

The GreenCOM Project *Final Report*

September 29, 1993 - March 27, 2001



Submitted by

The Academy for Educational Development
with

Chemonics International
Global Vision, Inc.

North American Association for Environmental Education

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Final Report

**Environmental Education and Communication Project (GreenCOM)
Contract Nos. PCE-5839-C-3068-00 and PCE-5839-Q-00-3069-00
G/ENV/ENR**

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I. Executive Summary

This report summarizes the work conducted for the USAID Environmental Education and Communication contract under the leadership of the Academy for Educational Development. That contract, better known as GreenCOM, provided a wide variety of services to USAID. In seven and one-half years, GreenCOM employed a diverse group of experts in examining how environmental education and communication (EE&C) could be used to address the knowledge, attitudes, and behaviors behind many environmental problems. The project provided service in more than thirty countries.¹

GreenCOM laid a broad foundation for critical problem solving and long-term resource planning and management by addressing the human behavior components of environmental issues. The project produced a number of publications that summarize different aspects of its work and the methods it developed. The content of those publications, therefore, is only referenced here. The report focuses on all of the deliverables required by the core contract and reviews briefly the work done completed under 30 buy-ins to the requirements contract. A full list of technical publications is included in Appendix A.

II. Project Background and Components

GreenCOM is the Environmental Education and Communication Project of the U.S. Agency for International Development (USAID). In 1993 USAID launched GreenCOM to work in tandem with other projects, across sectors and regions, to help achieve a range of strategic environment and education objectives.

GreenCOM's work goes beyond "raising awareness" to help individuals and groups acquire the necessary knowledge and skills to change behaviors related to specific environmental problems. In many cases, people are already aware of the environmental issues that involve them. For example, they may know that they should protect

¹ GreenCOM's contract was unilaterally extended by USAID for six additional months to provide continuing services to missions until a new contract could be awarded. In particular, this extension enabled work to continue in Panama and it allowed staff members working on the core contract to assist the global bureau in providing uninterrupted services such as the resource center, publication distribution, and other "global leadership" activities.

a watershed, but they do not or cannot act on that knowledge. Public policy, lack of access to technology, a dearth of economic alternatives, and other factors may prevent them from engaging in positive environmental practices.

GreenCOM worked to lay a broad foundation for critical problem solving and long-range resource planning through environmental education. It also promoted more rapid and more targeted behavior change through communication and social marketing, and the project worked toward long-term sustainability through the introduction of education and communication capacities within local institutions.

In addition to the work mentioned above, GreenCOM addressed the specific roles that men and women play in natural resource management. In some cultures, for example, women have an unrecognized wealth of indigenous knowledge about environmentally sustainable technologies and practices. Their work lies at the epicenter of change, where population growth, food, fuel, and the environment are linked. Appropriate EE&C audience segmentation strategies ensure the full consideration of gender opportunities and prevent imposition of additional constraints for women. GreenCOM achieves these goals through four program components.

A. Field Support

The most significant component of GreenCOM's work was to provide EE&C support to the environmental programs of USAID's regional bureaus and missions. GreenCOM provided expertise to ongoing environmental projects in more than thirty countries including El Salvador, Egypt, The Gambia, Nicaragua, Nepal, Haiti, Jordan, and the Philippines, among others.

B. Applied Research

Practical, field-driven research is central to the entire range of GreenCOM activities. In working with people, GreenCOM research emphasizes understanding the audience's knowledge, attitudes, beliefs, and behavioral characteristics. Qualitative and quantitative research using a mix of methodologies are key tools used by the GreenCOM team to help program managers design, implement, and understand effective EE&C strategies.

C. Information Exchange

Sharing state-of-the-art methodologies and materials with colleagues around the world is crucial in this age of diminishing resources. To bridge the gaps created by geography and uneven distribution of technical resources,

GreenCOM established its EE&C Resource Center. This library contains over 4,700 volumes of environmental education resource materials, newsletters, reports, videos, and curricula from around the world, and is accessible online through the GreenCOM Web site and through the EE-Link Web site from the University of Michigan.

Another part of the project's work in information exchange is the *Human Nature* newsletter, which is produced primarily for EE&C practitioners and features EE&C activities and news from around the world.

D. Information Synthesis and Dissemination

GreenCOM sponsored two international symposia that brought together international professionals from a variety of innovative and successful EE&C projects. The first workshop resulted in a commercially published book, *What Works: A Guide to Environmental Education and Communication Projects for Practitioners and Donors* (New Society Publishers). GreenCOM's own reports and documents are made available to interested organizations and individuals around the world. In addition to the symposia, project staff convened five technical advisory group (TAG) meetings during its lifetime.

The project also worked with USAID missions, bureaus, and host countries to address a wide range of environmental concerns from municipal solid waste disposal, greenhouse gas reduction, and water and biodiversity conservation to community management of forest and coastal resources and environmental policy formulation, training, and advocacy. At the end of the contract period, EE&C activities had been completed in more than 30 countries. Four of those were USAID "emphasis countries": El Salvador, Egypt, The Gambia, and the Philippines. The project's applied research activities in these countries included formative (operations) research studies and impact evaluation studies.

III. Project Scope of Work

The GreenCOM project design, written by USAID, discussed what USAID called the "heating up" process. Heating up means putting issues on the public agenda and then moving through several stages of awareness and knowledge toward action. The following text on the heating up process is taken from the original project design.

Stage 1: Setting the Public Agenda. The public in many countries, including developing countries, is to some extent already talking about the environment because scientific information about environmental issues is increasing and is increasingly considered newsworthy. Numerous single-issue environmental groups and a variety of educational opportunities at parks and in schools and in other public places are already commonplace. At some point major public events—including natural disasters, the threat of cholera in a country, or a global event such as the United Nations Conference on Environment and Development (UNCED)—combine with steadily increasing interest. People become ready to talk about, think about, and support activity regarding the environment. Information seeking about the environment increases. Membership in existing environmental groups increases, and new programs and opportunities for popular participation appear. Community-based education leads to public discussion in an increasing number of institutional settings.

Stage 2: Engaging Key Institutions. Lead institutions reach out to other institutions representing basic social processes—education, work, religion, and government—and initiate a broad range of collaborative educational activities. For example, school systems integrate environmental modules within existing curricula and initiate teacher training and youth clubs that extend into the community. Community-based actions increasingly address locally felt issues such as garbage collection and industrial pollutants in drinking water. Media coverage of environmental issues and activities becomes more sophisticated, more frequent, and more constructive. Only a few developing countries would appear to have achieved a significant level of this kind of institutional engagement.

Stage 3: Establishing a New Environmental Order. An increasing number of governmental and nongovernmental institutions initiate EE&C activities to support change. There are no longer isolated programs which are narrowly construed and engineered for the participation of a few but rather a broad public movement with numerous opportunities for discussion and action at every level of society and in most geographic areas. Specific target audiences begin to modify their roles with regard to particular environmental problems. Community mobilization increasingly generates demand for appropriate regulatory change. Expectations for appropriate individual and social

behavior begin to change. Finally, environmental positions become “in”; non-environmental positions “out.” As this process takes place increasingly at a national level, popular, political, and programmatic support should increase for constructive approaches to global environmental issues as well.

EE&C can support this process of social awareness and change, at every stage, across all environmental strategic objectives, within local, national, and international arenas. EE&C can take the lead in maintaining focus on an overall strategic picture and providing support to key institutions in generating cohesive strategies.

The process of communication and education leading to participation might be thought of as the “heating up” of a society around an issue through the “saturation” of all available channels of communication. In a “hot” society, all channels of communication and the processes of individual and social change reinforce each other. From the perspective of designing an educational communication program, this might be called a “saturation” approach to social change.

The project as a whole changed little in its primary objective, although USAID did change reporting requirements and the financial management of delivery orders from the global bureau and also dropped the financial participation of the WID office and the corresponding attachment “W” deliverables. Nevertheless, GreenCOM and AED kept their commitment to making gender a portion of every project. Other small changes were made to some deliverable due dates, and the French version of the methods handbook was dropped because production would not be cost effective.

A. Project Accomplishments in Information Dissemination

GreenCOM offers the following resources to environmental education and communication practitioners:

- *Human Nature* newsletter, produced twice per year (as approved by USAID EPA) in three languages and mailed to a list of more than 5,000 addresses

- Practical books and reports on how to conduct EE&C programs (see Appendix A)
- The GreenCOM EE&C Resource Center with its online, searchable database of more than 4,700 titles
- The GreenCOM Web site (see Appendix B for Web statistics)
- Collaboration with EE&C professional associations worldwide
- Responses to e-mailed research queries

1. Resource Center

The GreenCOM EE&C Resource Center was designed to help strengthen existing and future environmental education programs in developing countries. Materials have been collected by GreenCOM staff, provided by other clearinghouses and international development projects, and donated by publishing houses and individuals. The resource center's collection includes:

- Environmental education (EE) curricula, standards, handbooks, and instructional manuals
- Monographs, case studies, and reports on such topics as gender analysis, participatory methodologies, and monitoring and evaluation for EE programs
- Periodicals and newsletters on communication, EE in the classroom, outdoor education, environmental interpretation, training, and other relevant topics
- Sample materials such as games, posters, videos, and computer software with environmental themes

The resource center regularly receives specific requests about EE&C materials from schools in developing countries, government agencies, non-governmental organizations and interpretive centers. Center staff members provide inquirers with bibliographies, suggestions for further contacts, articles, and limited photocopied samples of EE&C-related publications.

2. Publications

The project has produced 44 operations research reports and six other research-related documents, and staff

members have had nine articles published in peer reviewed journals. In the seventh project year, GreenCOM published a compendium of lessons learned called *Environmental Education & Communication for a Sustainable World*. This manual, designed for policymakers and individuals who design programs that affect people and the environment, was meant to share information on the project's experiences and the models it used for education and communication work. Arranged in four sections, the book first provides an orientation to four theoretical perspectives that have shaped GreenCOM's approach to environmental education and communication projects: behavior change, participation, gender, and systems thinking. Section two covers testing and evaluation. Taken together, the first two sections form a reliable and well-tested model for program development. Section three deals with conducting EE&C activities, training, and mass media campaigns and discusses how EE&C can affect public policy. Finally, section four highlights several successful countrywide strategies developed from GreenCOM's field experience.

The cases illustrated in the manual showcase some of the diverse approaches that may be used to build capacity and to plan and implement environmental education and communication activities. The projects highlighted involved training, policy initiatives, awards schemes, curriculum development, and multifaceted communication campaigns. This book was printed in both English and Spanish and was made available for downloading from USAID's Web site. USAID reported 50,000 downloads.

B. Behavior Change and Environmental Issues

People don't act without reason. Although it is not always apparent to observers, they act rationally and seek what they consider rational rewards for their behavior. Communicators use research to "listen to" various target populations in a systematic way in order to learn what constitutes a "rational reward" so they can help to provide it.

An example from the field of health communication is helpful. When a mother first decides to use oral rehydration therapy (ORT) for her child, the decision process may involve other people as well. Her mother or mother-in-law, husband, senior wives, traditional healers, and other elders may need to be convinced that trying ORT is a good idea. A communication program may address these other individuals in order to expedite the large-scale adoption of ORT. Their resistance is usually based on a perception that they will lose something if an innovation is tried. Elders or traditional healers may have always taught mothers to use other treatments, the husband may have to pay for ORT packets, and so forth. All of these people need to partake of the reward (the

restored health of the child) to a sufficient degree that the benefits outweigh the losses they incurred (prestige, money, etc.).

With environmental issues, the challenge is also to reward everyone, but it is more difficult to convince all groups of the benefits they will receive. If a factory is fouling a river, for instance, measures to eliminate pollution need to reward everyone: factory owners, who seek a profit, factory workers, who need employment, factory customers, who want the product, and people who want clear water for drinking and fishing and irrigation. Environmental interventions, much more so than health interventions in a single household, demand consensus among myriad parties many of whom feel threatened by such interventions.

Efforts to protect the environment, whether in the developed or developing world, must provide rewards to everyone in the short run as well as the long run. Such rewards are a key part of behavior change theory. The challenge GreenCOM faced was to adapt that theory to environmental issues. The project's accomplishments during its seven-year run were a start, but there must be a long-term commitment on the part of development organizations to want to merge environmental and economic rewards so that entire communities see themselves as winners in this process. Such a commitment is evident in emissions trading schemes that include the true economic costs of environmental effects in a market. The market is, in fact, one of the best settings for testing behavior change theory because people act rationally and the provision of more rewards for more people leads to the best kind of market growth.

C. Methods of Work Used

1. Research

Research was an underlying component of many GreenCOM delivery orders. Good communication starts with good listening, and research is a way of listening systematically to a target audience prior to and during the broadcast or publication of program messages. Despite the broad experience brought to the project by staff and consultants, everyone knows that this experience is not a substitute for listening to the target audience(s) for each new intervention. Without a clear perception of the audience's current knowledge, attitudes, and practices about the upcoming intervention, no communicator can hope to craft effective messages. If we don't listen, we cannot communicate.

GreenCOM research took usual forms: surveys, focus groups, and direct observation. Normally the project designed its own research instruments; occasionally, we “piggybacked” inquiries onto omnibus commercial surveys when appropriate. Less common research endeavors included a study of water conservation practices in antiquity in the Middle East and documenting the process of making a video newsletter in a rural Nepali village.

2. Participation

Whether a project operates under the banner of “participatory development,” “participatory learning approach,” “participatory monitoring and evaluation,” or “participatory rural appraisal,” the premise is the same: People have a right to be part of making decisions that affect their lives. Participatory approaches are guided by the belief that local stakeholders know better than anyone what their problems are and which solutions might work. Behavioral research also shows that when people commit to a course of action that is their idea, the results are more likely to be accepted and their behavior continued than when ideas are imposed from the outside or delivered from a top-down structure.

A participatory project aims to involve as many local stakeholders as possible in the process of formulating, designing, implementing, and evaluating programs in the hope of making development self-directed, fair, and self-sustaining. In addition, participation aims to erase feelings of inferiority that stakeholders in developing countries have often experienced in relation to their counterparts in developed countries. Participation helps the development worker to shed his or her “expert” status and become instead a listener and facilitator dedicated to helping stakeholders solve their own problems.

