6/1/98
2	ea	\$69 00	Mic hand held wireless Radio Shack 170 MHZ multi-channel system			6/1/98

**Attachment 3
GREENCOM EGYPT III EQUIPMENT PURCHASES**

QTY	UNIT	UNIT VALUE	DESCRIPTION	MODEL	SERIAL NUMBER	DATE RECEIVED
1	ea	\$45 00	Mic, Wireless lapel 170-MHZ multi-channel system			6/1/98
1	ea	\$125 00	Microphone mixer, Radio Shack 4 Channel stereo			6/1/98
1	ea	\$149 00	Modem, External	Boca 56K	GC9704-1	3/1/98
1	se	\$790 00	Monitor 13" color	Sony PVM-14 M2U	GC9703	3/1/98
1	se	\$790 00	Monitor, 13" color	Sony PVM-14 M2U	GC9703	3/1/98
1	ea	\$100 00	Nady ALD-800 Multi-channel Wireless RF- w/4 receivers			6/1/98
1	ea	\$0 00	Overhead projector	(bonus with copier - no cost)		6/1/98
2	ea	\$350 00	Portable printers w/all accessories	HP Deskjets		6/1/98
1	se	\$395 00	Recorder Audio Cassette	Marantz PMD-201	GC9703	3/1/98
1	se	\$1 300 00	Recorder/Player, Editing	Panasonic AG-4700	GC9703	3/1/98
1	se	\$1,300 00	Recorder/Player, Editing	Panasonic AG-4700	GC9703	3/1/98
1	ea	\$197 06	Safe, metal	Uchida		4/5/99
1	se	\$6 040 00	Server 315	IBM PPRO 200	GC9704-1	3/1/98
2	ea	\$313 24	Software Corel Draw 8	Arabic upgrade		4/11/99
1	ea	\$308 00	Software, Corel WP Suite Prof V8 0		GC9704-1	3/1/98
1	ea	\$470 29	Software, Microsoft Office 97	Arabic		11/23/97
1	se	\$2,169 00	Software MS Back Office SBS	25 user License	GC9704-1	3/1/98
1	ea	\$140 00	Software, MS Front page 98		GC9704-1	3/1/98
1	ea	\$49 00	Software Norton Anti-Virus		GC9704-1	3/1/98
1	ea	\$735 29	Software, Page Maker	Arabic		10/5/98
1	ea	\$132 35	Software Windows 95	Arabic		11/23/97
1	ea	\$50 00	Splicing Block			6/1/98
4	ea	\$129 41	Stool office with wheels			3/3/99
1	ea	\$117 65	Stool office with wheels small			3/3/99
2	ea	\$176 47	Table office wood			3/3/99
1	se	\$294 00	Titler, Full keyboard	Panasonic WV-KB12A	GC9703	3/1/98

**Attachment 3
GREENCOM EGYPT III EQUIPMENT PURCHASES**

QTY	UNIT	UNIT VALUE	DESCRIPTION	MODEL	SERIAL NUMBER P O NUMBER	DATE RECEIVED
1	se	\$240 00	Tripod case	Filterbuilt P-508	GC9703	3/1/98
1	se	\$415 00	Tripod spirit level, quick release	Bogen 62 inch	GC9703	3/1/98
1	ea	\$205 88	UPS, 400W	BackUPS 400W	PB9713927210	3/1/98
1	ea	\$205 88	UPS 400W	BackUPS 400W	PB9742037898	3/1/98
1	se	\$1,860 00	VCR Multi-system	Samsung SV300W S-VHS	GC9703	3/1/98
1	ea	\$300 00	Video director			3/9/99
4	ea	\$20 00	Voltage converters, somito	SX-200D		6/1/98
1	ea	\$164 00	Zip drive, external	lomega Zip 100, parallel	GC9704-1	3/1/98
		\$67,105 93	TOTAL			
	ea	each				
	se	set				

ATTACHMENT 4

TRAINING

Management Symposiousts for Irrigation Inspectors
3rd Group
September 29 - October 1, 1999
Port Said

	Name	District	Governorate
1	Abdel Maksoud el Bialy	Biela	Beni Suef
2	Mohamed Shebl	Gharbiya	Gharbiya
3	Maged Mahmoud El Sayed	El Mahmoudiya	Giza
4	Ahmed Ahmed Abdel Razik	Damietta	Damietta
5	Emad Mekhail Gerges	Daqahliya	Daqahliya
6	Ibrahim Issa	Daqahliya	Daqahliya
7	Said Mohamed Abdel Hadı	Daqahliya	Daqahliya
8	Youssef El Barbary	Kana	Kana
9	Attıat Mohamed Ramada	Menoufiya	Menoufiya
10	Amal Kenawy	Shebin Kanater	Qalubiya
11	Naim Abdel Meseah	Fayoum	Fayoum
12	Mostafa Abdalla	Beni Suef	Beni Suef
13	Adel Alı Hussein	Kafr Saker	Sharkiya
14	Refaat Sediak	Minya	Minya
15	Ezat Fawzy Tanay	Youssefy	Youssefy
16	Lwies Salib Nour	Assuit	Assuit
17	Ibrahim Seliman El Gamsy	Bahary El Nasr	Sharkiya
18	Said Wahba Said	Esna	Esna
19	Hamed Ahmed Noaman	Sohag	Sohag
20	Abd El Mola Shamandy Ibrahim	Kanater	Kanater

Management Symposioustms for Irrigation Inspectors
2nd Group
August 11-13, 1999
Ismailia

	Name	District	Governorate
1	Eid Abdel Menoum Ramada		MPWWR
2	Mostafa Khalil Abou El Saad	Kafr El Sheikh	Kafr El Sheikh
3	Gouda Ahmed Mostafa	El Mahala	El Mahala
4	Hassan Ali El Beshtawy	Beheira	Beheira
5	Ismail Mohamed Hadad	Beheira	Beheira
6	Abdou El Said El Sayed	Dakahliya	Dakahliya
7	Ahmed Hussien Abdou	Belkas	Beni Suef
8	Fawkiaya el Braly	Dakahliya	Dakahliya
9	Mohamed Nabil Abdel Moneam	Menoufiya	Menoufiya
10	Abdel Zaher Khalifa	Qalubiya	Qalubiya
11	Nabil Attia	Fayoum	Fayoum
12	Khalifa Abdel Hamid	Beni Suef	Beni Suef
13	Mohamed Mohamed Abdallah	Salhiya	Sharkiya
14	Reda Mahdy Mohamed	Abou Hammad	Sharkiya
15	Awni Ramzy Abdel Sayed	Assuit	Assuit
16	Ahed Amin Gadd Aallah	Aswan	Aswan
17	Nabil Mohamed Hussien	Giza	Giza
18	Mohamed Ahmed Mahmoud	El Nasr	Sharkiya
19	Helmy Ahmed Abbas	Qena	Qena
20	Saleh Beshara El Abbady	Qena	Qena
21	Mohamed Hamdy El Sayed	Gerga	Minya

GreenCOM III Egypt
Management Symposiums for Senior Staff
1st Group
Feb 17 - 19, 1999
Aswan

	Name	Title	Governorate
1	Mosaad El Kaakaa	Head of Central Dept	Alexandria
2	Kamal Ghoneim	Head of Central Dept	Behiera
3	Hosny Morsy El Zaher	Head of Central Dept	Kafr El Sheik
4	Ezzat Maraie	General Manager	Gharbiya
5	Ali El Sheik	Head of Central Dept	Qalubiya
6	Abdel Fatah Salman	Dir of Minister's office	Ministry
7	Salah Kandiel	General Manager	Delta Barrage
8	El Saied Abdel Moneim Youssef	General Manager	East Daqahliya
9	Mohamed Abbas	Irrigation Gen Manager	Ismailia
10	Mohamed Ahmed El Sayed	Head of Central Dept	Sinaï
11	Abou Zied Ahmed Abou Zied	Head of Central Dept	Giza
12	Mohamed A Rahman Khalil	Irrigation Gen Manager	Minya
13	Mohsen Mounir Faltas	Head of Central Dept	Sohag
14	Mahmoud Mostafa	General Manager	Qena
15	Khairy Amin Shehata	Head of Central Dept	Aswan
16	Samir Yacoub	Head of Central Dept	Fayoum
17	Mohamed Ramy	Info Cen Supervisor	Ministry

GreenCOM III Egypt
Management Symposiums for Senior Staff
2nd Group
April 23 - 25, 1999
Port Said

	Name	Title	Governorate
1	Maher El Khodary	Head of Central Dept	Sharkiya
2	Adel El Qousify	Head of Central Dept	
3	Abdel Hakim Hassan	Head of Central Dept	Assuit
4	Abdel Reheim Abdel Wahab	Head of Central Dept	Minya
5	Mostafa Abou Kriesha	Head of Central Dept	Qena
6	Hussein Elwan	Head of Central Dept	
7	Taher Ziedan	Head of Central Dept	
8	Farag El Yamany	Head of Central Dept	Ismailia
9	Abdel Kader Mosherrf	General Manager	El Nassr
10	Ahmed El Masarawy	General Manager	Behiera
11	Shawky Kaed	General Manager	Qalubiya
12	Refky El Bendary	General Manager	Dakahliya
13	Salah El Shazly	General Manager	
14	Wadid Gamil	General Manager	Beni Suef
15	Essam Barakat	General Manager	
16	Fawzy El Lakany	General Manager	Damietta
17	Fawzy El Sobary	General Manager	Kafr El Sheik
18	Abdel Hamed El Gayar	General Manager	Menoufiya
19	Hussein El Atfy	Head of Central Dept	