Participatory development assumes that a diverse group of stakeholders brings sufficient wisdom—technical, social, and political—to produce a sound project. Further, it assumes that a given solution, if not technically superior to an expert’s solution, will nevertheless benefit from the commitment of the community.

3. Social Marketing

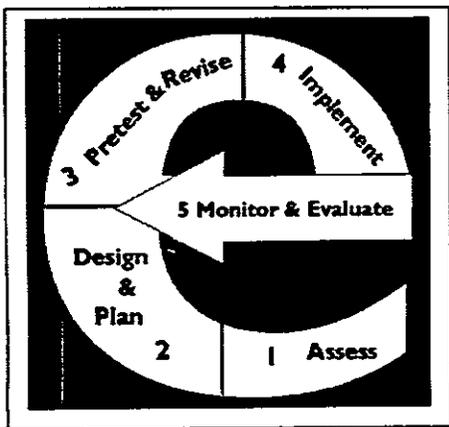
Social marketing combines traditional approaches to social change with commercial marketing and advertising techniques. Its originators define social marketing as “the design, implementation, and control of programs aimed at increasing the acceptability of a social idea or practice in one or more group of target adopters.” Social marketing makes use of methods from the commercial sector: setting measurable objectives, doing market research, developing

products and services that correspond to genuine needs, creating demand for them through advertising, and finally marketing through a network of outlets at prices that make it possible to achieve the sales objectives.

The difference between commercial and social marketing thus lies not in the methods used but in content and objectives. AED has gained a reputation as one of the leading institutions combining social marketing and modern communication science with behavioral and social research to cause individual and community behavior change. AED's Behavioral Science, Research and Evaluation Unit has been a direct participant in the GreenCOM Project and also provided the project's research director.

GreenCOM began to adapt what has been learned about behavior change and social marketing during the past two decades to the environment sector with a goal of using communication strategies to promote environmentally sustainable development. (The "Project Background" section of this report presents some of that history.) GreenCOM provided EE&C expertise to USAID projects dealing with biodiversity conservation, water resource management, environmental policy, greenhouse gas reduction, public participation, and urban problems such as solid waste management and recycling. EE&C helps people move beyond the point of knowing that there is a problem to acting to resolve that problem. For example, students or villagers explore a local problem and effective solutions, such as water scarcity or garbage collection, and then participate in a water conservation program or cooperate with a community solid waste collection service. Effective EE&C draws on social marketing, as well as development communication, education, participatory methodologies, gender analysis, and social science research.

The adaptation of social marketing used in these earlier programs became known as the "e-methodology" (see illustration below). The five steps of this methodology are not new, but their application to environmental issues is GreenCOM's contribution.



4. Training

Training was a key element of many GreenCOM projects. Trainees have varied from teachers to policymakers to project staff. But all of the project's training endeavors involved some type of professional development to support a change in practice. For example, project staff members trained colleagues in desktop publishing in Mali, in park interpretation in El Salvador, and in communications techniques in Egypt. Successful training programs include ways to change the culture, climate, and reward system, as well as providing positive reinforcement for the new behavior.

In many parts of the world, "training" and "professional development" are two terms for the same concept. The term "professional development" refers to a process through which individuals increase their knowledge and understanding and improve their skills in order to perform better in their current positions. Learners have an opportunity to develop their own solutions to problems. They are given leeway to translate the information into their own situation. Echoing tenets of adult education and a philosophy of participation, this type of training is ideal for EE&C programs and was GreenCOM's chosen approach.

Professional development really constitutes behavior change—a process of suggesting and encouraging professionals to use new or adapted skills in their work. GreenCOM found the following ideas to be important for its training programs:

- Behavior is based, at least in part, on knowledge people already have about an issue, about how to perform a new skill or behavior, and about the consequences of performing this behavior.
- People have beliefs about the importance of this behavior in solving the problem, their ability to perform the behavior adequately, and the likelihood that their action will make a difference.
- A host of real and perceived barriers may stand in the way of the performance of a specific behavior.
- A variety of extrinsic motivators (policies, resources, legal threats, time inconvenience, etc.) and intrinsic motivators (building community, self-assurance, feeling frugal, etc.) may work to prevent or encourage this behavior.
- People care about what others think about the issue, the behavior, and their performance of the behavior—i.e., social norms are important.

Although each training workshop is a unique event, facilitators can learn from each experience and improve future programs if the events are carefully evaluated. Successful training programs also include materials for supervisors and strategies for providing ongoing support. A good training initiates a continuing relationship between trainees and the training institution; the institution needs to build into its training commitment at least an equal commitment toward the supervision and support of those who are trained. Otherwise the training may not be implemented for long or at all.

In addition, GreenCOM has incorporated knowledge about adult learners and guidelines from other fields into its training model:

- Training programs should focus on work-related issues that participants care about.
- Participants should be involved in discussing ideas and sharing experiences during the training program.
- When possible and appropriate, participants should be engaged in practice.
- Training programs should provide some choice and flexibility in schedule.
- Training programs should include opportunities for participants to record reactions and suggestions for improvements and measure program outcomes.
- Training programs should consider the supervisors, the reward structure, and strategies to provide ongoing support.

IV. Overall Description of Project Activities, and Significance of Project Activities to USAID

The GreenCOM Project was modeled by USAID on earlier projects that developed a behavior-change model using social marketing. Those projects, starting in health, broke new ground by demonstrating that research-based communication with audiences in even the humblest circumstances could produce significant changes in behavior. The key is in understanding the audience – in particular, in understanding what the audience wants in a certain situation.

USAID began this pioneering series of behavior-change projects in health. The first intervention called for the introduction of Oral Rehydration Therapy (ORT) to mothers, so that they could control their children's diarrhea

and prevent diarrhea from causing dehydration and death. Prompt use of ORT would also preclude costly hospitalization. Oral rehydration therapy calls for the mother or caregiver to give fluids to a child during a diarrhea episode. The fluids need to be of sufficient volume to replace the fluid losses caused by the diarrhea and, ideally, of proper composition to ensure that bodily minerals lost in the diarrhea are maintained as well. Communications programs designed to teach about fluid replacement and about how to mix the most appropriate replacement drinks in the home from available materials or from easily available packets were aired during the peak diarrhea seasons.

At first, there was skepticism that poor, unschooled mothers and other caretakers could be taught to intervene constructively in a child's illness. The fear was that inviting their intervention would do more harm than good. But carefully documented monitoring showed positive outcomes, both in learning and in behavior and, most importantly, in the health of the child. In many cases, children who were moderately dehydrated and exhibiting all the symptoms of that moderate dehydration (crying, crankiness, listlessness, lack of appetite) returned to good health in one day, becoming contented, energetic, and eager to eat.

In a behavior-change model, ORT was one of the best interventions possible, and it was serendipitous that USAID began its behavior-change work with ORT. A success with ORT—which transformed a child in a matter of hours—was just what the mother wanted. While the diarrhea may continue somewhat longer a day or two, the child's energy level and appetite were powerful rewards for the mother and encouraged her to use ORT in the future. What the mother wanted was a healthy child, and in many cases ORT gave her precisely that. Overall, ORT programs around the world have been one of the transforming events in lowering infant and child mortality worldwide.

There may be no more powerful human motivation than a mother's wish to foster her child's growth and wellbeing, and ORT fit precisely into that motivation and rewarded it. The engine powering the adoption and growth of ORT programs was this incredible maternal motivation. The concern was there, and ORT responded to it. In behavior-change terms, what happened was clear: in many cases, ORT was able to give a mother a healthy child within one day of her use of ORT. The reward to the mother took place in matter of hours or one or two days, and the reward was the thing she wanted most of all in her life: a healthy child, eager to eat, happy and content. We cannot overestimate the power of this engine. Finding an engine of similar power in other behavior-change interventions has become an ongoing challenge.

The behavior-change model, of course, is based on giving people rewards for the desired behavior. As USAID adapted this model to other health interventions, like immunizations and AIDS, and to other fields, like nutrition and agriculture, finding rewards of sufficient immediacy to ensure and maintain behavior change has not been as satisfactory. A mother's love is hard to match. But the model is clear, and USAID, in its design of GreenCOM, called for the application of this behavior-change model, proven in the health field, to the field of the environment.

A. Core Contract

The core contract played many roles in supporting the mission-based projects and delivering a whole set of deliverables.

1. Technical Advisory Group (TAG) Meeting Reports

TAGs, consisting of up to ten members, met annually to guide the direction of operations research activities and provided advice on the project's quality, progress, and future opportunities. (See core contract, pp. 33, 56.)

TAG MEETING 1994

Applied research recommendations included the following:

- Interventions should be designed on the basis of solid, albeit rapid, formative research that is organized and informed by a theory-based yet practical analytic framework.
- Impact evaluations should be reserved for mature interventions where there is evidence of successful implementation and where there is strong reason to expect impact on important outcomes. Impact evaluations should be designed with the specifics of the intervention in mind.
- It would be valuable for GreenCOM to develop an understanding of the relationship and the important contributions of the various approaches to intervention design, including education, social marketing, and participatory models.

- GreenCOM should consider a variety of indicators of success, including changes in knowledge, attitudes, beliefs, and behaviors as well as hard environmental impacts.

TAG MEETING 1995

Major recommendations included:

- Produce tools for evaluation: indicators, survey instruments, and techniques to measure the success of an intervention.
- Share GreenCOM's "elements of success" with others by disseminating intervention development processes, measurement tools, and evaluation findings.
- Do not set goals that are unattainable. Behavior change is a relatively slow process. Quantitatively evaluate only those projects that are mature enough to demonstrate results and have adequate sources of hard data.
- There is a need for more information about how people's knowledge, attitudes, beliefs, and behaviors interact and impact the environment. GreenCOM fills this gap in environmental research and has the potential to make important contributions to the environmental community.
- GreenCOM should incorporate gender analysis into all phases of an intended intervention. It is important to examine differences in socially ascribed gender roles.
- GreenCOM should tailor indicators/measures used in impact evaluations to the desired outcomes (e.g., influencing a single behavior versus having a general impact on attitudes and beliefs).
- GreenCOM should consider exporting some data analysis work to developing country counterparts.
- When writing general articles, think of themes that tie different studies together in order to integrate the lessons learned by the projects in the field in various countries.
- Examine how the research conducted by GreenCOM fits into the policy process. Make sure policy papers describe actual case studies.
- Use developing country authors.
- Publish in periodicals used by practitioners or in magazines such as *National Geographic* and use the Internet.

TAG MEETING 1997

TAG members were asked for their input regarding activities taking place in El Salvador, Nicaragua, and the Philippines, and for suggestions pertaining to the direction of GreenCOM's future applied research agenda.

Regarding El Salvador, TAG members suggested that GreenCOM should try to evaluate activities to be implemented during the remaining year of the project, such as the environmental curriculum. Members also recommended comparing data from El Salvador to data gathered in another country in the region with comparable problems but where GreenCOM-supported interventions would be absent. Finally, the suggested conducting retrospective analysis of improvements in delivery systems since project inception.

For Nicaragua, TAG recommendations could be grouped into three categories: 1) looking for alternative livelihoods for the residents in the buffer-zone communities of the La Flor Wildlife Refuge that are environmentally friendly (e.g., eco-tourism); 2) obtaining more biological information on hatching rates and more socioeconomic information to better understand the dependence of buffer-zone communities on natural resources in order to plan future educational interventions; and 3) developing a focused intervention with appropriate indicators to measure success given the short duration of the GreenCOM support activities.

For the Philippines, TAG members suggested obtaining support for environmental educational efforts from advocates (e.g., private sector, the church, and the media), and focusing those efforts on specific behaviors.

Highlights of the applied research recommendations provided by the TAG members to GreenCOM are provided in the section of the report entitled "Consulting the Oracle." In synthesis, these recommendations propose that:

- Participatory activities implemented by GreenCOM are evaluated.
- Concepts and constructs from systems theory, group theory, organization dynamics must be identified, applied and incorporated into project design.
- For interventions targeting individual behavior change, specific behaviors individuals and communities need adopt have to be suggested.
- Small-scale interventions may be justifiable because of impact and replicability.

- EE&C interventions need to be evaluated taking into account their content and duration. They should not be evaluated using long-term evaluation criteria, particularly those that link behavior change to environmental changes.
- The environmental field is hungry for analysis of the social side of environmental issues. GreenCOM must adopt an aggressive dissemination strategy.

TAG MEETING 1998

TAG members emphasized the importance of a participatory approach to research, especially with regard to:

- The process used in the selection of stakeholders and representatives of different interest groups invited to participate in the design of an intervention.
- Core constituencies represented at the negotiating table.
- The catalytic and negotiating role played by outside EE&C and development professionals.

In terms of evaluating participation, TAG members noted that:

- Participation should be considered a means and not an end in itself. Consequently, evaluations should focus on how a participatory process contributes to changes in attitudes, beliefs, and practices that have environmental implications.
- Evaluations should be designed to allow for comparisons between participatory and non-participatory EE&C initiatives.
- GreenCOM should determine whether the creative thinking and empowerment that presumably resulted from participatory initiatives continued to be applied in other development efforts undertaken by the concerned communities.
- Participatory initiatives should be evaluated by outsiders to add objectivity to findings and interpretation.

Regarding activities in Egypt, TAG recommendations included the following:

- Identify and target the most polluting industries and in so doing reduce the number of industries that would be targeted.

- Further segment industries either by sector (e.g., air, water, tourism) or by ownership status (e.g., foreign or Egyptian, private or public).
- Sell compliance with environmental pollution codes as cost-effective, make it easier for companies to understand the compliance process, create a fund to help companies start cleaning up, and stress compliance both as a right and a responsibility for which complying industries are rewarded.
- Ask different sectors of society to express favorable attitudes toward compliance with the environmental code.
- Use social clubs and chambers of commerce to develop mentoring relationships between industries and to reward industries that have complied.

Regarding El Salvador, the TAG members suggested:

- adopting a different educational content for upper vs. lower watershed residents; emphasizing in each case immediate advantages that may result from the adoption of behaviors appropriate for each sub-audience;
- including a control group to the research design to ensure that the impact of contextual trends is taken into account when reporting program impact;
- consider the applicability of using a school-based sampling framework;
- if omnibus surveys are used, over-sample the watershed where the intervention will be implemented or request that a special sample be drawn from the area by the firm implementing the omnibus survey.

TAG MEETING 2000

Leadership and Funding

- Prevent GreenCOM's vision and capacity from dissipating; maintain strong EE&C presence in USAID program strategies and funding
- Develop sustainable funding strategies for EE&C involving both the public and private sectors

Support and Sustainability

- Translate the best science into communication campaigns to build constituencies and public policy (e.g., global warming)

- Build alliances with counterparts that support essential project/program ideas over time
- Build alliances with the private business sector (e.g., “green” industries) to expand EE&C programs and impact
- Educate policy-makers and donors regarding the value of EE&C in creating synergy across sectors and programs
- Create cross-institutional teams for EE&C research and development
- Strengthen EE&C networks and associations among countries and projects; develop stronger ties with NAAEE and NAI
- Foster leadership roles among stakeholders
- Build professional associations among EE&C practitioners in developing nations and regions
- Use EE&C to build partnerships across constituencies and institutions
- Create a program of small grants for strengthening NGO capacities in EE&C
- Consider endowments that may allow institutions to implement projects over the long run
- Plan gradual pull-out of countries avoiding sudden termination of interventions

Models and Research

- Continue building environmental behavior-change models drawing from lessons in other sectors such as health
- Develop protocols and methodologies for cross-regional learning in EE&C
- Provide global guidance for an EE&C research agenda; the 3-4 most important questions can be tested in field programs across geographic regions
- Explore the extent to which engaging different sectors of society into discussions about environmental protection leads to environmental-protection actions
- Monitor interventions more frequently with smaller samples to complement impact evaluations that use pre-post designs and large surveys

Program Implementation

- Use self-interest approaches (e.g. contests, prizes, competitiveness among private sector entities, etc.) to lay the groundwork for more “mechanistic” approaches affecting policy
- Develop EE&C strategies, methods and tools to promote better environmental governance
- Expand EE&C capacity through new information technologies; disseminate best EE&C models through web-based networks
- Strengthen the role of EE&C in supporting international environmental conventions and treaties (e.g., Kyoto Protocol, Dublin Resolution)
- Build regional coalitions for EE&C around primary themes such as: protected areas and eco-management in Southern Africa; marine-resources protection in the Caribbean; etc.
- Target specific issue sin given countries, address them in depth and draw lessons for dealing with similar issues in other parts of the world
- Create a global and/or regional “GreenCOM Environmental Award Scheme” for EE&C excellence
- Maintain a consistent, dedicated core team for global leadership in EE&C

2. Operations Research Studies

This section contains brief descriptions of GreenCOM’s operations research studies.

QUALITATIVE FORMATIVE RESEARCH FOR WATER CONSERVATION PROJECT, JORDAN

Formative research to understand the knowledge, attitudes, beliefs, and practices of teachers and students in secondary school environmental clubs, or “eco-clubs,” on water conservation in the home. Results contributed to the design of a water conservation curriculum and materials for the clubs. This study supports USAID’s strategic objective to conserve sustainable living resources.

CONCEPT TESTING FOR ENVIRONMENTAL AWARENESS CAMPAIGN IN EL SALVADOR

Danny Carr conducted eight focus groups to explore the relevance, level of understanding, effectiveness, and changes on five concepts to develop environmental awareness: "Can," "Air," "Dirty Boy," "Sick Girl," "Family Drawing." Findings suggested that the word "environment" is associated with one aspect of the environment (e.g., deforestation, air pollution) and is not a comprehensive term. Study participants identify better with those environmental problems most connected to their lives. For example, urban pollution is an issue for urban residents, but deforestation is an issue for semi-urban dwellers. The concepts related to children had the greatest emotional impact. In general, concepts present problems but offer no solutions. Behaviors that can be adopted to solve environmental problems must be added.

FORMATIVE RESEARCH STUDY IN MACHALA, ECUADOR / *PRINCIPAL RESULTS OF A MARKET STUDY FOR A NEW GARBAGE COLLECTION SERVICE* BY ELIZABETH MILLS BOOTH, ORLANDO HERNÁNDEZ, AND JULIA HELENA CARRILLO (1995).

Consumer-based formative research in the city of Machala to understand solid waste disposal practices, garbage collection service preferences, and media use at the household level. Data were used in the design of a promotional strategy in support of a new garbage collection system. Includes research findings on knowledge, attitudes, and practices related to solid waste. This study supports USAID's strategic objective of sustainable urbanization.

QUALITATIVE RESEARCH TO SELECT BEHAVIORS FOR RELEVANCE CAMPAIGN, EL SALVADOR / *QUALITATIVE RESEARCH OF SPECIFIC ACTIONS FOR THE GLOBAL ENVIRONMENTAL COMMUNICATION CAMPAIGN* BY DANIEL CARR & ASSOCIATES (1995).

Formative research conducted for national environmental campaign in El Salvador. Also available in Spanish as *Investigación Cualitativa sobre Acciones de Protección para la Campaña de Comunicación sobre el Medio Ambiente*. Consumer research to determine the viability of general environmental behaviors for an upcoming national communications campaign. This research was carried out in support of USAID's strategic objective to conserve sustainable living resources and make cities sustainable.

FORMATIVE RESEARCH MESQA PROJECT, EGYPT /*QUALITATIVE AUDIENCE RESEARCH REPORT, PROJECT MESQA* BY WAFAI AND ASSOCIATES (1995).

Formative study to explore attitudes, perceptions, and behaviors in a rural community regarding collective use and maintenance of irrigation canals. Data were used in the development of interventions to maintain and improve the canal. This study supports USAID's strategic objective to conserve sustainable living resources.

NIGER, RURAL CODE / ENVIRONMENTAL EDUCATION AND COMMUNICATION ASSESSMENT: THE RURAL CODE PROCESS IN NIGER BY EVELYNE GUINDON-ZADOR (1995).

Examines gender and land tenure issues. Also available in French as *L'Evaluation de la Sensibilization et de la Communication sur l'Environnement: Le Processus du Code Rural au Niger*.

FORMATIVE RESEARCH TO SELECT BEHAVIORS FOR A BIODIVERSITY CONSERVATION PROGRAM, ECUADOR

Formative research conducted under the direction of Elizabeth Mills Booth in two communities in the Cotacachi-Cayapas Ecological Reserve to select and define behaviors that have a positive impact on biodiversity and are feasible from the farmers' point of view. The targeted behaviors were included in extension programs as part of the USAID-funded SUBIR Project. In addition, Ecuador's NGO community plans to use the behavior identification process in other interventions.

PEOPLE AND THEIR ENVIRONMENT: ENVIRONMENTAL EDUCATION AND COMMUNICATION IN FIVE AFRICAN COUNTRIES / (AUTHOR: RENATA SEIDEL)

Synthesis of EE&C assessments from Guinea, Madagascar, Namibia, The Gambia, and Uganda. Also available in French as *Populations et Environnement*.

HAITI URBAN POLLUTION PREVENTION PROJECT, WATER PROCUREMENT, USE AND DISPOSAL PRACTICES, CITÉ SOLEIL, HAITI

Consumer research to identify water procurement and human waste and solid waste disposal knowledge, attitudes, beliefs, and practices among the residents of Cité Soleil. Research used to help design a water distribution,

management, and maintenance system. Results also used to design a community mobilization strategy to educate residents and motivate them to purchase water from the new distribution system. This activity was conducted in support of USAID's strategic objective for sustainable urbanization.

ANALYSIS OF GALLUP DATA, EL SALVADOR

Comparative analysis of equivalent questions conducted by Barbara Rawlins and Orlando Hernandez on environmental awareness included in Gallup omnibus surveys in 1993 and 1994 to track trends in environmental awareness. The analysis was used to assess the feasibility of using this data-gathering approach to evaluate national campaigns and other public awareness efforts. This report was prepared in support of USAID's strategic objectives to conserve sustainable living resources and promote sustainable cities.

CONSULTING FARMERS TO UNDERSTAND CONSTRAINTS TO MAKING PERMANENT LAND COVER INVESTMENTS, EL SALVADOR

Conducted by Rae Blumberg to study socioeconomic groups making investments in permanent crops living in crucial watersheds in order to understand the obstacles to making permanent land cover investments. Results to be used in formulating a new forest policy. This study was conducted in support of USAID's strategic objective of increased use of environmentally sound practices in selected fragile areas.

FORMATIVE RESEARCH, PILOT CAMPAIGNS IN THREE SITES (OLANGO, MALALAG AND SAN VICENTE), PHILIPPINES (AUTHORS: PALAWAN, ABREGANA, ORACION, DELFIN, AND GAVINO OLANGO. PUBLISHED BY THE RUDOLF RAHMANN RESEARCH CENTER, UNIVERSITY OF SAN CARLOS MALALAG, NAPOLEON D. AMOYEN)

Formative research conducted in three sites to determine environment-friendly actions that can be implemented by different stakeholders: local government officials, NGOs, and people's organizations and community residents. The emphasis is on stakeholder actions that can contribute to the process of devolving natural resource management to local governments and communities. Identification of communication channels to be used in pilot campaigns at each site. These reports were prepared in support of USAID's strategic objective to conserve sustainable living resources.

EL SALVADOR, AMALIA ALBERTI

The focus was on the identification of cultural factors that need to be considered in the development of a policy pertaining to forest investment.

GENDER AND RECYCLING, QUALITATIVE PHASE IN QUITO, ECUADOR

(AUTHORS: FRANCISCA RIVADENEIRA ET. AL., 1996)

Summary report of formative research results pertaining to solid waste disposal and a pilot municipal recycling program in Quito. This study supports USAID's strategic objective of sustainable urbanization.

RECYCLING BY MEN AND WOMEN IN QUITO NEIGHBORHOODS: FINDINGS AND IMPLICATIONS

(AUTHORS: ORLANDO HERNÁNDEZ AND BARBARA RAWLINS)

Quantitative study in Quito to understand the influence of gender in 1) promotion of a community-based garbage collection/recycling system, efficiency of the garbage collection system itself, and garbage management at the household level; and (2) socio-demographic and psychosocial determinants of garbage reuse and recycling at the household level. The purpose is to understand why compliance with the pilot solid waste recycling program has fallen over time. The findings helped with a promotional/educational campaign and the modification of the pilot recycling program. This study supports USAID's strategic objective of sustainable urbanization.

FARMER AWARENESS AND BEHAVIORS RELATED TO LIMITED WATER, EGYPT

(AUTHORS: LAURIE KRIEGER AND NANCY DIAMOND)

Formative research in three regions in Egypt to plan awareness campaign related to water scarcity and water conservation practices among male and female farmers. First step in a process to get farmers across the country to conserve irrigation water. Gender analysis planned to understand roles and perceptions of men and women around water management. Results were used to design a water scarcity awareness campaign. This study supports USAID/Cairo's strategic objective to increase private sector-led, export-oriented economic growth. Within that objective, the activity relates to improved water resources allocation and communication interventions to link water users and policymakers.

PARTICIPATORY RESEARCH TO HELP DEVELOP ACTION PLAN FOR WASTE COLLECTION PROGRAM IN FEZ, MOROCCO
(RESPONSIBLE PARTIES: ORLANDO HERNANDEZ, AHMED BOUZIANE, AND L HARBI RARBI)

The formative qualitative research was in two peri-urban communities outside Fez. It was used to determine the types of solid waste produced (residential, industrial); examine the informal and formal collection systems currently in operation; determine the organization of municipal services; identify local NGOs, their activities and capacity for local development; and explore the roles of residents and the private sector, including their knowledge, attitudes, beliefs and practices pertaining to solid waste, with attention to gender differentiated roles/attitudes. Research will be used to develop a pilot project that will improve solid waste collection and disposal efforts while strengthening the capacity of all concerned entities (e.g., the municipality, NGOs, public agencies). This study supports USAID's strategic objective of sustainable urbanization

DESKTOP REVIEW OF GENDER ISSUES IN ENVIRONMENTAL PROGRAMS, PHILIPPINES (GENDER)
(AUTHOR: BETTY ABREGANA)

This report supports USAID's strategic objective to conserve sustainable living resources.

QUALITATIVE FORMATIVE RESEARCH ON SEA TURTLE EGG HARVESTING PRACTICES, LA FLOR WILDLIFE REFUGE,
NICARAGUA

(AUTHOR: NIXATALOYEROS CULTURAL ASSOCIATION)

Formative research in buffer zone communities to explore attitudes and beliefs surrounding turtle egg harvesting and the government-sponsored egg distribution program managed by MARENA, and to identify behaviors that residents may engage in support of natural resource management. This research supports USAID/Managua's strategic objective to support rational use of natural resources.

FORMATIVE RESEARCH FOR VIDEO CONTENT, NEPAL
(AUTHOR: NEW ERA)

Qualitative formative research planned in several target communities to assist with the identification of appropriate priority content for videos on community forestry shot by a production firm. This research is being conducted in support of USAID's strategic objective to conserve sustainable living resources.

FORMATIVE RESEARCH FOR VIDEO PRODUCTION STRATEGIES, NEPAL

Comparative case study to understand the impact of video production by community members, using an outside production firm, on community organization skills, as well as implications for other group actions implemented by the community members. This research is being conducted in support of USAID's strategic objective to conserve sustainable living resources.

PROFILE OF PARK VISITORS, NICARAGUA

Formative research to design educational interventions targeting park visitors in a limited number of sites. This research supports USAID/Managua's strategic objective to support rational use of natural resources, which in turn should increase long-term economic sustainability and benefits for local communities.

MIDDLE EAST BEST PRACTICES RESEARCH

In support of the Middle East Peace Process, formative qualitative research using in-depth interviews to identify best practices in water conservation/efficiency at the household level in Israel, Jordan, the West Bank, Oman, Tunisia, Morocco, and Egypt. This activity was carried out in support of USAID's strategic objective to conserve sustainable living resources. Research resulted in three publications:

Water and Antiquity (Jordan) by Cherie Lenzen (1996).

Ancient Water Systems and Practices in Tunisia and Morocco by Melanie Mason (1997).