GreenCOM III Egypt
Management Symposiums for Senior Staff
3rd Group
April 29 - 1 May 1999
Port Said

	Name	Title	Governorate
1	Ramsis Bakhoun	Head of Irrigation Sector	
2	Abdel Moneam El Bakly	Head of Central Dept	Menoufiya
3	Galal Bada	Head of Central Dept	Gharbiya
4	Hasab El Nabi Khafagy	Head of Central Dept	Beni Suef
5	Mohamed Ali Ibrahim	Head of Central Dept	New Valley
6	Faisal Tobar	Head of Central Dept	
7	Mohamed Mohammed Morsy	Head of Central Dept	
8	Mohamed Rashad Romaih	Head of Central Dept	Dakahliya
9	Shehata Kamel	General Manager	
10	Mahoumd Mostafa	General Manager	Alexandria
11	Fawzy El Bishbeeshy	General Manager	Behiera
12	Mohamed El Waraky	General Manager	Sharkiya
13	Abdel Salam Mohamed El Deib	General Manager	Minya
14	Mohamed Ragai Mahfouz	General Manager	Assut
15	Mahmoud Abdel Hakim A El Mohsen	Acting Gen Manager	Fayoum
16	Ibrahim Mohamed Khalil	General Manager	Aswan
17	Abdel Mageid Ismail	General Manager	Sharkiya
18	Kamal Girgis	General Manager	Giza
19	Adel El Kholy	General Manager	
20	Ali Mohamed Mahmoud	General Manager	Sohag
21	Samr Basiouni Emara	General Manager	Matrouh

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 2
Feb 20 - 25, 1999 (1st)
Isis Aswan

	Name	Distirict	Governorate
1	Abou Bakr Tawfik	Minya	Minya
2	Fouad Zakarya Fouad	Minya	Minya
3	Abdel Hamid Mostafa El Nahhas	Minya	Minya
4	Reda Ibrahim Abouda	Minya	Minya
5	Nader Samir Rizk	Minya	Minya
6	Emad Filip Wahba	Minya	Minya
7	Shohdy Halim Labib	Minya	Minya
8	Ahmed Hassan Mohamed	Minya	Minya
9	Fady Samir Girgis	Minya	Minya
10	Abdel Meseih Saad Abdel Messeih	Assyout	Assyout
11	Magdy Mostafa Ahmed	Assyout	Assyout
12	Saad Abdel Hamid Abdel Latief	Assyout	Assyout
13	Salah Abdel Meguid Mohamed	Sohag	Sohag
14	Farag Allah Abdel Gayed	Sohag	Sohag
15	Abdel Latief Ahmed Abdel Latief	Sohag	Sohag
16	Abdel Akher Mohamed Abdallah	Sohag	Sohag
17	Mohamed Abdel Kader Hassanien	Sohag	Sohag
18	Atef Abdel Shaffi Ahmed	Qena	Qena
19	Mohamed Talaat Aly Mostafa	Qena	Qena
20	Ayed Hassan Abdallah	Qena	Qena
21	Gamal Alfy Alexan	Qena	Qena
22	Ismail Abdel Hameid Sliman	Qena	Qena
23	Fakhory Adeeb Zaki	Asswan	Asswan
24	Ibrahim Mohamed Ahmed	Asswan	Asswan

GreenCOM III Egypt
Development of Communication Skills for Field Engineers

Phase 2

March 6 - 11, 1999 (2nd)

Sheraton Luxor

	Name	Distirict	Governorate
1	Salah Abdel Hakim Ziena	Noubaria	Alexandria
2	Mostafa Kamel Mohamed	Noubaria	Alexandria
3	Shiref Farouk Abdel Hamed	El Nassr Canal	Alexandria
4	Ahmed Ali El Gammal	El Nassr Canal	Alexandria
5	Samy Abdel Moneam El Shabory	Beheira	Beheira
6	Ahmed Rizk Gharib Abdel Alla	Beheira west	Beheira
7	Salah Ahmed El Ashray	Beheira	Beheira
8	Mohamed Fathi Soliman	Edko	Beheira
9	Seham Ali Nabih	El Raml	Beheira
10	El Sayed Anwar Shehab	Abou Hommos	Beheira
11	Hany Mohamed El Messeiry	Delta West	Beheira
12	Adel Abdel Kader Abdel Aleem	Desouk	Kafr El Shiekh
13	Mohamed Hussein El Tayar	Fouh	Kafr El Shiekh
14	Ahmed Mohamed Hathout	Sidi Salem East	Kafr El Shiekh
15	Mahmoud Ahmed El Mahdy	Sid Ghazy	Kafr El Shiekh
16	Ahmed Sherif Salah	Kafr El Shiekh	Kafr El Shiekh
17	Ashraf El Mohmedy Hegazy	El Mansour	Kafr El Shiekh
18	Sabry Attalh Shalby	Biela	Kafr El Shiekh
19	Abdallh Hamed Abdel Naby	Tanta	Kafr El Shiekh
20	Saad Abdel Hady Assar	Mahla West	Gharbiya
21	Khaled Abdel Rahman Median	Samanoud	Gharbiya
22	Hassan Mohamed Khattab	Tanta	Gharbiya
23	Yehie Khalil Metawie	Santa	Gharbiya
24	Alaa Mohamed Hassan	Kafr El Zayat	Gharbiya

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 2
April 3 - 8, 1999 (3rd)
Sheraton Luxor

	Name	Distirct	Governorate
1	Abdel Geilil Abou Homar	Gharbiya	Gharbiya
2	Abdel Moneam Safiena	Gharbiya	Gharbiya
3	Hosny Abdel Wahab Mohamed	Gharbiya	Gharbiya
4	Mahmoud Mohamed El Dessouki	Gharbiya	Gharbiya
5	Mohssen Mohamed Aly Shalaby	Gharbiya	Gharbiya
6	Ibrahim Zaki El Hayees	Kafr El Sheikh	Kafr El Sheikh
7	Shaker Mohamed Hassan	Kafr El Sheikh	Kafr El Sheikh
8	Mohamed Ibrahim Ghariba	Kafr El Sheikh	Kafr El Sheikh
9	Shehata Aly Khalifa	Alexandria	Alexandria
10	Mohamed Anwar Ibrahim	Alexandria	Alexandria
11	Hany Neamat Allah Farrag	Alexandria	Alexandria
12	Hamdy Shawky El Zekety	Beheira	Beheira
13	Hussein Hassan Ashour	Beheira	Beheira
14	Abdallah Abdel Halim Abdel Rahman	Beheira	Beheira
15	Abbas Mohamed Abbas Hamza	Beheira	Beheira
16	Magdy Ibrahim Abdel Mejed	Beheira	Beheira
17	Ahmed Mohamed Farouk	Beheira	Beheira
	Abdallh Ibrahim Fayad	Beheira	Beheira
	Mohamed Abdel Rahman El Serafy	Beheira	Beheira

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 2
April 17 - 22, 1999 (4th)
Port Said

	Name	Distirict	Governorate
1	Osama Lotfy Abbas	Giza	Giza
2	Hassan Shaban Ahmed	Giza	Giza
3	Mohsen Abdel Rashid Mohamed	Giza	Giza
4	Tarek Mohamed Shalaby	Giza	Giza
5	Mohamed Makaed Hussien	Menoufiya	Menoufiya
6	Raof Gerges Nashed	Menoufiya	Menoufiya
7	Samy Sayed Abdel Halim Marzouk	Menoufiya	Menoufiya
8	Osama Mohamed khalil	Menoufiya	Menoufiya
9	Nabil Mohamed Labib Azab	Qalubiya	Qalubiya
10	Khaled Fathi Abdel Kader	Qalubiya	Qalubiya
11	Abdel Moniem A Fatah Desoki	Qalubiya	Qalubiya
12	Ashraf Saleh Aly	Beni Suef	Beni Suef
13	Mobark Riad Mobark	Beni Suef	Beni Suef
14	Awadallh Awis Mohamed	Beni Suef	Beni Suef
15	Magdy Anwar Moanes	Beni Suef	Beni Suef
16	Mostaf Saad Osman	Fayoum	Fayoum
17	Adel Ismail Abdel Hamid	Fayoum	Fayoum
18	Ayman Mohamed Ahmed	Fayoum	Fayoum
19	Mahmoud Yassen Abbas	Fayoum	Fayoum
20	Mohamed Saad El Fefiany	Kafer El Sheikh	Kafer El Sheikh
21	Yasser El Sayed Mansour	Kafer El Sheikh	Kafer El Sheikh
22	Ibrahim Mohamed El Sharkawy	Kafer El Sheikh	Kafer El Sheikh
23	Emeil Fransis Iskandr	Kafer El Sheikh	Kafer El Sheikh

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 2
May 8 - 13, 1999 (5th)
Asswan

	Name	Distirict	Governorate
1	Gamal Mehana Ahmed Aly	Qena	Qena
2	Fathi Ahermd Sabra	Neqada	Qena
3	Yasser Abdel Reheim Mohamed	Abou Teshet	Qena
4	Ahmed Abdel Wahab Mohamed	Essna	Qena
5	Aymen Abdel Rahman Mohamed	Luxor	Loxour
6	Mohamed Mahmoud Abdel Kader	Tahta	Sohag
7	Sabry Mokhtar Abou Shama	Dar El Salam	Sohag
8	Kamel Gab Allah Nassr	El Monshaa	Sohag
9	Ahmed Mohamed Hardy	Tama	Sohag
10	Assem Fathi Mossad Soliman	Gerga	Sohag
11	Sayed Saad Mohamed Morsy	Assuit	Assuit
12	Salah Mohamed Shehata	El Baddary	Assuit
13	Ahmed Sherf Aref	Qussia	Assuit
14	Abdel Menoem Abdalh Noah	Maghagha West	Menya
15	Adel Massoud Abdel Sayed	Dayrout	Menya
16	Magdy Ibrahim Ahmed	El Kamadier	Menya
17	Omar Darwish Mostafa Ahmed	Abou Korkas	Menya
18	Ahmed Saleh Mohamed Abdalh	Menya West	Menya
19	Mohamed Abdel Monem Moussa	Samalout	Menya
20	Mansour Abdel Rassoul Mohamed	Menya West	Menya
21	Ibrahim El Hussein Ismail	Mattay	Menya
22	Khaled Ahermd Abdel Rehiem	Malloy	Menya