Middle East Water Conservation Awareness Project: Best Practices Research (Jordan, Oman, Israel, West Bank, Egypt, Tunisia, Morocco, 1997)

BASELINE MIDDLE EAST

Research collected through omnibus surveys to collect information on public awareness in different countries about the Water Working Group of the Middle East Peace Process. Although these baseline studies were completed, for political reasons, the State Department did not want them circulated.

3. Evaluations

JORDAN WATER CONSERVATION EDUCATION PROJECT: FINAL EVALUATION REPORT

Impact evaluation of a four-month curriculum implemented in secondary school “eco-clubs” that explores changes in the knowledge, attitudes, beliefs, and practices of male and female students and teachers, and the capacity-building effect on the Royal Society for the Conservation of Nature, which worked with GreenCOM to develop the instructional design and materials. This study supports USAID’s strategic objective to conserve sustainable living resources.

EL GUANAQUÍN NEWSPAPER SUPPLEMENT EVALUATION: EL SALVADOR

Evaluation of *El Guanaquín*, a monthly environmental newspaper supplement for children, to determine the extent of its circulation and use by teachers and students in public and private elementary schools. Results were used to help the newspaper editor revise the content of the supplement. This report supports USAID’s strategic objective to conserve sustainable living resources.

BASELINE STUDY TO EVALUATE WATER SCARCITY CAMPAIGN, EGYPT / KNOWLEDGE, ATTITUDES AND PRACTICES OF EGYPTIAN FARMERS TOWARD WATER RESOURCES: A NATIONAL SURVEY 1998.

This baseline was followed up with an evaluation of the same name 2000. Both were carried out under subcontracts to El-Zanaty & Associates of Cairo. With a sample of 2,000 male farmers and all of the women farmers we could find, this baseline and evaluation provided a good review of farmers knowledge, attitudes, and practices.

POLICY DIALOGUE EVALUATION

Evaluation research planned to assess the impact of the policy dialogue meetings at both the policymaker and community level by examining changes in knowledge, attitudes, and behavior. Individual interviews were to be conducted with policymakers, and group interviews (not formal focus groups) were to be conducted with key informants from Community Forest User Groups (CFUGs) represented at the meetings.

EVALUATION OF BUFFER ZONE EDUCATIONAL INTERVENTIONS [EVALUATION OF MODIFICATION INTRODUCED TO INTERPRETIVE ACTIVITIES IN VOLCAN MASAYA NATIONAL PARK], NICARAGUA JULY 1997 AND FEBRUARY 1998

Monitoring and evaluation of educational interventions targeting buffer zone communities to improve interventions and determine their impact. Research methodologies and results to be used in training workshop for public sector park managers, NGOs, and other government representatives.

4. Publications and Articles

See Appendix I

5. Gender

ISSUES IN URBAN AND RURAL ENVIRONMENTS: GREENCOM GENDER REPORTS BY MONA GRIESER AND BARBARA RAWLINS

A summary of gender-related research findings and recommendations for the pilot environmental communication campaigns from Palawan, Davao del Sur, and Cebu provinces.

6. Methods Handbook

See Section II, "Project Scope of Work: Publications," for discussion of *Environmental Education and Communication for a Sustainable World: Handbook for International Practitioners*.

B. The Requirements Contract by Country

The Delivery Orders carried out under GreenCOM are listed in the order in which they were signed. Because some delivery orders were long-term and other short-term, completion dates did not fall in the same order.

1. El Salvador

"Stop and then reverse the environmental deterioration in El Salvador" was the USAID objective for the Salvadoran Environmental Protection Project (PROMESA, Proyecto Protección del Medio Ambiente Salvadoreño). This

objective demanded from GreenCOM/El Salvador a strategy that was coordinated and integrated in every respect. From 1994 to 1999, this was GreenCOM's approach.

A first step in this educational strategy was to identify the priority national environmental problems and to establish that preserving the environment was in the interests of the different sectors of the Salvadoran society—a subject of national importance. Putting the environment on the national agenda had to be sustained and lead to concrete and systematic actions.

The integrated strategy developed by GreenCOM/El Salvador enabled us to involve the different sectors of society in formal, non-formal, and informal environmental education. A national sustainable EE policy was first defined with the participation of all these sectors. In support of informal education, GreenCOM developed activities to emphasize that environmental deterioration was a subject of fundamental importance for the country—extensive coverage in the media; six national conferences for environmental journalists; annual national environmental journalism awards; and the formation of two environmental journalist associations. The results from a U.S. Information Agency study showed that 86% of Salvadorans now consider environmental problems a priority to be addressed.

GreenCOM's formal education efforts became part of the national educational reform, making the environment a crosscutting theme covered in all subjects of the new curricula in preschools, elementary schools, and high schools. To this end the project worked to motivate and train teachers in environmental subjects and gave them practical tools for their classrooms. In all, GreenCOM worked with the Ministry of Education in an ambitious training program that reached more than 5,000 teachers nationwide. To support this training, teacher guides and audio, video, and printed educational materials were developed, school libraries were enriched, and projects were planned for high-school students to devote their social service hours to environmental subjects. The Ministry of Education paid for printing the teacher guides with funds from the national counterpart of the PROMESA project.

Combining the formal and informal education sectors, GreenCOM convinced the national newspaper *El Diario de Hoy* to dedicate one of its Sunday magazine supplements every month to environmental topics. A GreenCOM evaluation in 1996 found that 86% of teachers now use that supplement in class preparation, and 83% of students use it to do their homework and also conduct many of the suggested experiments. The supplement established an annual environmental contest among readers that was extensively promoted in schools by the newspaper's staff and by university students meeting their social service requirements. The 1994 contest, which was

called "Let's Paint a Green El Salvador," received 2,500 entries. The number of entries rose to 5,000 in 1995, to 30,000 in 1996, to 101,000 in 1998, and to 121,909 in 1999.

GreenCOM's non-formal education strategy focused on providing both the government and NGO environmental institutions with the ability to carry out EE activities on their own. Accomplishments in this area included the creation of EE units in the Ministries of Education and Agriculture, the National Center of Agricultural Technology (CENTA), the Park and Wildlife Administration, and the Administration of Education and Recreational Parks of CONCULTURA. By the time GreenCOM left El Salvador in 1999, plans were rapidly developing to help private sector organizations, unions, the army, and churches to incorporate EE into their work.

TOWARDS A NATIONAL EE POLICY:

GreenCOM convened the National Conference on Environmental Education in November 1996 to establish the guidelines for a national EE policy for El Salvador, based on experiences to date throughout the country. Twelve hundred participants attended three days of conferences on a variety of topics. While 38 NGOs and other institutions outlined their work in an educational environmental fair, 150 technicians worked in 15 different groups to establish guidelines for the formulation of an environmental policy for El Salvador. The Minister of Education then officially delivered these guidelines to the Ministry of the Environment in the name of all the sectors that worked on them.

RESPONSE TO THE NEW USAID/EL SALVADOR APPROACH:

In 1998, GreenCOM, at USAID's request, changed the focus of its program to concentrate its strategy on only one environmental topic: water. By the end of GreenCOM operations less than two years later, new community organizations in 18 municipalities had been created and reinforced and mayors had received support for establishing municipal ordinances to protect water resources and address other municipal environmental issues. To improve water conditions in these municipalities, strategic agreements have been developed with national institutions, international projects, and locally organized groups.

GreenCOM estimates that these mobilization and information activities reached approximately 285,000 people. In eight of the thirteen priority municipalities of Usulután, youth groups painted water-related murals to make their neighbors reminded of water issues. The project trained a total of 1,589 teachers (565 men and 1,024 women) in water-related topics, and through them reached at least 158,000 students of these priority municipalities. A total of 329 technicians (208 men and 121 women) also received training, and through those trainees the project

reached approximately 9,870 households. Training was also provided to 434 community leaders (252 men and 182 women), 9 mayors and 18 councilors in the different aspects of sustainable water projects. The campaign prompted citizen involvement and local policy work. The number of water-user groups organizing local water projects doubled from one year to the next. The number of municipal water regulations issued or under discussion jumped from 0 to 17. All of these activities and their results are documented in the comprehensive final report on GreenCOM's environmental work in El Salvador.

2. Ecuador

In support of USAID/Quito's strategic objective of sustainable urbanization, GreenCOM was asked:

- To identify determinants of garbage separation practices and to understand garbage disposal practices in inner-city neighborhoods participating in a pilot recycling program, at the household level overall and by gender.
- To contribute to the development of a gender-sensitive educational intervention in support of garbage separation and recycling practices.

The Municipality of Quito initiated the pilot program in 11 inner-city neighborhoods in 1993. The program required participants to separate garbage into categories: organic (fruit skins, vegetable peels, leftovers), recyclable (paper, plastic, glass and metal), and sanitary (used toilet paper, sanitary napkins, tissue paper, disposable diapers, etc). Different types of garbage were collected on specific days by neighborhood microenterprises. Recycling rates had dropped over time in the neighborhoods that had participated longest in the program, and the municipality wanted recycling rates to increase.

The GreenCOM research team used focus groups and in-depth discussions with service providers and neighborhood residents to identify perceived benefits and drawbacks of household garbage separation. Here are some of the principal findings of that research:

- The municipal government's perception of solid waste differed greatly from the household perceptions.
- According to neighborhood residents, the only real "waste" was sanitary waste. All other types of waste were viewed as valuable commodities that could either be reused by household members, given to others to reuse, or sold to scavengers.

- Although the municipal government recognized the usefulness of the role that scavengers play as an informal part of the waste collection system, it was concerned about reducing the number of scavengers who comb the landfills and decreasing the adverse health effects this practice can cause.

We found that people who do practice waste separation know the guidelines for doing so and the kinds of waste products that constitute organic, recyclable, and sanitary waste. These people were satisfied with the waste collection service, particularly its reliability, and are willing to give waste that has commercial value to collectors. They feel social pressure to separate waste.

But men and women responded differently on some key points. Women were more willing than men to give waste that has commercial value to collectors. Social pressure from neighbors is a predictor of waste separation for men, while social pressure from neighbors *and* family members is a predictor of that same behavior for women. The poor appearance of the neighborhood was the most commonly voiced social concern by both men and women about solid waste.

Also for both men and women, separation practices were clearly linked to their perception of what happens with the funds generated by the sale of the recyclable waste. One of the major obstacles keeping people from participating in the recycling program was the belief that by giving waste with commercial value to waste collectors they were passing up income that they normally get by selling some recyclable products. Scavengers go from house to house looking for such products to buy (mainly clear glass bottles, plastic oil containers, and cardboard).

Results of the analyses led to the formulation of several recommendations to the municipality:

- Organize a meeting of male and female stakeholders, including neighborhood representatives, to decide the future direction of the program.
- Evaluate alternative ways of handling organic waste, including the feasibility of composting.

Because the goal of the municipality was to reduce the amount of waste destined for the landfill, GreenCOM suggested an educational strategy based on these research findings.

3. Mexico

USAID/Mexico works with Mexican government agencies and NGOs to promote environmentally sound natural resource and energy use through the Environment and Global Climate Change (E/GCC) program. The forestry component of the E/GCC program focuses on the improved management of protected areas and buffer zones and on strengthening the institutional capacity of NGOs working to conserve the country's rich biodiversity.

Within this context, USAID/Mexico asked GreenCOM to conduct a rapid assessment of fourteen NGOs working on natural resource management projects or activities, particularly those addressing deforestation. USAID/Mexico sought to identify areas of institutional strengthening that would enhance the ability of these NGOs to increase their impact and improve local environmental conditions.

Various organizational factors had inhibited the dedicated and talented professionals working for Mexican environmental NGOs from being as effective as possible in developing and implementing environmentally positive methods of resource management. GreenCOM's report, *Institutional Assessment of Mexican Environmental NGOs*, identified those factors and proposed training and other interventions to increase the NGOs' abilities to achieve their goals.

GreenCOM used interviews with key staff and volunteer leaders of the 14 organizations, in-depth questionnaires, and literature reviews. We reviewed their strategic planning, managerial capacity, administrative skills, and technical capabilities through the lens of the NGOs' own environmental education and communication (EE&C) activities.

The assessment found that environmental NGOs had developed more consistently in technical areas than in institutional areas, and that NGO staff had taken greater advantage of technical training than of organizational-development opportunities. Although few NGOs had considered institutional development as high a priority as program support or technical-capacity building, their appreciation of the interdependence of these elements was growing. They were beginning to recognize that program training might be wasted if poor management prevented the organization from using technical advances fully. However, their openness to institutional strengthening was tempered by distrust of "prepackaged" solutions that did not address Mexican needs. The assessment strongly concluded that any future training and other skill-building activities would have to fit Mexican interpersonal styles and conceptual approaches, as well as the specific situations of the organizations themselves. The report discussed findings in four complementary areas:

ENVIRONMENTAL EDUCATION AND COMMUNICATION (EE&C)

Although all of the organizations assessed carried out EE&C activities, few used systematic, strategic approaches to achieve broader programmatic objectives or specific changes in environmental behaviors. Those NGOs that did specialize in environmental education generally focused their efforts on school-based programs. However, other NGOs surveyed most frequently used non-formal environmental education, through organized settings other than schools. Training for NGO program personnel was needed in EE&C teaching concepts, implementation strategies, pretesting, and monitoring and evaluation of materials and program activities. Many NGOs relied on uni-directional teaching methods, conducted without needs assessments or evaluations.

INSTITUTIONAL ISSUES

As noted above, the NGOs GreenCOM reviewed did not identify institutional development as a high priority, although many were beginning to recognize the interdependence of managerial and programmatic effectiveness. NGO representatives usually cited funding as their major organizational deficiency, although they were not always clear about how additional money would solve internal institutional problems.

GENDER CONSIDERATIONS

Most NGOs expressed sensitivity to gender concerns, at least by stating their goal for balanced staffs and boards of directors. However, few took gender considerations into account in program design or implementation, resulting in missed opportunities to change women's knowledge, attitudes, and behaviors towards environmental practices over which they have primary responsibility in the community.