GreenCOM III Egypt
Development of Communication Skills for Field Engineers

Phase 2

July 31 - Aug 5, 99 (6th week)

Port Said

	Name	District	Governorate
1	Mohamed Ahmed El Fouly	Shebien El Kanater	Shebien El Kanater
2	Tarek Aoud Ibrahim	Qalub	Qalubia
3	Belal Abdel Kader Ahmed	Toukh	Qalubia
4	Ahmed Fathi El Hossieny	Banha	Qalubia
5	El Sayed El Shahat Shablay	Quesna	Menoufiya
6	Aml Mohame Abdel Rehem	Shebien El Kom	Menoufiya
7	Mohamed Mohamed Abdel Wahab	Kafr El Zayat	Menoufiya
8	Raffat Mohamed Abdel Aleem	Sela	Fayoum
9	Ahmed Ibrahim Ahmed	Senouras	Fayoum
10	Ahmed Mohamed Abou Ziena	El Ayat	Giza
11	Shawky Mohameden Ahmed	El Badrashien	Giza
12	Refaat El Sawi Riad	El Saf	Giza
13	Mohamed Zaher Taha	Helwan	Giza
14	Ramadan Mahmoud Ahmed	El Riah	Giza
15	Madihe Abdel Zaher Hamada	Kom Ombo	Aswan
16	Hisahm Abdel Aal	Aswan	Aswan

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 2
September 11-16, 1999 (7th week)
Alexandria

	Name	Distirict	Governorate
1	Ahmed Mohamed Gharib	Ismailia	Ismaila
2	Hassan El Zanaty Mohamed	Ismailia	Ismaila
3	Essam Attia Tawfik El Ghandour	Sharkiya	Sharkiya
4	Abdel Latif El Sayed Ahmed	Sharkiya	Sharkiya
5	Abdel Atty Khalil Mohamed	Sharkiya	Sharkiya
6	Gamal Abdel Fattah El Bazz	Sharkiya	Sharkiya
7	Emam Ahmed Mohamed El Emam	Sharkiya	Sharkiya
8	Anwar Naguib Hassan	Sharkiya	Sharkiya
9	Ayman Fahim Abdel Mallek	Sharkiya	Sharkiya
10	Salah Ahmed Abdel Hamied	Sharkiya	Sharkiya
11	Samir Elsayd Mohamed El Beshlawy	Sharkiya	Sharkiya
12	Aly Mohamed El Sahrawy	Dakahliya	Dakahliya
13	Mohamed Mohamed Mashaly	Dakahliya	Dakahliya
14	Abdel Hady Ragab Abdel Rahman	Dakahliya	Dakahliya
15	Shokry Saad Abdel Ghany Badwy	Dakahliya	Dakahliya
16	Mohamed Ibrahim Zayd	Dakahliya	Dakahliya
17	Mohamed Salam Hamed Gomaa	Dakahliya	Dakahliya
18	Refaat Mohamed Soliman	Dakahliya	Dakahliya
19	Abdou Ahmed Abdou Soliman	Dakahliya	Dakahliya
20	Okasha Baghdady Aly	Qena	Qena
21	Magdy Ayoub Boutrous	Qena	Qena

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 2
October 2-7, 1999 (8th week)
Port Said

	Name	Distirict	Governorate
1	Khaled Abou El Ela Mostafa	El Kana	Ismailia
2	Reda Mohamed Ibrahim	El Kana	Ismailia
3	Kamel Mohamed Hassan	Damietta	Damietta
4	Ibrahim Abdel Moneim Ibrahim	Damietta	Damietta
5	Nader Kamal Habib	Damietta	Damietta
6	Medhat Ahmed Hamza	Dakahliya	Dakahliya
7	Fathi Mamdhouh Shatta	Dakahliya	Dakahliya
8	Shaban Ahmed Ibrahim	Dakahliya	Dakahliya
9	Aly Ibrahim Mohamed	Dakahliya	Dakahliya
10	Alla El Deen Abbbas Hamza	Dakahliya	Dakahliya
11	Abdel Moneam Saleh Abdou	Dakahliya	Dakahliya
12	Ahmed El Sayed Allam	Dakahliya	Dakahliya
13	Mekheamr Abdel Aziz El Shobky	Dakahliya	Dakahliya
14	Emara Mohamed Ahmed	Sharkiya	Sharkiya
15	Alaa Ezzat Attia Massaoud	Sharkiya	Sharkiya
16	Abdel Fattah Gaber El Bazz	Sharkiya	Sharkiya
17	Mohamed El Shahat Hassan Helal	Sharkiya	Sharkiya
18	Mohamed Ahmed Fouad	Sharkiya	Sharkiya
19	Ismail Mohamed Aly	Sharkiya	Sharkiya
20	Mohamed Fathi Abdel Aziz	Sharkiya	Sharkiya
21	El Sayed Mansour Tawfik	Sharkiya	Sharkiya
22	Gamal Abdel Hamied	Sharkiya	Sharkiya
23	Mohamed Abdel Raouf	Kom Ombo	Aswan

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
May 3 - 8, 1999 (1st)
Palestine hotel / Alexandria

	Name	Distirct	Governorate
1	Salah Abdel Hakim Ziena	Noubaria	Alexandria
2	Mostafa Kamel Mohamed	Noubaria	Alexandria
3	Shiref Farouk Abdel Hamed	El Nassr Canal	Alexandria
4	Ahmed Ali El Gammal	El Nassr Canal	Alexandria
5	Samy Abdel Moneam El Shabory	Beheira	Beheira
6	Ahmed Rizk Gharib A Salam	Beheira west	Beheira
7	Abdel Salam Khair Allah	Beheira west	Beheira
8	Salah Ahmed El Ashray	Beheira	Beheira
9	Mohamed Fathi Soliman	Edko	Beheira
10	Seham Ali Nabih	El Raml	Beheira
11	El Sayed Anwar Shehab	Abou Hommos	Beheira
12	Hany Mohamed El Messeiry	Delta West	Beheira
13	Adel Abdel Kader Abdel Aleem	Desouk	Kafr El Shiekh
14	Mohamed Hussein El Tayar	Fouh	Kafr El Shiekh
15	Ahmed Mohamed Hathout	Sidi Salem East	Kafr El Shiekh
16	Mahmoud Ahmed El Mahdy	Sid Ghazy	Kafr El Shiekh
17	Ahmed Sherif Salah	Kafr El Shiekh	Kafr El Shiekh
18	Ashraf El Mohmedy Hegazy	El Mansour	Kafr El Shiekh
19	Sabry Attalh Shalby	Biela	Kafr El Shiekh
20	Abdallh Hamed Abdel Naby	Tanta	Kafr El Shiekh
21	Saad Abdel Hady Assar	Mahla West	Gharbiya
22	Khaled Abdel Rahman Median	Samanoud	Gharbiya
23	Hassan Mohamed Khattab	Tanta	Gharbiya
24	Yehie Khalil Metawie	Santa	Gharbiya
25	Alaa Mohamed Hassan	Kafr El Zayat	Gharbiya

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
July 11-16, 1998 (2nd)
Luxor

	Name	Distirct	Governorate
1	Mahmoud Gharib Mahmoud	Wasta	Beni Suef
2	Magdy Ibrahim Ahmed	El Kamadier	Menya
3	Omar Darwish Mostafa Ahmed	Abou Korkas	Menya
4	Ahmed Saleh Mohamed Abdalh	Menya West	Menya
5	Mohamed Abdel Monem Moussa	Samalout	Menya
6	Mansour Abdel Rassoul Mohamed	Menya West	Menya
7	Ibrahim El Hussein Ismail	Mattay	Menya
8	Khaled Ahemd Abdel Rehiem	Malloy	Menya
9	Abdel Menoem Abdalh Noah	Maghagha West	Menya
10	Adel Massoud Abdel Sayed	Dayrout	Menya
11	Ahmed Sherif Aref	Qussia	Assuit
12	Salah Mohamed Shehata	El Baddary	Assuit
13	Sayed Saad Mohamed Morsy	Assuit	Assuit
14	Mohamed Mahmoud Abdel Kader	Tahta	Sohag
15	Sabry Mokhtar Abou Shama	Dar El Salam	Sohag
16	Kamel Gab Allah Nassr	El Monshaa	Sohag
17	Ahmed Mohamed Handy	Tama	Sohag
18	Assem Fathi Mossad Soliman	Gerga	Sohag
19	Gamal Mehana Ahmed Aly	Qena	Qena
20	Fathi Ahemd Sabra	Neqada	Qena
21	Yasser Abdel Reheim Mohamed	Abou Teshet	Qena
22	Ahmed Abdel Wahab Mohamed	Essna	Qena
23	Aymen Abdel Rahman Mohamed	Luxor	Loxour
24	Madieh Abdel Zaher	Kom Ombou	Asswan
25	Hisham Abdel All Farghally	Asswan	Asswan
26	Alaa El Deen Ibrahim Hussein	Edfo	Asswan