TRAINING NEEDS FOR MEXICAN ENVIRONMENTAL NGOS

NGO staff could benefit from training in various aspects of internal organizational development, most notably financial and strategic planning, administration, and fundraising. Program development skills, ranging from conducting needs assessments to marketing non-traditional forest products, also emerged as areas of need. Almost all NGOs expressed great support for convening meetings, training sessions, and other gatherings as a way to work together to build trust and cross-fertilize ideas, even though current inter-institutional relationships may have been strained or nonexistent.

These were GreenCOM's recommendations:

- Develop a systematic NGO training plan and program with clear objectives and audiences rather than responding to courses or other opportunities on an ad hoc basis.
- Tailor all training and skill building to NGOs' specific organizational conditions and programs, taking into account existing activities, perceptions, weaknesses, and strengths.
- Build on existing awareness of gender issues by NGO staff to fully integrate gender considerations into organizational structure and program strategies.
- Increase opportunities for NGOs to work together on common projects and to network and collaborate through shared learning opportunities.
- Establish "train-the-trainer" processes as an essential component of every future training opportunity so that new skills learned by individual staff members and volunteers could be shared throughout the organization.

4. The Gambia

At USAID/Banjul's request, GreenCOM worked in The Gambia from 1994 through early 1995. A political coup that took place in July 1994 resulted in the closeout of USAID activities in March 1995. GreenCOM's counterpart was the National Environment Agency (NEA). Together GreenCOM and NEA drafted a national environmental education strategy and developed and implemented a national environmental awards scheme. At the same time, GreenCOM conducted collaborative training of Peace Corps volunteers working in schools and worked with Gambian colleges and other institutions on the integration of environmental education into the formal school curriculum.

The Gambia's National Environmental Plan, the country's national environmental policy, called for the building of environmental awareness through popular participation. The national environmental awards scheme, conducted in 1994 throughout the country and in various sectors, helped accomplish this.

Contests have frequently been used by public and private institutions in many countries to raise citizen interest on a particular issue. In The Gambia, competitions took place on regional and national levels in eight different categories, including schools, businesses, and private voluntary organizations. Five factors were important to this awards scheme's success:

- **Mobilization:** People throughout the country were involved.

- Decentralization: Local and regional groups had power and authority.
- Feasibility: Costs were low and resources were pooled.
- Communication: All communication channels were used systematically.
- Time: There was sufficient time to sensitize the public, mobilize resources, and build support

The meetings, media coverage, posters, and other dissemination methods that were an integral part of the awards scheme together proved to be an effective springboard for broader discussions on environmental problems and solutions involving many more people than those who formally entered the competition. The award ceremonies themselves were very well attended (between three and four thousand people) and involved parades and music groups. Award categories were Enhanced School Surroundings; Enhanced Surroundings in a Community or Neighborhood; Women and Environment; Community Sustainable Development; Appropriate Technology; Clean and Safe Business/Industry; Clean and Safe Enterprise (micro-enterprises); and Individual Advocacy/Promotion.

IMPLEMENTATION

Award organizers visited community leaders and officials in each district in the country. Each district formed a task force responsible for local competitions. Two weeks of sensitization through radio, films, meetings, poster displays, and newspaper articles followed.

Each competing organization submitted an entry form that described the activity, its benefits to people, and its benefits to the environment. Activities ranged from a street vendor setting up a rubbish bin next to his stand, to women's groups planting community gardens with composting and soil erosion control measures. In addition to publicity at the local level, a national media campaign took place and featured one of the country's first radio phone-in programs.

AWARD SELECTION

The winners were selected and announced in early 1995. More than 200 entries had been received, and the competition had generated a national discussion about broader environmental issues. The awards scheme also served as a unifying force. More than 600 people attended one district's award ceremony, bringing together local and, often, including rival leaders, all to recognize local environmental achievements.

Ironically, the initial assessment on the part of local Gambian counterparts was that they would be unable to carry out the awards scheme without ongoing GreenCOM support. But when GreenCOM had to leave the country prematurely in 1995, the Gambians carried on alone with their own resources, and to this day—more than five years later—they are still carrying on the work. Remarkably, the awards schemes have endured, supported by local resources and with increasingly wider impact. The Gambia is a concrete example of sustainability, of local people buying into a program and making it their own.

5. Jordan

Water scarcity is an increasingly serious problem in the desert country of Jordan. Currently, all known sources of water have been tapped. Management of existing water sources and promotion of water-rationing programs are vital to ensuring adequate water resources for citizens. Yet many Jordanian citizens perceive the problem as beyond their control, to be solved only by the government in negotiation with countries such as Syria and Israel who share the use of the Jordan River, one of the country's major water sources.

In an effort to instill a sense of personal control over water usage and spur Jordanian students and parents to action, the Royal Society for the Conservation of Nature (RSCN), with technical assistance from GreenCOM, developed a water-conservation curriculum. This curriculum focused on influencing the water-related attitudes, beliefs, and practices of teachers, students, and students' families through the promotion of interactive teaching methodologies. Teachers of extracurricular environmental clubs (eco-clubs) implemented the curriculum in secondary schools between January and May 1995. The curriculum addressed: 1) the water cycle in nature and water sources in Jordan, 2) reduction of household water use, 3) groundwater and surface water, 4) groundwater and surface water pollution, and 5) home gardens and irrigation.

The water-conservation curriculum was adapted from existing resources by a group representing concerned stakeholders including teachers, experts, and officials from the Jordanian Ministry of Education. But what made this new curriculum innovative was its use of interactive teaching techniques.

The RSCN staff members were trained in the new curriculum and the interactive techniques. Then they conducted a series of two-day workshops for teachers to cover this new material and use the new techniques. The RSCN training staff demonstrated the introductory unit and had participants prepare and demonstrate activities from other curriculum units. Two teachers from each of the participating schools were invited to ensure that those schools

would have a trained teacher available, even if the eco-club teacher left his position during the period of curriculum implementation. For many teachers, this training was the first time they had come into contact with a non-lecture-oriented methodology for providing instruction.

In late May, GreenCOM did an evaluation of the impact of the new curriculum on participating teachers and students. We compared participating eco-club teachers and students with teachers and students from eco-clubs that did not participate in the project. The evaluation showed that approximately 60% of the participating teachers implemented the majority of activities from all five units, including some activities that were optional. Teachers who did not implement most activities might have only used the curriculum as a guide for their lectures. Some teachers experienced time constraints, such as the Ramadan holidays, that hindered their ability to complete all recommended activities. But the overwhelming majority of participating teachers indicated that they would like to implement the curriculum again in the future, irrespective of their implementation behavior during the semester under evaluation here.

Participation in the curriculum also caused teachers to implement a greater variety of water activities. Although a breakdown of results by gender found a greater number of different water activities done by participating female teachers, both male and female participants implemented a greater number of different interactive water activities than non-participating teachers.

Unfortunately, the curriculum had little impact on teachers' beliefs about the advantages of interactive teaching methods and their willingness to implement these methods. The relatively short time of a single semester might have been too brief to change such deeply entrenched notions. Or it might be that the necessary skills to use the interactive teaching methods suggested by the manual for the water-conservation curriculum were not fully developed during the two-day workshop that was held to train eco-club leaders.

Participation in the curriculum had a strong impact on students, however, with some effects differing by gender. Students who participated in the curriculum had higher mean scores on an aggregate scale of social behaviors, which involved making suggestions about water conservation techniques to their mothers and fathers. This impact was significantly greater for boys than for girls. Students exposed to the curriculum also had higher mean scores on a scale of knowledge. This increase was also significantly greater for boys than for girls. The curriculum also improved several household water conservation behaviors including whether or not students looked

for ways to reduce water consumption in their households during the last month (for example, use of water in their household garden).

Several conclusions may be drawn. The curriculum had a positive effect on teachers' implementation practices and students' knowledge, attitudes, and behaviors. Eco-club activities further demonstrated the potential to strengthen school-community linkages and motivate both parents and students to participate actively in conserving Jordan's diminishing water resources. This finding has important implications for targeting future conservation efforts in the country. The water curriculum could effectively serve as a guide for the design of new curricula to address other crucial environmental issues.

The water conservation project also played an important role in enhancing RSCN's institutional capacities in several areas including teacher training; use of participatory teaching methodologies; materials development; and social science research and evaluation skills. Finally, RSCN improved its capacity to effectively design and implement gender sensitive activities.

6. Egypt Water I

In order to develop its first multimedia mass communication campaign on water scarcity, the Water Communication Unit (WCU) of Egypt's Ministry of Public Works and Water Resources (MPWWR) needed information on the current attitudes, beliefs, and practices of Egyptian farmers regarding water. The campaign was to be focused on rural people because farmers were the greatest water users in Egypt. With financial and technical support from USAID/Cairo and from GreenCOM, a team from the WCU received training in qualitative research. They then collected data in rural Egypt using focus groups and in-depth interviews.

The study focused on whether farmers knew that Egypt was facing a serious water shortage in the near future and whether farmers were currently practicing any water conservation behaviors. The research team discovered that although farmers had limited awareness about Egypt's national water scarcity, they were acutely aware of local water shortages. There was an overall perception that the irrigation water supply had improved since the building of the Aswan Dam but that current supplies were affected by canal pollution. Some people discussed their perceptions that future supplies were threatened by growing population.

The WCU research team conducted research in three governorates chosen by the MPWWR: El Fayoum, Aswan, and Dumiat. From an engineering standpoint, these places exemplified three different irrigation conditions. A total of 168 people participated in the focus groups and interviews.

Although each village studied faced a unique set of circumstances and reacted differently to water-related topics, similarities in experience among villages in a governorate, and even among El Fayoum, Aswan, and Dumiat, emerged in the focus group research. Findings were grouped under ten topics:

1. **Water Scarcity:** Many male farmers denied there was a water shortage in Egypt, with one male focus group citing information from mass media sources that supported this conclusion.
2. **Concept of Egypt's Irrigation System:** The vast majority of people knew that the Nile is the source of Egypt's water for irrigation and they also knew that the Nile provides water to their canal.
3. **Irrigation Management:** In the view of the farmers, the Ministry of Irrigation manages the entire irrigation system.
4. **Farmer's Role in Irrigation:** Farmers worked together to clean the secondary canals and participated in joint decision making with neighbors about which crops to grow to ensure that everyone received the same amount of water.
5. **Pollution:** Pollution was found to be a problem of serious concern among farmers. Farmers at the end of the irrigation canal, who often experienced water shortages, blamed pollution in the irrigation canal and main canal for limiting their water supply.
6. **Water Shortage:** Each village had its own factors that contributed to water shortages. In general, however, those at the end of the irrigation canal suffered greater water shortages.
7. **Water Saving Practices:** Farmers engaged in a variety of practices that resulted in saving water. Most of these behaviors made more efficient use of water.
8. **Crops:** Rice was a favored crop for both home consumption and sale; both men and women had strong feelings about the government fine on rice growing.

9. Meanings of Water: Water was viewed as a source of life for plants, animals, and humans—a gift from God to the world. But villagers also recognized that foreign objects and substances had contaminated agricultural water.
10. Past, Present, Future: Many study participants discussed the increase in water pollution as a negative change from the past to the present. Almost everyone viewed the past as pristine. Nevertheless, despite their perceptions about more water pollution, most farmers were optimistic about the future.

COMMUNICATION CHANNEL FINDINGS

By far, television was the preferred channel of communication. Interpersonal communication was the second most popular channel of communication. Radio listening or receiving news and information via their children and/or the newspapers were the least-favored communication channels. Based on the GreenCOM-supported study, the WCU made a series of recommendations to the MPWWR for the communication campaign. This campaign was launched later, with additional USAID and GreenCOM support (cf. below).

Central to these recommendations was the advice that communication images should illustrate positive behavior rather than negative behavior and that, whenever possible, women's involvement in farms (decision making, fieldwork, crop processing, or marketing) should be shown. The images of water could be drawn from those already familiar to farmers, including the human-like attributes farmers ascribe to water. If new practices were to be promoted, then the multiple benefits of those practices—economic, health, civic pride, religious, etc.—should be the focus of the message.

7. Not Assigned

8. Africa Gender

This delivery order was funded by USAID's Africa Bureau in Washington to provide workshops for policymakers in two African countries. The DO was signed without knowing which mission would want to take advantage of the opportunity. For two years, USAID made serious efforts to work with the missions in Africa, but in the end there

were no missions interested in and/or able to work with GreenCOM to provide the workshops. The funds were returned to USAID.

9. Ecuador/Galapagos

GreenCOM began working in Ecuador in October 1994, collaborating with the Charles Darwin Foundation on the education and communication component of a quarantine system to protect the biodiversity of the Galapagos Islands. Population growth had increased human impact on the fragile ecosystems of the islands. An inter-institutional team of Ecuadorian government agencies and NGOs was working on a five-year plan to implement a quarantine system to prevent the introduction of mainland flora and fauna to the islands' ecosystem. GreenCOM conducted a rapid assessment of the EE&C activities of three local institutions and identified both obstacles and opportunities for those institutions to strengthen their EE&C capacity and more effectively contribute to the conservation of the archipelago's unique marine and terrestrial resources.

10. Africa Research: School-Community Linkages

In three African countries, Mali, Tanzania, and Zambia, GreenCOM carried out studies on environmental programs that have built links between schools and communities. (Note: The work in Mali and Tanzania was funded under this delivery order; Zambia was funded under DO 28) With support from the USAID Africa Bureau, GreenCOM produced reports for each country and then a synthesis document of all three reports, describing and discussing the lessons learned from the three country studies.

These studies were meant to determine how the programs linked the community with the schools, assess improvements among the students, assess increased knowledge/awareness in the community, and measure the impact of student and community activity on improving the environmental conditions addressed.

All three country studies were completed and the synthesis document (paid for by DO 28) was prepared in July 1999. It selected seven factors critical to the success of all three programs, as clarity of objectives was fundamental. At the implementation level, the most important principle was to understand the local school system, the community, and the socioeconomic pressures in which a program functions. Adjusting wisely to those realities,

more than to any fixed rules, would help to bring about results. The synthesis document was published in English under this contract, and was eventually translated to French.