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
July 25 - 30 , 1998 (3rd)
Helnan - Port Said

	Name	Distirict	Governorate
1	Mohamed Ahmed El Fouly	Shebien El Kanater	Shebien El Kanater
2	Tarek Aoud Ibrahim	Qaluib	Qaluibia
3	Belal Abdel Kader Ahmed	Toukh	Qaluibia
4	Ahmed Fathi El Hossieny	Banha	Qaluibia
5	Fathi Fahim El Kholy	Menouf	Menoufiya
6	El Sayed El Shahat Shablay	Quesna	Menoufiya
7	Essam Abdel Aziz Mohamed	Shebien El Kom	Menoufiya
8	Aml Mohame Abdel Reheim	Shebien El Kom	Menoufiya
9	Mohamed Mohamed Abdel Wahab	Kafr El Zayat	Menoufiya
10	Raffat Mohamed Abdel Aleem	Sela	Fayoum
11	Hany Fouad Ahmed	El Ghark	Fayoum
12	Ahmed Ibrahim Ahmed	Senouras	Fayoum
13	Ahmed Hassan Abbas	Kouta	Fayoum
14	Ahmed Abdel Atty Abdou	Samsata	Beni Suef
15	Ahmed Mohamed Abou Ziena	El Ayat	Giza
16	Shawky Mohameden Ahmed	El Badrashien	Giza
17	Refaat El Sawi Riad	El Saf	Giza
18	Mohamed Zaher Taha	Helwan	Giza
19	Ramadan Mahmoud Ahmed	El Riah	Giza

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
August 15 - 2, 1998 (4th)
Helnan - Port Said

	Name	District	Governorate
1	Abou Bakr Tawfik	Minya	Minya
2	Fouad Zakarya Fouad	Minya	Minya
3	Abdel Hamid Mostafa El Nahhas	Minya	Minya
4	Reda Ibrahim Abouda	Minya	Minya
5	Nader Samir Rizk	Minya	Minya
6	Emad Filip Wahba	Minya	Minya
7	Shohdy Halim Labib	Minya	Minya
8	Ahmed Hassan Mohamed	Minya	Minya
9	Fady Samir Girgis	Minya	Minya
10	Abdel Meseih Saad Abdel Messeih	Assyout	Assyout
11	Magdy Mostafa Ahmed	Assyout	Assyout
12	Wael Shawky Danial	Assyout	Assyout
13	Saad Abdel Hamid Abdel Latief	Assyout	Assyout
14	Kamel Yacoub Kamel	Sohag	Sohag
15	Farag Allah Abdel Gayed	Sohag	Sohag
16	Abdel Latief Ahmed Abdel Latief	Sohag	Sohag
17	Abdel Akher Mohamed Abdallah	Sohag	Sohag
18	Mohamed Abdel Kader Hassanien	Sohag	Sohag
19	Atef Abdel Shaffi Ahmed	Qena	Qena
20	Mohamed Talaat Aly Mostafa	Qena	Qena
21	Ayed Hassan Abdallah	Qena	Qena
22	Gamal Alfy Alexan	Qena	Qena
23	Ismail Abdel Hameid Sliman	Qena	Qena
24	Fakhory Adeeb Zaki	Asswan	Asswan
25	Ibrahim Mohamed Ahmed	Asswan	Asswan

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
August 29 September 3, 1998 (5th)
Helnan - Port Said

	Name	Distirct	Governorate
1	Ahmed Mohamed Gharib	Ismailia	Ismaila
2	Hassan El Zanaty Mohamed	Ismailia	Ismaila
3	Essam Attia Tawfik El Ghandour	Sharkiya	Sharkiya
4	Abdel Latif El Sayed Ahmed	Sharkiya	Sharkiya
5	Abdel Atty Khalil Mohamed	Sharkiya	Sharkiya
6	Gamal Abdel Fattah El Bazz	Sharkiya	Sharkiya
7	Emam Ahmed Mohamed El Emam	Sharkiya	Sharkiya
8	Anwar Naguib Hassan	Sharkiya	Sharkiya
9	Ahmed Mohamed El Madak	Sharkiya	Sharkiya
10	Ayman Fahim Abdel Mallek	Sharkiya	Sharkiya
11	Samir Elsayd Mohamed El Beshlawy	Sharkiya	Sharkiya
12	Aly Mohamed El Sahrawy	Dakahliya	Dakahliya
13	Mohamed Mohamed Mashaly	Dakahliya	Dakahliya
14	Abdel Hady Ragab Abdel Rahman	Dakahliya	Dakahliya
15	Shokry Saad Abdel Ghany Badwy	Dakahliya	Dakahliya
16	Mohamed Ibrahim Zaiyd	Dakahliya	Dakahliya
17	Mohamed Salam Hamed Gomaa	Dakahliya	Dakahliya
18	Refaat Mohamed Soliman	Dakahliya	Dakahliya
19	Abdou Ahmed Abdou Soliman	Dakahliya	Dakahliya
20	Okasha Baghdady Aly	Qena	Qena
21	Magdy Ayoub Boutrous	Qena	Qena

Development of Communication Skills for Field Engineers
Phase 1
September 26 - October 1, 1998 (6)
Helnan - Port Said

	Name	Distirct	Governorate
1	Abdel Gelil Abou Homar	Gharbiya	Gharbiya
2	Abdel Moneam Safiena	Gharbiya	Gharbiya
3	Hosny Abdel Wahab Mohamed	Gharbiya	Gharbiya
4	Mahmoud Mohamed El Dessouki	Gharbiya	Gharbiya
5	Mohssen Mohamed Aly Shalaby	Gharbiya	Gharbiya
6	Ibrahim Zaki El Hayees	Kafr El Sheikh	Kafr El Sheikh
7	Shaker Mohamed Hassan	Kafr El Sheikh	Kafr El Sheikh
8	Mohamed Ibrahim Ghariba	Kafr El Sheikh	Kafr El Sheikh
9	Mohamed Saad El Fetiany	Kafr El Sheikh	Kafr El Sheikh
10	Yasser El Saye Mansour	Kafr El Sheikh	Kafr El Sheikh
11	Ibrahim Mohamed El Sharkawy	Kafr El Sheikh	Kafr El Sheikh
12	Emiel Fransis Iskandar	Kafr El Sheikh	Kafr El Sheikh
13	Shehata Aly Khalifa	Alexandria	Alexandria
14	Mohamed Anwar Ibrahim	Alexandria	Alexandria
15	Hany Neamat Allah Farrag	Alexandria	Alexandria
16	Hamdy Shawky El Zekety	Beheira	Beheira
17	Hussein Hassan Ashour	Beheira	Beheira
18	Abdallah Abdel Halim Abdel Rahman	Beheira	Beheira
19	Abbas Mohamed Abbas Hamza	Beheira	Beheira
20	Magdy Ibrahim Abdel Mejed	Beheira	Beheira
21	Ahmed Mohamed Farouk	Beheira	Beheira

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
November 14 - 19, 1998 (7th)
Helnan - Port Said

	Name	District	Governorate
1	Khaled Abou El Ela Mostafa	El Kana	Ismailia
2	Reda Mohamed Ibrahim	El Kana	Ismailia
3	Kamel Mohamed Hassan	Damietta	Damietta
4	Ibrahim Abdel Moneim Ibrahim	Damietta	Damietta
5	Nader Kamal Habib	Damietta	Damietta
6	Medhat Ahmed Hamza	Dakahliya	Dakahliya
7	Fathi Mamdhoush Shatta	Dakahliya	Dakahliya
8	Shaban Ahmed Ibrahim	Dakahliya	Dakahliya
9	Aly Ibrahim Mohamed	Dakahliya	Dakahliya
10	Ahmed El Sayed Allam	Dakahliya	Dakahliya
11	Alla El Deen Abbbas Hamza	Dakahliya	Dakahliya
12	Abdel Moneam Saleh Abdou	Dakahliya	Dakahliya
13	Mekheamr Abdel Aziz El Shobky	Dakahliya	Dakahliya
14	Emara Mohamed Ahmed	Sharkiya	Sharkiya
15	Alaa Ezzat Attia Massaoud	Sharkiya	Sharkiya
16	Abdel Fattah Gaber El Bazz	Sharkiya	Sharkiya
17	Mohamed El Shahat Hassan Helal	Sharkiya	Sharkiya
18	Mohamed Ahmed Fouad	Sharkiya	Sharkiya
19	Ismail Mohamed Aly	Sharkiya	Sharkiya
20	Mohamed Fathi Abdel Aziz	Sharkiya	Sharkiya
21	El Sayed Mansour Tawfik	Sharkiya	Sharkiya
22	Gamal Abdel Hamied	Sharkiya	Sharkiya

GreenCOM III Egypt
Development of Communication Skills for Field Engineers
Phase 1
November 28 - 3 December, 1998 (8th)
Asswan

	Name	Distirct	Governorate
1	Osama Lotfy Abbas	Giza	Giza
2	Hassan Shaban Ahmed	Giza	Giza
3	Mohsen Abdel Rashid Mohamed	Giza	Giza
4	Tarek Mohamed Shalaby	Giza	Giza
5	Raof Gerges Nashed	Menoufiya	Menoufiya
6	Mohamed Makaed Hussien	Menoufiya	Menoufiya
7	Samy Sayed Abdel Halim	Menoufiya	Menoufiya
8	Osama Mohamed khalil	Menoufiya	Menoufiya
9	Nabil Mohamed Labib Azab	Qalubiya	Qalubiya
10	Khaled Fathi Abdel Kader	Qalubiya	Qalubiya
11	Abdel Moniem A Fatah Desoki	Qalubiya	Qalubiya
12	Ashraf Saleh Aly	Beni Suef	Beni Suef
13	Mobark Riad Mobark	Beni Suef	Beni Suef
14	Awadallh Awis Mohamed	Beni Suef	Beni Suef
15	Magdy Anwar Moanes	Beni Suef	Beni Suef
16	Mostaf Saad Osman	Fayoum	Fayoum
17	Adel Ismail Abdel Hamid	Fayoum	Fayoum
18	Ayman Mohamed Ahmed	Fayoum	Fayoum
19	Mahmoud Yassen Abbas	Fayoum	Fayoum

ATTACHMENT 5

MEETINGS

Attachment 5
MAJOR BRIEFING MEETINGS AND WORKSHOPS

DATE	EVENT	LOCATION
June 1997	Mobilization Workshop	
September 1997	Multi-part Team Meeting – District Engineers' Ideal Behaviors	MPWWR
December 1997	Farmers KAP Presentation	MPWWR
May 21-23, 1998	Staff Retreat	Port Said
May 22, 1998	Tripartite Review #1	Port Said
November 23, 1998	Tripartite Review #2	Cairo/hotel
October 24, 1999	End of Project Briefing	Cairo/MPWWR
October 26, 1999	Media Launch	Cairo/hotel

ATTACHMENT 6

COMMUNICATION PRODUCTS PRODUCED

**Attachment 6
COMMUNICATION PRODUCTS PRODUCED**

Items designed with GreenCOM assistance and produced by the project and MPWWR funds

Description	English	Arabic
Children's comic book with Ziko		x
Children's poster with Ziko		x
Children's tee shirt with Ziko		x
Fact Sheet 1 Realities of a Fixed Water Supply	x	x
Fact Sheet 2 How Much Water Will You Have In the Future?	x	x
Fact Sheet 3 Where Does Our Water Come From?	x	x
Fact Sheet 4 Sound Agricultural Production	x	x
Fact Sheet 5 Egypt's Agricultural Water Distribution System	x	x
Fact Sheet 6 Collaborative Farmer Efforts Help Maximize	x	x
Fact Sheet 7 Irrigation Water Management	x	x
Fact Sheet 8 Curb Pollution To Expand Water Reuse	x	x
Flyer, Short Duration Rice		x
Flyer, Sugar Cane with Gated Pipe Irrigation		x
Poster, Hand with Drop (logo) (reprint)	x	x
Poster, Nile Map (reprint)	x	x
Poster Multi (reprint)	x	x
Poster Per Capita (reprint)	x	x
Poster Scale, large format		x
Poster Scale small format		x
Poster Water Network		x
Poster, Pollution		x
Poster Farmer to Farmer Community		x
Poster Farmer to Engineer Collaboration		x
Radio - 6 "Farmer & Engineer" Spots (30 seconds)		x
Radio - 3 "Water Quiz" Spots (30 seconds)		x
TV - 6 "Farmer & Engineer" Spots (60 seconds)	x	x
TV - 3 "Water Quiz" Spots (30 seconds)	x	x
TV - 3 "Puppet" Spots (60 Seconds)	x	x
Video Short Duration Rice	x	x
Video cover sleeve, Short Duration Rice		x
Video, Sugar Cane with Gated Pipe Irrigation	x	x
Video cover sleeve Sugar Cane with Gated Pipe Irrigation		x
Event Folders	x	x
Event Bags	x	x
Pens		x

ATTACHMENT 7

REPORTS PRODUCED

**Attachment 7
REPORTS PRODUCED**

DATE	AUTHOR / RESEARCHER	REPORT TITLE
June 1997	Dan Hilleman	Trip Report
June 1997	Louise Kemprecos	Trip Report
August 1997	Cheryl Groff	Quarterly Progress Report May-Jun 1997
August 1997	WCU	Follow-up on distribution WCU material
September 1997	WCU	Study Tour One Trip Report
October 1997	Louise Kemprecos	Trip Report
October 1997	Louise Kemprecos	Trip Reports
November 1997	Louise Kemprecos	Trip Report
December 1997	GreenCOM Team	Inception Report Implementation Plan & Workplan
December 1997	John L Woods	Organizational Development Update
December 1997	John Woods	Trip Report
January 1998	WCU Louise Kemprecos	Knowledge Attitudes and Practices of District Irrigation Engineers in Egypt Baseline Survey
April 1998	Cheryl Groff	Quarterly Progress Report Jan-Mar 1998
April 1998	Minam Shinn	Trip Report
April 1998	William Mackie	Trip Report
May 1998	Cheryl Groff	One Year Progress Report
May 1998	John Woods	GreenCOM III Tnpartite Review
May 1998	John Woods	Project Progress Indicators
May 1998	John Woods	Trip Report
May 1998	Robert Cowell	Trip Report
August 1998	John Woods	Trip Report
October 1998	Louise Kemprecos	Trip Report
October 1998	Robert Kern	Trip Report
October 1998	Zanaty with WCU	KAP of Egyptian Farmers Towards Water Resources
November 1998	Dan Hilleman	Trip Report
December 1998	Cheryl Groff	Semi-Annual Report June 1998 – November 1997
December 1998	John L Woods	GreenCOM III Tnpartite Review Report
December 1998	John Woods	Trip Report
December 1998	Kemprecos /Zanaty	Farmer KAP – English
December 1998	Kemprecos /Zanaty	Farmer KAP – Arabic
December 1998	Louise Kemprecos	Trip Report
December 1998	William Mackie	A proposed Mass Media Implementation Plan
December 1998	William Mackie	Trip Report
January 1999	Cheryl Groff	Quarterly Progress Report Oct-Dec 1998
February 1999	John Woods	WCU Recommended Organizational Structure and Staffing Report
March 1999	Bill Mackie	Trip Report
March 1999	John Woods	Trip Report
March 1999	William Mackie	Trip Report
March 1999	William Mackie	Trip Report to Luxor
April 1999	Cheryl Groff	Quarterly Progress Report Jan-March 1999
June 1999	Cheryl Groff	Mid-Term Report (Semi-Annual Report Dec 1998)
June 1999	Cheryl Groff	Semi-Annual Report December 1998 - May 1999
June 1999	Dan Hilleman	Trip Report
July 1999	Cheryl Groff	Quarterly Progress Report April-June 1999
October 1999	GreenCOM Team	Final Report
October 1999	John L Woods	Impact of the Project The Results
October 1999	Louise Kemprecos	Exposure of General & Rural Public to Campaign Spots Aired July – Sept 1998
October 1999	Louise Kemprecos	KAP Field Engineers Impact Survey

ATTACHMENT 8

EXAMPLES OF PRODUCTS PRODUCED

WATER

Egypt's Situation

Realities of a Fixed Water Supply

In the next century water will be one of the most valuable resources on earth. Although Egypt is fed by the Nile, which has helped in the growth of the country's civilization, this great river is not without limit.

The Nile supplies 96 percent of Egypt's water. Although it is so integral to Egypt's life and development, it does not belong solely to us. Egypt shares the Nile with nine other countries, namely Sudan, Ethiopia, Eritrea, Tanzania, the Democratic Congo, Uganda, Burundi, Rwanda, and Kenya.

Not only does Egypt share the Nile water with many countries, it also lies at the end of the Nile's route toward the sea. This means that it receives the Nile after it has emptied much of its water along the way, like a farmer whose land lies at the end of a canal.

Egypt has a fixed supply of water which is governed by a 1959 agreement with Sudan.

To ensure a fair share of the Nile's waters, in 1959 Egypt signed an agreement with Sudan on its use. The agreement specifies that Egypt's share of the Nile water is 55.5 billion cubic meters (bcm) per year.

The amount of Nile water Egypt and Sudan share is not arbitrary, but is based upon the natural riverflow, as recorded and averaged over 50 years.

The demand for water will increase with population growth, industrial development, and as Egypt enters upon new agricultural development projects. We need to think of ways to conserve our water.

Q & A

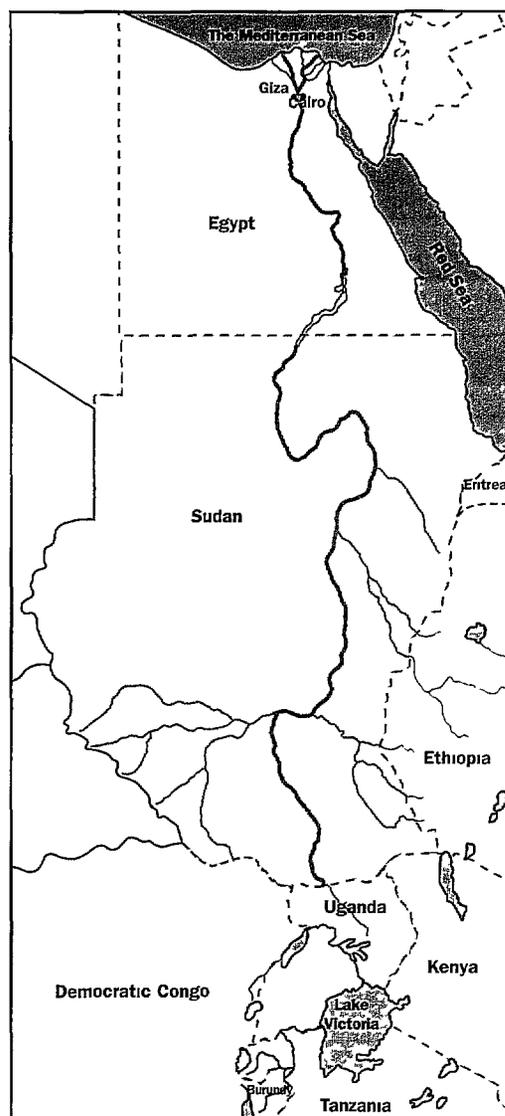
Are countries' shares monitored?