BENEFITING FROM THE SCHOOL AS A BASE

In all three countries, although elementary schools provide the largest available base of operations, enrollment is low and there is a considerable drop-off at the secondary level. Limitations are even greater for girls and exponentially so for programs that target older children. Despite the limitations of a school base, the evaluators of the programs saw the school connection as vital. In most developing countries there simply is no other group that government or nonprofit organizations can use as a bridge to large numbers of children, and the lower grades may provide the only way of reaching girls. Schools supply essential infrastructure, as well as connections to the local government and outreach to community members through standard school channels.

A few of the programs studied extend their reach beyond the school. For instance, the Zambian Chongololo Clubs make a concerted effort to broaden their reach through radio programs. One school in Mali opened its drama activities to out-of-school youth.

Administrators were particularly helpful in establishing linkages with other community institutions. Officials connected with the Tanzania and Zambia clubs often saw youth programs as a positive reflection on their schools and as a way of increasing interest and support from parents. Mutuality of benefits between schools and youth clubs was a key factor in the success of all these programs.

CROSSING EDUCATIONAL LEVELS

Continuity of contact with students from grade to grade vastly increases the impact of a program. Both children and their families reinforce conservation messages over time. Linkages across different educational levels—primary, secondary, and teacher training institutes—also greatly increase a program's public profile and improve its chances for sustainability. At the same time, there are tradeoffs to this diffusion of resources and each program needs to find its own proper growth curve.

UTILIZING COMPLEMENTARY CHANNELS

A number of factors constrain the reach of any program; one solution is to add additional communication channels. However, complementary channels require additional investments, so each program needs to weigh which impacts are expected for different levels of cost. Is the purpose of a new channel strictly to reach more of the target audience? Or is it to reinforce knowledge and attitudes among the regular members? Or is it to have some spillover into out-of-school youth and the wider community? Radio can do all of these, as the Chongololo Clubs in Zambia demonstrated.

PARTNERSHIPS

A common element in the success of these youth programs was collaboration with other organizations. This study also found that strong leaders tend to be the ones most likely to seek out such partnerships to help achieve goals. At the local level, linkages are themselves one measure of a program's effectiveness in stimulating environmental awareness.

ADVOCACY AND ACTIVISM

Children are natural activists. The programs that channeled their enthusiasm in tangible ways benefited youth the most and also benefited their communities and the cause of conservation. Educational theory tells us that personal experience is the most powerful aspect of learning for people of all ages. Besides aiming to improve the knowledge of children, these programs all tried to achieve some level of community outreach.

Art provided the most basic outlet for outreach. A few schools organized campaigns to raise awareness about local issues. Children in all of those programs had an impact on their school environments. Activities that led to significant conservation benefits generally relied on cooperation with other organizations.

RECOGNIZING WOMEN'S ROLES

Many of the behaviors these programs focused on—from the cutting of trees for fuel to the type of cooking stove used to various agricultural practices—are part of women's daily work. Women's groups, therefore, often serve useful advocacy roles in communities. At the same time, young girls are hardest to reach through environmental education programs, because of their low school enrollment. These studies offered many reminders that an

environmental-education program cannot be successful if it overlooks the importance of gender in questions of access, pertinence, or advocacy.

SUPPORTING THE GRASSROOTS BASE

The evaluations found that a sense of isolation can undermine a program more seriously than anything else. Conversely, the opportunity to share ideas and experiences—for both children and leaders alike—is a powerful motivator. Such sharing can be easily accomplished with print materials and training.

The value of print materials was a constant refrain. In these countries any good print material has a life far beyond its planned use. Three elements were crucial to the effectiveness of a very wide variety of newsletters, posters, magazines, pamphlets, club manuals, and teacher guides. These were 1) audience targeting, 2) effective distribution, and 3) continuity throughout a program. Distribution to remote areas was always a serious problem, calling for creative strategies to overcome it.

Effective training and a system for rewarding commitment are also essential. Although good training is expensive and requires professional input, EE leaders need preparation in content areas and also in group organization and participatory learning skills. Most of this participatory approach will be alien to the traditional classroom techniques they are familiar with.

11. Philippines

GreenCOM worked in the Philippines at the request of USAID/Manila to carry out a number of important tasks:

- Collaborating with USAID projects and Filipino counterparts to develop a national environmental communication strategy with an integrated theme addressing coastal, forest, and industrial environmental issues.
- Initiating pilot information campaigns in three sites in collaboration with other USAID projects.
- Assisting in the development of an environmental interpretation program for Silliman University that included plans for the renovation and construction of new facilities.
- Developing monitoring indicators and an assessment of environmental communication.

GreenCOM's activities promoted popular participation, decentralized decision making, and sustainable economic development. In developing a national environmental communication strategy, GreenCOM reviewed recent research findings and lessons learned from environmental protection efforts and organized a national workshop to discuss the implications of this research for the development of a national strategy. GreenCOM also formed an interdisciplinary team of communication and environmental specialists from the government, NGOs, the private sector, and other USAID projects to help develop this national strategy.

GreenCOM then designed a series of pilot information campaigns in three provinces where formative research using focus groups had already been conducted by local researchers. The findings of this research were reviewed in a national workshop and at workshops in each province. The national workshop brought together a total of 170 key stakeholders including political leaders from the provincial, municipal, and village levels; community representatives; staff from local NGOs; media managers; and representatives of community groups such as fisherfolk. This workshop introduced the behavioral approach to environmental change and engaged all stakeholders in an intensive analysis of environment-friendly and unfriendly behaviors that should be encouraged or discouraged. The national workshop led to meetings with a smaller task force in each province to identify the specific behaviors to be addressed in the provincial campaigns.

The environmental interpretation program began with a tour of environmental-interpretation facilities in the U.S. organized by GreenCOM for four faculty members from Silliman University and one staff member from USAID. The goal was to introduce them to various models of environmental interpretation programs. Silliman University, widely known for its work with terrestrial and marine ecosystems and community management, has set a goal for itself of becoming a "center of excellence" on environmental issues.

Later, GreenCOM fielded a multidisciplinary team of U.S. and Filipino specialists to work with Silliman University staff to produce an interpretive plan for developing an environmental education program and activities. These activities were based in three Silliman University facilities—historic Silliman Hall and its museum; the forested Biotrop Center with its animal displays and captive breeding program; and the Marine Lab, which conducts marine research including the artificial breeding of fish, clams, and alligators. The team's report included site plans for the renovation of Silliman Hall, the upgrading of the Biotrop facility, and construction of a new marine lab with dedicated space for educational activities.

GreenCOM collaborated with the mission's major environmental projects to review their communication strategies and outline indicators that could be used to measure progress and impact. Out of this collaborative effort, GreenCOM produced three reports:

Communication Indicators for Industrial Environmental Management and Forestry Resource Management
Forestry Resource Management IEC and Social Marketing Assessment
Industrial Environmental IEC and Social Marketing Assessment.

GreenCOM also collaborated with the Coastal Resources Management Project. As part of the development of a national communication strategy, GreenCOM worked regularly with other USAID projects to elaborate and refine the IEC indicators that measure progress.

11. Sustainable Cities

As part of USAID's effort to foster sustainable cities and create livable urban environments using education and communication, GreenCOM was invited to work in Fez, Morocco, and Port-au-Prince, Haiti.

MOROCCO

GreenCOM began work in Morocco in September 1996, providing support to the USAID Mission and to the municipality of Zouagha in the province of Fez. The task was to organize and facilitate a participatory workshop in two poor neighborhoods to design an action plan to improve waste collection. This participatory workshop brought together most of the concerned stakeholders in these neighborhoods. Sessions were structured to allow participants to establish a frank and open dialogue about solid waste issues, build a partnership, and then produce an action plan to improve solid waste collection. Furthermore, through this process, stakeholders developed their capacity to make collective decisions and participate in local governance, skills that were useful in addressing other problems affecting the urban environment. The only stakeholders not present at the workshop, at the express desire of the country collaborators, were women from the community as well as solid waste collectors. Believing this to be a major deficiency, GreenCOM deliberately structured workshop activities so that their absence would be prominent, and so their views would, in the end, be present.

The workshop was a ten-day exercise that included activities organized into three phases: problem analysis, field research to obtain missing information, and elaboration of an action plan. In the first phase, participants

discussed the different solid waste collection chains that exist in the districts of interest. Discussions took place in small groups to allow all participants to express their views, but individual expression was also encouraged. This approach enabled participants to put aside the traditional hierarchy present in Moroccan society between officials and citizens. Furthermore, discussion dynamics allowed an exchange between municipal officials and residents so that each stakeholder could understand the others' views.

During the research phase, participants gathered complementary information, particularly from housewives and garbage collectors, about solid waste collection services or lack thereof. Workshop participants observed group interviews conducted by facilitators and qualitative researchers to learn what male and female residents thought about issues such as pick-up schedules, advantages and disadvantages of waste-transfer points, and the quality of and payment for services provided by the municipality or neighborhood associations.

During the last phase of the workshop, research findings were discussed and an action plan was elaborated that deliberately included a mechanism to institutionalize the stakeholder dialogue begun at the workshop.

HAITI

The Centres pour le Développement et la Santé (CDS), a Haitian NGO, had obtained United Nations Development Program funding for the installation of a water distribution system in Cité Soleil, a slum settlement in Port-au-Prince. To complement this activity, USAID provided funding to develop an autonomous water district to manage and maintain the water distribution system and to implement a sanitation program. Research was needed to identify current water, human waste, and solid waste practices among residents, and research findings would be used to help choose technological options to improve water and sanitation. In addition, the results of the research were to suggest behavior change and community mobilization strategies to get residents to buy water from the new distribution system and to help maintain and eventually adopt new sanitation technologies. The USAID Sustainable Cities Initiative asked GreenCOM to provide technical assistance in formative and evaluation research, specifically, to assess water-related knowledge, attitudes, and behaviors among the Cité Soleil residents. On this basis of GreenCOM's research, other partners were subsequently to devise a strategy for message and materials development, pre-test those materials, and then monitor and evaluate EE&C interventions.

Fifteen focus groups with male and female community members from different socioeconomic strata convened in January 1996: seven groups of men, seven groups of women, and one mixed group. These were the

major themes of the inquiry, with an illustrative finding for each drawn from the comprehensive final report on this activity:

Water Procurement:

- Water is usually purchased, mainly from mobile water vendors or from owners of tanks that were filled from water trucks. Many people also use rainwater.
- The time needed to fetch water ranged from ten minutes, if a reservoir was near, to 20 or 30 minutes, when water was plentiful, to an hour or more when water was scarce.

Storage and Use of Water:

- Generally, participants used four to seven buckets of water per day for drinking, cooking, and other household needs. When they did laundry, twice that amount was needed.
- Water was frequently reused. For example, water used to rinse laundry was used to take a bath, to clean the house, to wash shoes, or minimize dust in the home or street.

Water Purity, Treatment, and Disposal:

- Water delivered by mobile water vendors was generally viewed as less pure than water obtained directly from reservoirs. Vendor water was thought to come from a dirty reservoir and the bucket to transport it was thought to be unclean.
- For drinking water, most participants added bleach (to disinfect and avoid disease) and many added lemon juice (presumably for taste), with a number adding both.

Perceptions/Preferences Regarding Public Showers and Laundry Facilities:

- In general, the participants believed that residents of Cité Soleil would appreciate construction of public showers and many would pay a reasonable amount to use them.
- It was believed that if people used public showers, more water would be available at home for other purposes and there would be less mud in front of homes.

Comments Regarding Community Participation and Organizations:

- Participants generally indicated their intention to participate in this project in several ways: to motivate others or to help with construction, maintenance, security, etc.

Other Areas Where the Community Perceived the Company Should Focus:

- Participants cited the need to build more latrines, to remove garbage, and to facilitate drainage of water into the canals.

Reactions from the Reservoir Owners and Mobile Water Sellers:

- The mobile water vendors were very concerned that the new water system would affect their ability to work in Cité Soleil and would force them to find other employment. Many do not live in Cité Soleil and felt the residents did not treat them well in general.

Gender Analysis:

- A key area of gender differences was procurement and usage of water. Women procured and used water (for laundry, cooking, and chores) more often than men.
- Women appeared to be less likely than men to use public showers.
- Men and women indicated their willingness to participate in upkeep of the new system, with men more willing to do surveillance and protection and women more willing to clean structures and supervise the children.

12. Not Assigned

13. Malawi

The development of a national environmental education strategy represented another step in the implementation of Malawi's National Environmental Action Plan. The purpose of developing a national environmental education strategy was to provide a common vision for EE&C and a framework for action that would ensure the fullest possible participation by all sectors and levels of the community. It was also meant to enhance ongoing efforts in environmental education and resource management and to provide an indication of which EE&C priorities needed to be addressed.

A team of consultants, including a representative from GreenCOM, was engaged by the Government of Malawi, with the support of USAID, UNDP, and World Bank to facilitate the process. Using a participatory

approach, the team studied relevant literature and documents, then interviewed a cross-section of stakeholders in EE&C to determine what was presently going on, what was working, and which resources and opportunities existed for EE&C in Malawi. With this input, the team was able to produce a draft strategy document. This document was distributed to those interviewed, along with an invitation to attend a strategy development workshop. At the workshop, participants reviewed each section of the document and made suggestions for amendments. The participants had opportunities to discuss and experience (through field trips) various dimensions of EE&C. Inputs from the strategy development workshop were then incorporated, and a second draft strategy document was produced. This was distributed to the stakeholders for their final comments before adoption.

The first two sections of this national EE&C strategy dealt with EE&C—its meaning, objectives, and special issues and considerations in relation to the situation in Malawi. The third section set out the objectives and activities of the EE&C strategy as identified by the stakeholders. This part also presented the objectives and strategies as prioritized during the strategy development workshop. A broad range of activities recommended by the stakeholders was listed under each strategy, with the assumption that implementers and donors would choose those they wished to implement and support in relation to their own interests and resources. The team recommended the involvement of the private sector as well.

The fourth section of the EE&C strategy dealt with coordination and facilitation for the strategy, while section five outlined a mid-term workplan, including lead implementers and possible donors, to provide a broad framework for developing specific time-phased plans. Monitoring and assessment was the theme of section six, which included suggestions for different kinds of indicators, and specifically for performance indicators for individual activities.

Some of the major findings and conclusions derived from the strategy development process, which were integrated into of the strategy document, are provided below.