According to the 1959 agreement, both Egypt and Sudan have officials who monitor the amount of water diverted by each country, mak-

ing sure respective countries do not exceed their quota. Releasing more water than the allowed 55.5 bcm will endanger our own water reserve in Lake Nasser.

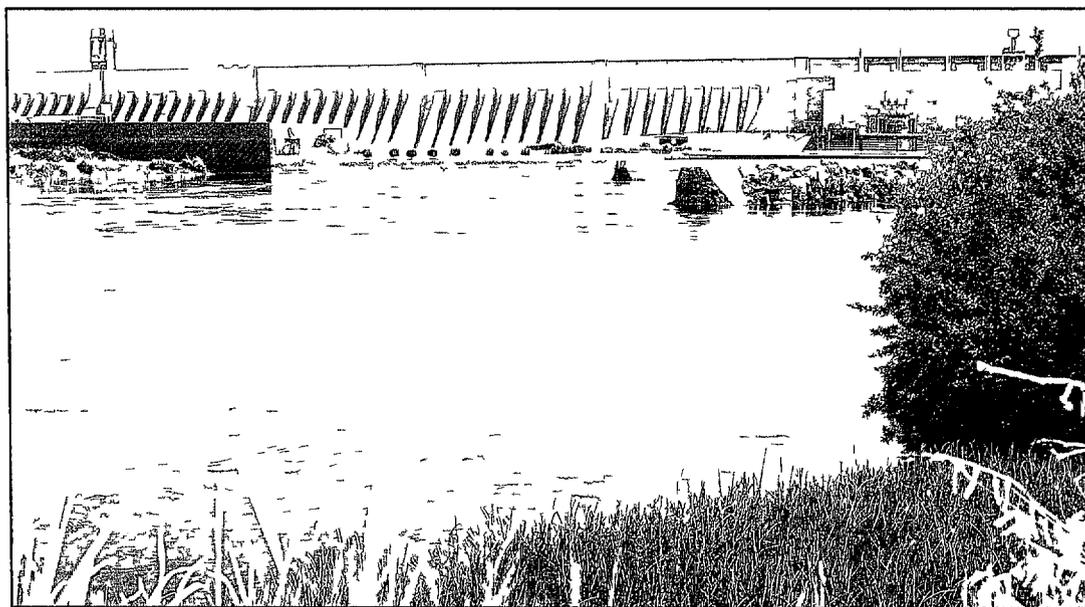
How much water does Egypt currently use?

The latest Ministry of Public Works and Water Resources (MPWWR) reports show that current annual use is about 73 bcm. The extra 17.5 bcm we use over that released from the High Dam comes from reused drainage water, ground water, and a little rainfall. The process



WITH PROTECTION and RATIONAL USE the NILE WILL CONTINUE TO PROVIDE

EGYPT HAS A FIXED SUPPLY OF WATER WHICH IS GOVERNED BY A 1959 AGREEMENT WITH SUDAN.



of reusing water will become more important in the future which is why we should keep water free of pollution

Can Egypt release more than its quota if there are floods?

Egypt can only release more than 55.5 bcm of water if the flood is so great it will endanger the High Dam. This has only happened once in 1998.

If there is a drought upstream, will Egypt be forced to release less than 55.5 bcm?

Between the years 1979 and 1988 a drought upstream was so severe that Egypt was almost forced to release less water. Because droughts occur periodically it is important to store water in Lake Nasser during the years of high Nile inflow.

As the new development projects such as Toshka and Salam Canal are implemented, how will Egypt be able to provide the water?

The ministry is currently working on a number of programs that will save water for the new projects. In the case of Salam Canal which needs 4.45 bcm of water annually 2.11 bcm will come from the Nile and 2.34 bcm will come from reused water. All water needed for Toshka (4-5 bcm) will come from the Nile and will be made available through the new programs by which water will be secured. Suggested methods are introducing crop varieties which require less water, reducing area cultivated with high consumptive use crops, increasing reuse of drainage water, recycling treated sewage water, implementing new irrigation technologies, and improving water resource management.

Can Egypt increase its quota?

According to the agreement the amount of water available to Egypt can be increased through development projects in the Upper Nile, mainly in Sudan. Egypt and Sudan would equally share the increased water supply.

What countries provide the most water that flows through the Nile?

The Ethiopian Knoll and Eastern Sudan supply about 85 percent of the water that flows through the Nile.

Numbers to Remember

- 96% of Egypt's water comes from the Nile
- 55.5 bcm Egypt's share of the Nile water is fixed
- 1959 is the year of the signing of the Nile water agreement with Sudan
- 73 bcm Egypt's current use of water annually
- 85% of Nile water comes from the Ethiopian Knoll and Eastern Sudan



MPWWR
Water Communication Unit



GreenCOM Project
USAID

For more information contact Ministry of Public Works and Water Resources Water Communication Unit Tel (02) 312 3891

WATER

Egypt's Situation

How Much Water Will You Have In the Future?

For human beings water is the most vital prerequisite for life. It makes up 65 percent of our bodies, which is why we cannot live without it for more than 48 hours. Here in Egypt we are blessed to have the Nile, which has made its waters available to us, providing us with life and nourishment.

According to a 1959 agreement with Sudan, the amount of Nile water Egypt is allowed to use is 55.5 billion cubic meters (bcm). If we divide this available amount by the population, we can see how close we are to a situation of water scarcity. Forty years ago, in 1959, the amount of water available for each Egyptian was 1,893 cubic meters per year. By 1996, the amount of water available per person had dropped to 936 m³ per year. In 25 years, this will decrease almost 50% to 582 m³.

In Egypt we are lucky to be close

to the recommended world

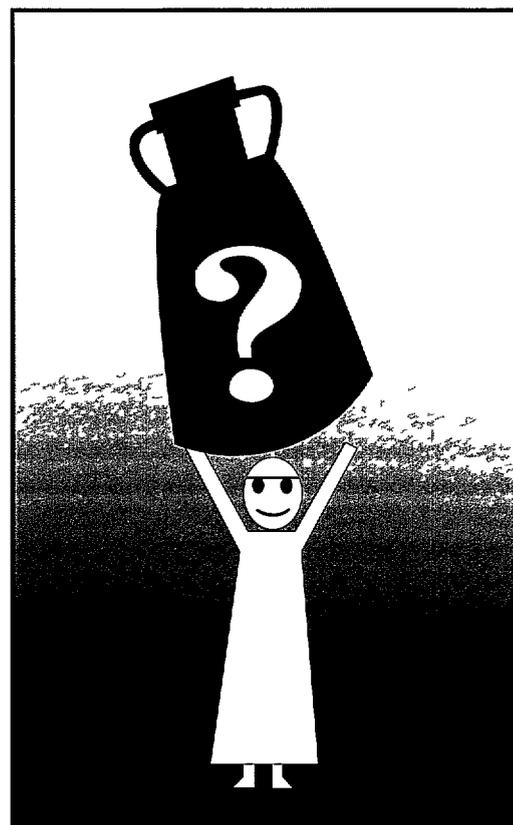
standard of water per person.

But in 25 years, this is going to

change drastically.

With 936 m³ of water per person, Egypt is currently slightly under the recommended world standard, which is 1,000 m³ per person per year.

In the future, as the population grows and as Egypt enters upon new agricultural projects and as industrial development takes place, we are going to need more water. But since our water supply from the Nile is fixed at 55.5 bcm, we will have to reduce the amount of water we use by finding new ways to conserve our precious water supply.



Q & A

Is the per capita water supply just the water I use in my home?

No, it is not. The per capita water supply is calculated by dividing the available water supply of a country by its population. The calculation includes the usable available water. Every activity we engage in requires water — irrigating our farms, keeping our factories and hotels working.

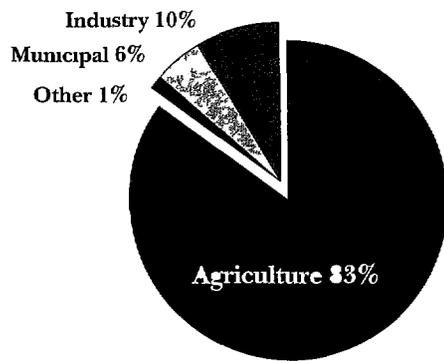
What is the population of Egypt and how fast is it growing annually?

According to a 1996 census and an estimated annual growth rate of 2.1 percent, the population of Egypt in 1999 is 63 million people. It is expected that by 2025, Egypt's population will be around 85 million.



**WITH PROTECTION and
RATIONAL USE the NILE WILL
CONTINUE TO PROVIDE**

IN EGYPT WE ARE LUCKY TO BE CLOSE TO THE RECOMMENDED WORLD STANDARD OF WATER PER PERSON. BUT IN 25 YEARS, THIS IS GOING TO CHANGE DRASTICALLY



How is Egypt's water supply used?

- ✓ Agriculture 83%
- ✓ Industry 10%
- ✓ Municipal 6%
- ✓ Other 1%

Can we increase our water supply?

Although our supply from the Nile is fixed at 55.5 bcm, the MPWWR forecast some increase in our water supply between 1990 and 2017. The Jonglei Canal, a project that has been under development for many years, will (when finished) supply Egypt with 2 bcm more each year. Engineers are also searching for new ground water reserves using satellite imaging. But even if an increase in water supply is realized, it will not be enough to counterbalance the increase in demand. Therefore, recycling will be the most important method of increasing available water.

How much ground water do we use? Can it be increased in the future?