- There were different perceptions about the meaning and objectives of EE&C. After discussions and field trips the workshop participants arrived at a common understanding;
- The resources (material, human, and financial) being invested in EE&C were quite limited; More resources needed to be found and opportunities to integrate EE&C into existing projects/programs needed to be utilized.

- The integration of EE&C into the formal system faced great constraints due to other major priorities in the provision of education for all. Therefore, it was necessary to make EE&C a component of existing programs and to use limited resources in EE&C activities with a large multiplier effect (e.g., in-service training of teachers and development of simple materials for schoolchildren).
- It was agreed that a major priority was to raise public awareness and participation in environmental concerns. However, since almost half of Malawi's population are youth and children, and they are also the ones most likely to reap the benefits or suffer the consequences of environmental changes, priority should be given to EE&C for this sector of the population.
- Many NGOs in Malawi were involved in a broad range of activities with significant EE&C components. Their efforts needed to be encouraged and increased.
- There were indigenous knowledge systems and traditional practices that promoted environmental protection. These should be studied, adapted (if needed), and used more intensively to reach certain target populations.
- Stakeholders generally requested training in EE&C methods and approaches. Expertise existed in various institutions for the development of short courses and training workshops for specific target groups, especially those with negative impacts on the environment.
- Most of the current EE&C interventions had not been evaluated; thus, it was difficult to know which were having any impact. Monitoring and assessment should be an integral part of all EE&C projects.
- NGOs, government ministries and parastatals were carrying out EE&C. Stakeholders in both formal and non-formal education needed to work together to supplement and complement their endeavors. Formal EE&C activities that are costly and have long-term impacts should be supported by non-formal EE&C activities with shorter-term impacts.

14. Not Assigned

15. Nicaragua

GreenCOM began work in Nicaragua in September 1996. Over the next two years, through a range of technical advisory services—including guided instruction, tailored training activities, and practicums—GreenCOM's program manager and short-term specialists were called on to strengthen the staff capacity of the Protected Area Division within the Ministry of the Environment and Natural Resources (MARENA). The capacity development was in the areas of designing, implementing, and evaluating environmental education and communication (EE&C) in five protected areas and associated buffer-zone communities.

Given the lack of human capital and financial resources and the fledgling status of Nicaragua's protected area (PA) system, environmental education, communication, and interpretation had received limited attention from PA managers, technicians, and extensionists. Relatively few of the country's PAs or environmental NGOs that were actively involved in protected area management had trained staff dedicated to EE&C activities. Upgrading PA staff competency in EE&C methods and techniques would serve to improve public relations with surrounding communities as well as mitigate environmental problems from PA users, visitors (national and international), and nearby residents. Moreover, as tourism increased in Nicaragua the needs for environmental interpretation, not only for visitors but also for tour guides and operators, would increase as well.

TRAINING WORKSHOPS

A two-part workshop series was developed and delivered to participants representing the target PA sites. Training topics included: EE&C within buffer zones; environmental interpretation and strategic planning for PAs; identification of target behaviors and message development; and materials design and production. Depending on the workshop topic, each PA site was represented by an interagency team consisting of MARENA personnel, NGO representation, local community leaders, and other relevant people active in the area, including school teachers and tourism operators.

GUIDED PRACTICE

Between workshops, technical assistance was provided by GreenCOM staff to each PA site team to facilitate the completion of their "homework" from the workshops. This included assisting with the formation of messages, planning and designing materials, and facilitating the production and implementation of these materials.

GreenCOM worked with each protected-area team to design materials specific to their local audience and situation. GreenCOM facilitated the production and dissemination of these materials to PA staff and visitors, buffer-zone communities, and the general public as appropriate. These materials included brochures, posters and a promotional manual for the participating protected areas. GreenCOM also produced posters in support of existing restrictions on harvesting sea turtle eggs in the La Flor Wildlife Refuge.

STUDIES

Qualitative studies were conducted to obtain data to use in the workshops to design EE&C messages, materials, and interventions. In addition, GreenCOM did a yearlong quantitative study to provide a baseline of visitor satisfaction and monitor impacts of the EE&C or interpretive materials facilitated through the project.

ENVIRONMENTAL POSTAGE STAMPS

During the summer of 1998 GreenCOM/Nicaragua and USAID/Nicaragua brokered an arrangement with the Nicaraguan Postal Service and Fundación Cocibolca, a leading environmental NGO, to produce a series of ten stamps featuring photographs of eight protected areas. The images were those that GreenCOM used on posters, brochures, and a tourist guide for the Nicaraguan protected areas system. In an international first, the postal service agreed to donate a percentage of the revenues from stamp sales to the foundation to finance environmental education. The first printing ran to 950,000 stamps, with the potential to generate approximately \$27,000 for the foundation.

The President of Nicaragua, Arnoldo Alemán, canceled the first stamps at a gala at the National Palace of Culture in Managua. Organized by GreenCOM, the event brought together more than 350 representatives from the environmental, development, and diplomatic communities as well as from the private sector. The event was widely covered on television and in the newspapers.

15. Egypt Water II

Building on the research base established in the first Egypt activity (cf. above), GreenCOM took on a second assignment in Egypt to provide short-term assistance to the Water Communications Unit within the Ministry of

Public Works and Water Resources. The WCU had been established during the earlier GreenCOM project in Egypt, largely as a result of recommendations and design work by that GreenCOM team. Now the ministry wanted its new unit to move into action.

The ministry's priority was water conservation. The basis of its communications strategy, as articulated by the minister, was this: "MPWWR will focus on helping Egyptians recognize the scarcity of water and take steps to modify their behaviors to conserve a limited water supply and protect it from pollution." The objective of this GreenCOM assignment, therefore, was to produce a general awareness campaign directed to farmers (the major water users in the country), local leaders, MPWWR staff, and schools. Earlier research had shown that there was a lack of awareness about the seriousness of Egypt's water predicament; the rationale for this campaign was that these priority groups would accept government water policy reforms and participate in water conservation if they realized that there really was water scarcity in Egypt.

GreenCOM was asked to (1) design and implement a limited research and pre-testing program; (2) design an awareness program; (3) produce materials and use the mass media to disseminate them; (4) carry out media orientation and advocacy seminars; and (5) monitor the awareness program.

On November 23, 1996, the Water Scarcity Campaign was launched with the appearance of senior MPWWR officials on the television show *Good Morning, Egypt*. A press conference and a media workshop attended by 55 members of the press and other ministry officials followed that show. During the workshop, more than 30 radio and TV interviews were recorded for broadcast that evening and in the following days. The TV public service spots began the next day. The launching of this campaign marked a new era in Egypt, with the introduction to the public of the idea that they would not have the abundance of water that the Nile had provided to them for centuries.

Even before the campaign started, special information was being distributed to the MPWWR staff about the importance of the campaign to Egypt. Staff were made aware of how the campaign would be produced and they were encouraged to participate and cooperate in it. Their suggestions were solicited and used in campaign materials.

The general mass media coverage amounted to 320 hours of airtime, much of it on national radio and TV networks during prime time. These broadcasts were in essence pre-campaign materials, because they were intended as background information, preparing the ground for the specific campaign to come. When the specific campaign began, with six TV spots and five radio spots, it also received broad airing in excellent time slots. At a special

luncheon meeting just before the campaign's launch, Egypt's top 15 media executives received briefing kits and were enlisted to encourage their staff to produce related programs. Their support proved crucial in securing the campaign's broad coverage.

Another campaign component worked through the schools. Working with the Ministry of Education, the WCU produced educational materials relating to water scarcity and other campaign themes for 100 schools in five governorates. Another special luncheon meeting, this one for MOE officials, gave the WCU a chance to show off these materials and to cultivate good working relations between the MOE and the MPWWR.

This first campaign produced by the WCU was complex; the GreenCOM advisory team used guided practice to give participants the experience they would need to succeed in this and future campaigns. Designed, produced, and launched in less than six months, the Water Scarcity Campaign represented the first phase of an expanding effort by the MPWWR to deal with this issue. GreenCOM was fortunate to be involved with these later phases as well (cf. below).

17. Nepal

In Nepal, GreenCOM was a partner with the World Wildlife Fund (WWF), the Biodiversity Support Project (BSP), and CARE in USAID/Katmandu's Environment and Forest Enterprise Activity (EFEA) beginning in November 1996. GreenCOM/Nepal's specific objectives included:

- Enhance community understanding of the new forest policy/legislation and the communities' role in it
- Stimulate social discourse on opportunities created by the new policy
- Support the forestry/conservation extension work of the Ministry of Forests and Soil Conservation (MOFSC), Department of Forests (DOF), Department of Soil Conservation (DOSC), National Parks and Wildlife Conservation (DNPWC) and EFEA partners.

GreenCOM met its objectives through use of video and the organization of participatory meetings.

ANNUAL COMMUNITY FORESTRY FORUM

GreenCOM Nepal organized a community forestry forum, which was intended to be an annual event. The first forum was attended by three ministers—the Minister for Forest and Soil Conservation, the State Minister for Forest and Soil Conservation, and the Minister for Law and Justice—along with 21 CFUG representatives, seven of whom were women from Nepali villages. Other participants in the forum included secretaries to the Ministry of Forest and Soil Conservation, Ministry of Law and Justice, and the Ministry of Population and Environment.

The forestry forum was a success. The State Minister for Forest and Soil Conservation, the Secretary of the Ministry of Forests and Soil Conservation, and several other HMG senior officials indicated that this forum was very special in that it involved a face-to-face communication between farmers and policymakers in one place.

The Federal Minister for Forest and Soil Conservation, the State Minister of Forest and Soil Conservation, and the Minister of Law and Justice and the secretaries answered the issues raised by villagers in their video letter (see below). This was a very important aspect of the forum during which the policymakers responded to the concerns of the grassroots-level people. The concerned government officials as well as ministers committed themselves to take action on the key policy issues that were raised at the forum.

FOREST SECTOR COORDINATING COMMITTEE ANNUAL MEETING

GreenCOM also supported a one-day Forest Sector Coordination Committee (FSCC) meeting, attended by more than 100 representatives of government and non-government agencies working in the forest sector of Nepal. The FSCC, inaugurated by the State Minister of Forest and Soil Conservation, aimed to bring about coordination and uniformity in the implementation of forest development and management programs in Nepal, and the meeting was successful in attaining its objectives. The proceedings of the FSCC meeting were prepared and published.

FORMATIVE RESEARCH

GreenCOM through NewERA, a Nepalese research firm, completed a study on research management by Nepali communities in September 1997. This research then contributed to development of the fora, FSCC meetings, and video components of the project.

USE OF VIDEO AS AN ANIMATION TOOL

There were three types of video activities in GreenCOM/Nepal. GreenCOM and EFEA partners operated a mobile video presentation system to show videos on forestry techniques and management to rural Nepalis in the Terai, mountainous areas, and the middle hills. Community video specialist Kedar Sharma completed a video letter from one of the community forests of the EFEA project area, with technical assistance from Himalaya Films, a Nepali firm. Finally, GreenCOM subcontracted Himalaya Films to produce two original videotapes, one instructional video and one drama, that would communicate economic opportunities created by new forestry policies and demonstrate how to solve problems when forming democratic user groups.

GreenCOM/Nepal also produced a computerized video presentation that gave a short history of forest management in Nepal. This presentation also raised issues of major concerns within the forest sector and described activities of agencies involved in this sector including EFEA and the inputs of GreenCOM within EFEA.

18. Middle East Peace Process (MEPP) I

At the request of the U.S. State Department, GreenCOM initiated a project on water conservation in the Middle East in the fall of 1996. This effort was in support of the Middle East Peace Process (MEPP) Multilateral Working Group on Water Resources (MWGWR). GreenCOM staff visited delegates to the MWGWR in Egypt, Israel, Jordan, Morocco, Oman, the Palestinian areas, and Tunisia, as well as NGOs and educational and research organizations in the region to assess what had been done in the areas of water education and communication.

QUALITATIVE BEST PRACTICES RESEARCH

Egyptian, Israeli, Jordanian, Moroccan, Omani, and Palestinian consultants completed research reports on domestic water conservation best practices in their countries by late fall 1997. (Tunisia did not submit a paper.) Water-wise home gardening programs, water saving devices, and student workshops were only a few of the practices they uncovered. GreenCOM also contracted two American archaeologists to document antique practices in order to show that water scarcity was an age-old problem throughout the region.

QUANTITATIVE RESEARCH

Two Middle East-based research firms conducted omnibus surveys of the Israeli, Jordanian, Palestinian, and Tunisian general publics to determine their awareness of the MEPP and the MWGWR. They also gathered information about which media urban residents consulted most frequently.

TECHNICAL EXPERTS' WORKSHOP

This qualitative and quantitative research served as a basis for a technical experts workshop in Athens in March 1998. Delegates from participating parties came together to develop a public awareness campaign strategy, one that included country-specific and regional video productions.

Representatives from each party to the MEPP and international donors gathered to help GreenCOM present qualitative and quantitative best practices research. During small-group discussions, participants developed a public awareness campaign strategy. In addition to the substantive results of the meeting, the parties experienced the positive results of working together to address a common, critical problem—water scarcity.

REGIONAL AND COUNTRY-SPECIFIC VIDEO PRODUCTIONS

GreenCOM was asked to provide technical assistance and seed money for video production to participating MWGWR parties. This video work was designed to build upon our collaboration with all seven MEPP parties, and was a further effort to identify and document best practices for water use and conservation in their regions.

Five parties showed interest (Israel, Jordan, Oman, Tunisia, and the Palestinians) and were unanimous that they wanted to use their videos to target youth with public awareness campaigns on water efficiency knowledge, attitudes, and practices.

Within six months, Israeli, Jordanian, Omani, Palestinian, and Tunisian partners had all produced video programs for their young people on water efficiency best practices and programs. GreenCOM commissioned the J-Net Group, Inc., an American environmental television production firm, to combine the parties' footage into an educational, entertaining program for audiences throughout the region. Based on the parties' footage, J-Net created a draft program, which was shared with the parties at a Washington meeting. Finally, incorporating the core parties' guidance, J-Net finished the film, and on UN World Water Day (March 22, 1999), the MWGWR released *Water for Arid Regions*, a one-half-hour television program in Arabic, Hebrew, and English. This video continues to be

broadcast regularly throughout the Middle East, representing a collaborative effort of parties historically at odds and demonstrating a concrete benefit of peace.