We currently use 4.8 bcm of ground water in the Valley and Delta, as well as 0.57 bcm in the desert and Sinai, for a total of 5.37 bcm of ground water. This amount can be increased to 11 bcm, which is the maximum amount we can use without depleting our underground reservoirs.

Is it possible to use water from the sea?

It is possible to use seawater after it undergoes a desalination process. Desalination is very expensive, which prohibits its use for agriculture and other high water consumptive practices.

How does our per capita water supply compare with that of neighboring countries?

Egypt lies close to the recommended world standard. Compared to neighboring countries, with 936 m³ of water available per person annually, Egypt lies in the middle between water-poor countries and water-rich ones. Some variations are to be expected. More water is needed in countries like Egypt with an

agricultural-based economy rather than industrial or service-based economies. Examples of per capita water supply in some neighboring countries are:

- ✓ The Democratic Congo: 20,000 m³ per person
- ✓ Uganda: 2,500 m³ per person
- ✓ Jordan: 270 m³ per person
- ✓ The West Bank and Gaza: 140 m³ per person

It is important to understand that the per capita water measurement is simply a tool, a useful guide for water management.

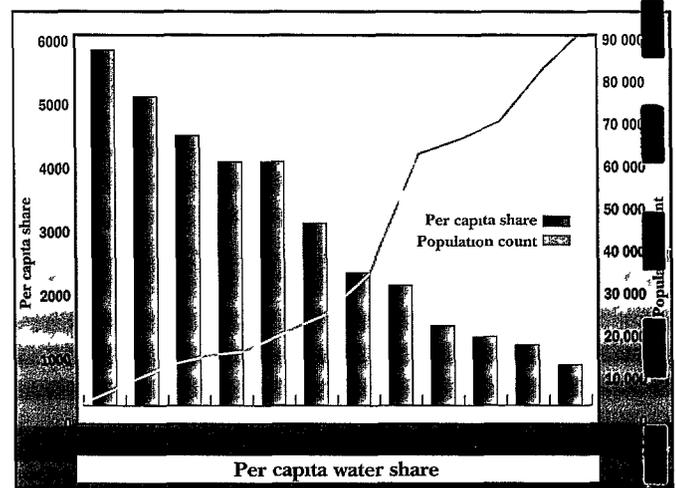
How have other countries faced this problem?

Some countries facing severe water shortage use municipal water service one day a week. Agriculture uses drip irrigation and plastic houses and is limited to growing only the least water-consumptive crops. These countries do not grow many of the crops Egypt currently grows.

What can we do to face the problem of impending water scarcity?

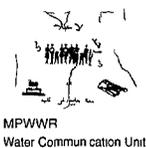
Some of the things we can do are:

- ✓ Upgrade irrigation systems and management
- ✓ Implement new irrigation technologies
- ✓ Introduce new varieties of rice
- ✓ Treat sewage and increase water recycling
- ✓ Increase desalination of seawater
- ✓ Implement new projects like the Jonglei Canal
- ✓ Put an end to water pollution
- ✓ Grow crops that require less water
- ✓ Irrigate at night



Numbers to remember

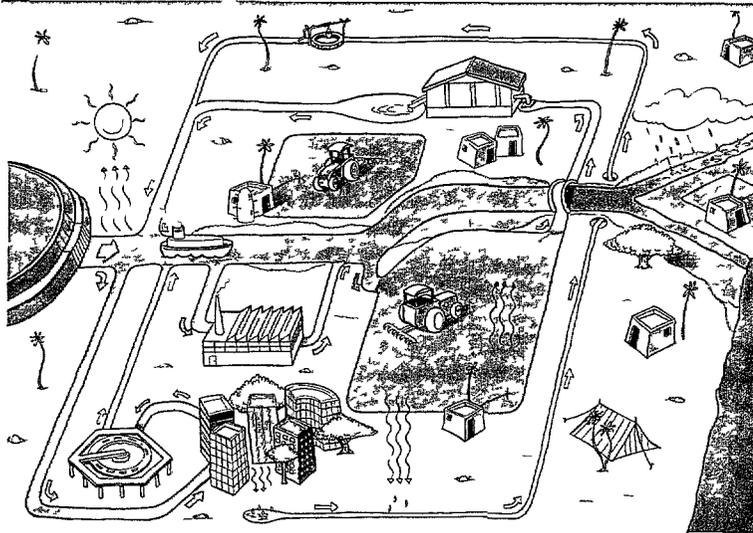
- 1,000 m³ the recommended world standard of water per person per year
- 1,893 m³ of water available per Egyptian in 1959
- 936 m³ of water available per Egyptian in 1996
- 582 m³ of water available per Egyptian in 2025
- 55.5 bcm of water our fixed water supply from the Nile



WATER

Egypt's Situation

Where Does Our Water Come From ? and Where Does It Go?



THE DYNAMIC NILE WATER SYSTEM

Egypt's water moves through a complex and dynamic system of inputs and outputs. The interactive nature of the system means that each component is impacted by all other parts in some way to establish a balance. This interaction is dynamic and interdependent.

Because Nile water input is fixed by international treaty, we must look to other parts of the system to conserve this limited resource. The simplified illustration above represents a very complex system. Nile water, on its way from the High Dam to the sea, is used over and over again in the Valley and in the Delta. The illustration also provides an overview of the dynamics which impact management of Egypt's water resources.

Working with Egypt's agriculture, industry, and municipalities, the Ministry of Public Works and Water Resources (MPWWR) monitors and manages this valuable water resource to maximize the availability to all users.



WATER SOURCES



The Nile is providing 55.5 bcm as fixed by international treaty



Rainfall provides about 1 bcm of moisture in the Delta

Water Reuse



Ground water reuse is about 4.8 bcm in the Valley and Delta



The agricultural drainage network returns about 4.5 bcm for reuse



Recycling industrial water moves about 6.5 bcm back into the system for reuse



Reuse of sanitary treated drainage returns a small amount (0.7 bcm) of water

Total Water Sources = 73 bcm

WATER USAGE



Agriculture uses 60.7 bcm for production of food and fiber



Industries are allocated about 7.8 bcm of water



Domestic water allocation is 4.5 bcm



Navigation requires a small amount of water to move vessels on water ways

Total Water Use = 73 bcm



Evaporation represents loss of water to the atmosphere



Seepage of surface water restores or recharges the Nile Valley and Delta ground water supply

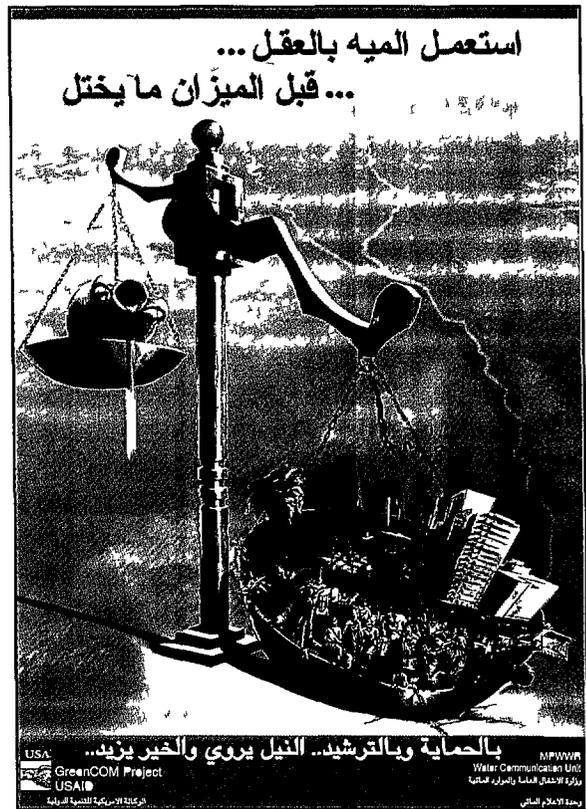
BALANCING A VALUABLE RESOURCE

Most of the water to supply Egypt's needs comes from the River Nile. The River carries a fixed annual water allocation of 55.5 bcm as determined by international treaty.

Farmers require the most water to feed the 60 plus million Egyptians who look to agriculture to produce good food at moderate prices. Egypt's population is expected to grow to near 70 million early in the next decade while the nation's water allocation from the River Nile will remain the same.

The water needed for agriculture must be balanced with industrial and municipal requirements. Since the annual water resource is fixed, much of the water required to meet Egypt's future needs must come from reuse of existing water. Using water more than once is possible only if water quality standards permit reclamation. Potential reuse will require reducing pollution of the original water resources.

Thus, the Ministry of Public Works and Water Resources must work closely with agriculture, industry, and municipalities in managing this complex water system to meet all of Egypt's needs.



QUESTIONS and ANSWERS

Why is it important to understand the Nile System Water Balance?

The supply of Nile water has been fixed by international agreement since 1959 at 55.5 bcm. However, demand for this limited share has increased dramatically. We need to understand the demand for water because this is the only water equation factor we can address. Strategies for efficient use can extend this limited water resource.

Where can we increase the availability of water in the Nile System?

The most promising area of increasing water availability is the reuse of the existing resource. Effective water reuse means that industrial, agricultural, and municipal wastewater must have pollution levels which allow reclamation. Thus, highly polluted water is a direct system loss for future reuse.

Can we reduce the amount of water flowing into the sea and terminal lakes?

This question illustrates the delicate balance of a dynamic water system. Currently, land drainage flow of about 12 bcm is already near the minimum to stop the intrusion of salt water from the sea. In addition, only about 0.26 bcm of fresh water flows directly to the sea to allow for river navigation during winter closure and to support the marine environment. Additional research may suggest moderate reduction in

total flow to the sea while still preventing salt water contamination of fertile land.

Can we reduce other loss of water in the Nile System? If so, how?

We can reduce loss in several ways. Improving irrigation methods can lead to more efficient use of agricultural water. For example, level fields require less water and night watering reduces evaporation. Use of gated pipe provides more efficient distribution of water on sugar cane fields and planting short-season rice can reduce water requirements.

Why can't we just pump more water from Valley and Delta wells?

Essentially, the Nile Valley and the Delta ground water is provided by the River Nile through seepage. Water withdrawn from wells must be replaced or recharged by surface water. Thus, ground water is not a new source independent of the Nile allotment.

What is the major factor limiting reuse of water?

Currently, low water quality is the greatest limitation to its reuse. For example, highly polluted industrial wastes may make the water unusable. However, alternatives such as regulating industrial waste dumping and capturing agricultural runoff before discharging into main drains could make additional reclamation possible.



MPWWR
Water Communication Unit

USAID



GreenCOM Project

USAID

ATTACHMENT 9

FINAL REPORT DISTRIBUTION LIST

Attachment 9
FINAL REPORT DISTRIBUTION LIST

Academy for Educational Development	10
APRP Units / COPs	6
Chemonics International	10
GreenCOM Project Staff	4
USAID	15
WCU / MPWWR	15
TOTAL	60

ATTACHMENT 10

**EXPOSURE OF THE GENERAL AND RURAL PUBLIC TO
CAMPAIGN SPOTS AIRED JULY – SEPTEMBER 1998**



**Exposure of the General and Rural Public
To Campaign Spots Aired
July – September 1998**

Submitted to
**USAID/EGYPT
GOE/MPWWR**

Submitted by
**GreenCOM/Water Communication Unit
Ministry of Public Works and Water Resources, Egypt**

with research technical assistance from
Louise F Kemprecos

October 1999

**GreenCOM
Environmental Education and Communication Project
US Agency for International Development
Contract Number PCE-5839-Q-00-3069-00**

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<u>AUDIENCE MEASURES</u>	III
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Introduction

The GreenCOM II project developed a series of six sixty-second spots targeted at farmers which were aired under GreenCOM III

The spots were designed to communicate the following messages

- Egypt has a fixed quota of water annually
- Agriculture consumes the greatest amount of water
- Nine other countries draw water from the Nile
- The demand for water is growing due to population growth and agricultural expansion.
- Water must be conserved if it is to satisfy the growing demand
- Egypt might face a water problem in the future due to the growing demand for water
- The farmer can conserve water by choosing crops that require less water
- The farmer can conserve water by keeping the *mesqa* clean so that flow is not impeded
- The farmer can conserve water by irrigating at night, when less water is lost to irrigation

The spots were designed using qualitative research conducted among focus groups of farmers, agricultural extension engineers, and village level opinion leaders throughout the country

The purpose of this report is to provide an assessment of the media placement of these spots in order to help the Ministry maximize the impact of its media efforts in the future

Before the spots were aired, GreenCOM III contracted with PARC, a Gallup International affiliate, to monitor their placement on television. PARC monitors the time of airing on each channel, and links this monitoring data with regularly collected data on media habits among the population to assess the effectiveness of any actual airings in reaching a target audience whose characteristics the researcher may define

Media Analysis¹

Placement

The series of six spots began airing on July 1, 1998. Their design and production had taken place between September and November 1996, but as the GreenCOM II project ended soon after, airing of the campaign was minimal. Therefore, following collection of baseline data for the farmer KAP study and the omnibus study of the general public under GreenCOM III, it was decided to seek Ministry of Information agreement to air the campaign. Ironically, the fall of 1998 proved to be a season in which the flow of water into the Nile upstream was greater than usual, resulting in floods in some parts of the country, and a spillover of extra water from the Aswan dam. The public was aware of this fact, and since the messages the public was receiving about reducing water use seemed to directly contradict the news they were receiving about higher than usual water levels, the broadcast campaign was stopped in October 1998.

¹ The methodology for this report is based on *Post-buy Analysis: TV Airtime for USAID-Egypt Population Campaigns, April 1997 – March 1998*, a memo by Ron Hess, Johns Hopkins University/Center for Communication Programs, July 1998.

Anecdotal evidence from viewers suggests that the spots were aired sporadically from spring 1998 to the present, particularly one spot that addressed high water. This report focuses on the airing of the six spots in July, August, and September 1998.

The table below provides data on the frequency of airing by channel. The spots were aired many times, an average of 343 times per month over the three-month period. About a third of the airings were on Channel 6, with Channel 1, the most-watched channel in Egypt, accounting for an additional 21% of the total airings. The spots were minimally aired on Channels 2 and 8.

*Number of times the spots were aired
by television channel and month*

Channel	Month			Total
	Jul-98	Aug-98	Sep-98	
1	85	77	56	218
2	6	1	4	11
3	63	48	47	158
4	56	40	6	102
5	1	8	47	56
6	90	128	98	316
7	43	71	46	160
8	3	4	0	7
Total	347	377	304	1,028

Monetary value

Airtime for the spots was offered free of charge by the Ministry of Information. The following table details the local currency values of airtime for the campaign had they been paid at full rate. The value is calculated on published Radio, Television Union rates for the period in the sample. The total value includes the 36% tax charged on all commercial media purchases in Egypt. For USAID's information on the tax-exempt value, a total less the 36% media tax is also provided.

The total commercial value of time allocated for these spots was \$ 632,000, including the 36% media tax. If USAID had purchased the airtime exempt of media tax, the total cost would have been about \$ 405,000. A comparison of the table above with the table below reflects significant price differences between airtime on different channels. The 218 airings on Channel 1 would have cost \$ 330,000 to purchase, while 316 airings on Channel 6 would have cost only \$ 73,000.

**Commercial value of airtime for spots
by television channel and month**

Channel	Month			Total
	Jul-98	Aug-98	Sep-98	
1	\$ 125,865	\$ 122,544	\$ 81,403	\$ 329,812
2	9,603	1,680	3,521	14,804
3	48,128	37,250	35,500	120,878
4	13,374	9,423	1,380	24,177
5	600	4,001	26,687	31,288
6	20,778	30,218	21,786	72,782
7	10,143	16,185	10,643	36,971
8	870	800	0	1,670
Total with media tax	\$ 229,361	\$ 222,101	\$ 180,920	\$ 632,382
Total without media tax	\$ 146,791	\$ 142,145	\$ 115,789	\$ 404,724

Audience measures

PARC establishes a system of television ratings in Egypt by conducting periodic national surveys (sample size 4 500) that measure audience viewership for each time segment of the day on all television channels. A numeric estimate of audiences is thereby made for television advertising appearing in any time slot, providing the basis for planning and evaluating a media schedule.

The common measures reported are

- **Gross Rating Points (GRP)** is the sum of total exposures to a media campaign divided by the target population, which equates to the average number of exposures per member of the target population. This is a measure that is often compared across media campaigns.
- **Reach** is the percentage of the target population exposed at least once to the media program within a given time frame. Among commercial advertisers, a reach of 75% is an acceptable conservative target.
- **Effective reach** is the percentage of the target population exposed at least three times to the media program within a given time frame.
- **Frequency** measures the rate of exposure by estimating the average number of times a given audience member is exposed to the campaign.
- **Audience** is the number of people who were exposed at least once to the campaign.
- **Target population** is the number of people in the target population (here all rural Egyptians aged 15+, and all Egyptians aged 15+).

Measures of audience exposure are calculated by comparing actual airing data to facts about viewership patterns and estimating viewership for all spots, including those aired at peak and non-peak times, and on peak and non-peak channels.

The GRP values are high for this campaign.

The table below shows that the campaign was successful in reaching a high proportion of the target audience, reaching 87% of the total population and 90% of the rural population over the course of the three months that is, 87% of the total population saw at least one spot over the three months. Effective reach was also high. For example, 87% of the rural population saw at least three spots over the three-month period.

These numbers reflect a high number of average exposures per person among those who saw at least one spot and the campaign reached the rural population equally as well as it reached the population as a whole. Among rural people who saw the campaign, the average number of exposures to the campaign was 36 compared to 37 for the whole population. Among the rural target population as a whole (i.e. those exposed and not exposed), the average number of exposures was 32 (GRP/100).

The audience sizes are also impressively large. Almost 26 million Egyptians² were exposed to the campaign, including over 13 million rural Egyptians.

<i>Measures of audience exposure for rural Egypt and all Egypt by month</i>				
	<i>Month</i>			<i>Total</i>
	<i>Jul-98</i>	<i>Aug-98</i>	<i>Sep-98</i>	
<i>Rural population</i>				
GRP	1192	1307	727	3,227
Reach	89%	87%	62%	90%
Effective reach	82%	77%	48%	87%
Frequency	13	15	12	36
Audience ('000)	13,194	12,835	9,221	13,310
Target population ('000)	14,843	14,843	14,843	14,843
<i>Total population</i>				
GRP	1194	1280	770	3,244
Reach	86%	83%	62%	87%
Effective reach	78%	73%	49%	84%
Frequency	14	16	13	37
Audience ('000)	25,454	24,575	18,396	25,838
Target population ('000)	29,760	29,760	29,760	29,760

Conclusion

The spots received good placement from RTU, with 20% of the airings on the most popular television channel Channel 1. The value of all the airtime received from RTU was about \$632,000.

The campaign achieved a high level of audience exposure, at 87% of all adult Egyptians and 90% of rural adults. In addition, the number of times each person is estimated to have been exposed is high. 37 times over the three-month period for all Egyptians and 36 for rural areas.

² Aged over 15