20. Russia GLOBE

Global Learning and Observations to Benefit the Environment (GLOBE) is a worldwide network of students, teachers, and scientists working together to study and understand the global environment. Students and teachers from over 8,000 schools in more than 85 countries are working with research scientists to learn more about our planet. GLOBE students make environmental observations at or near their schools and report their data through the Internet. Scientists use GLOBE data in their research and provide feedback to the students to enrich their science education. Global images based on GLOBE student data are displayed on the World Wide Web, enabling students and other visitors to visualize the student environmental observations. GreenCOM provided direct support for the GLOBE Program in Perm, Russia, with students (ages 7–16) and teachers to develop linkages between schools in Perm and with others around the world.

Initially, GreenCOM oversaw the establishment of six schools as active participants in the GLOBE Program. The project sent five teachers and the regional coordinator to attend the teacher-training workshop in Kazakhstan in March 1997. Each of the six participating GLOBE schools was then outfitted with computer hardware and software and basic measuring equipment necessary for participation in the program. Students began taking measurements of maximum and minimum air temperatures and also accomplished soil structure and moisture content studies.

GreenCOM worked with the Perm State Teacher Training University and the Perm Environmental Protection Committee to train teachers and make GLOBE a part of the curriculum in schools throughout the region. Professor Victor Misenzhnikov of the Perm State Teacher Training University led the activity.

In September 1997 Professor Misenzhnikov conducted a training session for schoolteachers from an additional 25 schools. Time was spent acquainting teachers with telecommunication technology in addition to presentation of the GLOBE program information. In preparation for this training session, a practical guide for teachers was prepared from the U.S. materials by Professor Misenzhnikov. In October, the exact geographic

locations of the schools and their land cover sites were determined with the use of the Global Positioning System (GPS).

The computer at the regional center was connected to the Internet, but the schools were not connected because of a lack of phone lines and/or local funds to pay for additional lines. The coordinator identified an Internet provider late in the project who would service the schools, and GreenCOM supplied funds to the coordinator in 1998 for this purpose.

Although the number of schools and teachers in Perm was small and their Internet link was tenuous, there was real enthusiasm among the students about the GLOBE Program. Exposed to the potential of the Internet and provided with measuring tools to understand their environment better, these students and teachers showed genuine excitement when visited by representatives from USAID and from GreenCOM. Their active participation in the program, despite limited equipment and very little contact with the wider world, came like a revelation to many of the students.

21. Jordan GLOBE

GreenCOM also assisted in the development of a sustainable GLOBE Program in Jordan. GreenCOM seed funding in Jordan helped develop demonstration GLOBE schools to implement the program and leverage private sector support and partnerships. Specific GreenCOM accomplishments in Jordan have included:

- Technical assistance to the coordinating NGO for GLOBE Jordan.
- A GLOBE workshop for educators, emphasizing the proper collection and reporting of environmental data.
- Six GLOBE study sites at secondary schools, each with a computer and scientific instruments for data collection.
- Internet accounts to all of the six schools that can be connected as well as additional scientific equipment if funds allowed.
- Ongoing support to teachers at these sites through visits, periodic communication, and workshops.

The program was launched in July 1997, when GreenCOM Resource Center Director Martha Monroe facilitated a workshop with 24 teachers at the Al-Ma'aref School in Amman. The Friends of Environment Society (FOE), the Jordanian NGO coordinating the GLOBE program in the country, ran the workshop. In addition to the participating schools (government, private, and military), the workshop attendees included a computer expert from the University of Jordan, a science specialist from the Ministry of Education, the GLOBE Country Coordinator Raouf Dabbas (President of FOE), volunteers from FOE, and GreenCOM's technical advisor Khulood Tubaishat.

The three-day introductory workshop included an overview of GLOBE and the scientific protocols for atmosphere, hydrology, GPS, biometry, and land cover. In addition to short lectures, teachers went outdoors to measure a variety of parameters including tree height, rainfall, canopy density, and water quality. In November 1997, Khulood Tubaishat and Raouf Dabbas attended a GLOBE workshop in Miami, Florida, to obtain additional information and skills for their key GLOBE roles in Jordan.

A pilot effort, Jordan/GLOBE ultimately provided six schools with computers from AED. These sites also received the required scientific equipment, including soil kits and extra equipment worth up to \$2100. As in Russia, the schools had a great deal of trouble establishing Internet access because of limited infrastructure in Jordan.

22. Egypt Water III

GreenCOM initiated its third Egypt project in May 1997 in cooperation with subcontractor Chemonics. "Egypt I" focused on designing a water communication strategy with the newly created Water Communication Unit (WCU) of the Ministry of Public Works and Water Resources (MPWWR). "Egypt II" coordinated an awareness campaign on Egypt's limited water supply. "Egypt III" developed the institutional capabilities of the WCU to support the MPWWR's water conservation, pollution prevention, and policy formulation efforts. The work plan included two major components, evaluation and several crosscutting activities.

Field engineers, who manage water delivery to farmers at the local level, are the main link between the MPWWR and water users, but they had rarely felt the need or had the time to communicate with their customers, Egyptian farmers. To establish a relationship between providers and users of water, Egypt III trained field engineers based on the experience WCU staff had gained from a study tour to Colorado State University. Under-secretaries

and local government officials also received training on the value of two-way communication about water conservation in the agricultural sector, the largest consumer of water.

To support the MPWWR's introduction of new water policies, GreenCOM promoted participation in decision making, with a view toward behavior modification concerning water use. Egypt III expanded the awareness campaign designed during Egypt II, developed three new campaigns that corresponded to the various steps along the continuum of behavior change, co-produced a TV drama, and strengthened a variety of ongoing communication programs of the WCU. A number of workshops, meetings, and briefings were also conducted for urban and rural dwellers of all socioeconomic levels. All of the activities under this component were based on extensive quantitative research and behavior change theory.

GreenCOM undertook a KAP baseline study of field engineers at the beginning of this third project and a follow-up study after two years. We also conducted an evaluation of the field engineer training program after six months and one year and carried on constant project monitoring. Furthermore, GreenCOM did a KAP on farmers, which was useful in developing field engineer training on how to communicate with farmers. This KAP needed to be followed up by the ministry when GreenCOM completed its specified work.

GreenCOM accomplished much in a short time. Throughout the GreenCOM project, monitoring closely scrutinized the impact of the project. At the beginning of the project, indicators were identified and baseline data collected. These indicators were reviewed at regular intervals and, when indicated, targets were updated. At the end of the project the same indicators were once again reviewed and, where possible, appropriate data were collected.

Key results included:

- 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% in district engineer knowledge of water-user associations
- Increase from 0 to 7 in the personal contacts with MPWWR field staff per month by each WCU staff member
- Increase from 0 to 10 in the fact sheets/technical information materials provided per quarter
- During a three-month period, Egypt TV stations ran GreenCOM/WCU-produced TV spots 1,028 times for free; the spots were seen by almost 26 million people.

The indicators above suggest that district engineers now 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 farm water management. As the ministry's efforts to conserve water move from improving knowledge and attitudes to changing farmers' behaviors, they will continue to focus on engineers' knowledge of behaviors farmers should adopt.

Changing knowledge, attitudes, and practices of large segments of the population takes a considerable amount of time, but changing behaviors of water users is now a long-term priority program of MPWWR.

23. Mali

GreenCOM's goals in Mali were to raise awareness and, in the long term, change the behavior of Malian youth, in school and out of school, in terms of how much they value the environment and how they relate to it. This environmental emphasis cut across two of the mission's strategic objectives, Youth, and Information and Communication. GreenCOM objectives were 1) to increase the knowledge of youth within the Malian school system, and 2) to change domestic and agricultural behaviors for out-of-school youth.

To accomplish these objectives for in-school youth, GreenCOM:

1. Developed an integrated environmental curriculum, based on previous experience in Mali.
2. Produced a supplementary book with interactive games and environmental exercises and integrated these activities into each subject in the curriculum.
3. Trained more than 450 teachers from over 100 schools in the use of a teacher's integrated guide and in participatory teaching methods.
4. Trained a cadre of professionals—both at the central and regional levels—in participatory teaching methods so they could serve as trainers and as supervisors to monitor and evaluate the work of the project.
5. Trained Malian researchers in participatory research, as well as in traditional qualitative and quantitative research methods.

6. Encouraged programs linking the schools with the communities.
7. Shared its approach to participatory teaching methods with other educators in Mali, and some have now adopted this approach.

Research on school children before the intervention and after one year showed that:

- Knowledge and attitude scores increased significantly between measurements, except for attitudes among the group of third and fourth graders.
- The gains in both environmental knowledge and attitudes over time were larger for students in classrooms where teachers showed a higher level of environmental integration.
- Partial integration of environmental content affected student performance differently depending on the grade. Third and fourth graders in classrooms where teachers integrated environmental content less frequently showed a significant decrease in both knowledge and attitudes. This trend was however not observed among fifth and sixth grades in either the knowledge or the attitude test.
- Better performance from the pre-test to the post-test was observed among students from community schools when compared to students from the other two types of schools. Furthermore, performance on both the knowledge and attitude tests decreased significantly in the third and fourth graders from PFIE (the ten-year European Community-funded EE project) schools.

To reach out-of-school youth, GreenCOM:

1. Trained radio journalists in some 29 community radio stations in radio reporting, environmental reporting, and evaluation of radio programs. They have also been linked to other official structures in their communities to make them agents of change, not just reporters about change.
2. Produced, in a workshop with these journalists, a series of six radio programs based on real concerns of communities; these have been aired with great frequency around the country.
3. Trained seven trainers to train others in radio production, participatory environmental needs assessments, and qualitative research.

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4. In Bamako, GreenCOM took the lead role in forming interactive relationships among at least 60 active environmental organizations to unite their efforts in support of urban issues. As part of UN Environment Week in June 1999, GreenCOM linked up with COCAN, the agency responsible for preparing the country for the Africa Cup Games in 2002, to spearhead an urban cleanup to use national pride as a vehicle for improving individual behavior.
5. Commissioned a seminal document on the role of Malian youth in their environment, focusing on out-of-school youth in particular.
6. Commissioned impact research to determine the level of environmental behavior change among youth and contracted with several agencies to survey men, women, and youth about urban waste issues.
7. Trained a group of Malian government and NGO staff in desktop publishing to facilitate the production of local materials.

24. Lebanon

Sixteen years of civil war brought about profound demographic changes in Lebanon, which in turn had a severe impact upon its diverse and fragile environment. Migration to the coastal cities resulted in overcrowding that taxed infrastructure already damaged or destroyed by conflict. Pollution of coastal water and air by industry and automobiles is a cause of serious concern. Although Lebanon is blessed with extensive rainfall, abandonment of productive land, erosion, and deforestation have resulted in loss of habitat and the inability of the land to hold runoff from the good rains. USAID/Beirut, focusing on rural reconstruction and on the expansion of economic opportunity in rural areas, has funded programs implemented by PVOs and NGOs. This USAID support was primarily for community reconstruction designed to rehabilitate water and sanitation facilities, agriculture feeder roads, irrigation, and potable water systems, and to strengthen the Lebanese capacity to manage such efforts.

GreenCOM assisted the mission in these efforts by developing the capacity of PVOs and NGOs to conduct participatory needs assessments, so that communities could become engaged in the process of reconstruction. GreenCOM technical assistance developed a participatory needs assessment toolkit for PVOs in Arabic and then conducted a participatory needs assessment in the project areas with PVO project staff as guided practice.

The first stage of the activity was a participatory materials-development workshop in Beirut. At this workshop, PVO and NGO staff assisted directly in the preparation a draft environmental participatory toolkit. Because many of these participants had never experienced participatory techniques before, brief presentations on the rationale for participation supplemented group exercises and other exercises intended to drive home the value of participation.

Then GreenCOM went to the field to gather qualitative and quantitative data on environmental impacts related to the primary objectives of the PVO/NGO contracts (irrigation, roads, piped water, etc.). Qualitative research assisted in determining the educational and communication needs to ensure sustainability of each activity. PVO/NGO staff prepared questionnaires and assisted GreenCOM's two Lebanese team members in establishing contact and collaborative relationships with village communities. The toolkit was tested in this phase.

At the end, there was a finalization workshop that brought together the same PVO/NGO staff to review the field efforts, select the most appropriate tools and adapt the others, and collate the data for the environmental needs assessment. The two deliverables, a toolkit and a needs assessment, were completed, and these results were then used by the mission to determine its overall program goals in the environment sector.

GreenCOM left a series of recommendations with USAID/Beirut, including ideas concerning solid waste disposal and sewage; the use of chemical fertilizers and pesticides; environmentally sound technologies for recycling; and conversion of sewage into organic fertilizer and bio-gas. GreenCOM urged that an environmental education program be developed and promoted in the schools, focusing on the impact of human behavior on the environment. Environmental assessments should involve all the stakeholders, including villagers, women, and schoolchildren.

25. Colombia

This delivery order was signed and the intent was to provide a series of three workshops for NGO leaders on environmental education. The organizing of this effort was to be done by an umbrella organization called EcoFundo, but immediately after the signing of the contract the organization had severe organizational problems and mission decided not to follow through with the project.

26. Middle East Peace Process II

“WATERCARE” EDUCATIONAL MATERIALS

The three core parties (Israelis, Palestinians, and Jordanians) of the Middle East Process were guided to continue the activities that were started under the previous project (DO 19). The U.S. State Department, which funded these efforts through USAID, was interested in the continued collaboration of the core parties. The desire of the parties was the creation of materials for a middle school water curriculum to be used in all three areas. After the beginning workshops of this activity, the lead agency became the U.S. Geological Survey, instead of USAID. GreenCOM had worked with the parties to name the collaborative effort “WaterCare.” After the change of lead agency, USGS wanted to do all the technical work and left GreenCOM providing logistical support. GreenCOM produced a calendar with artwork provided from youth from the core parties. GreenCOM coordinated a number of meetings and the development of the WaterCare logo.

27. Tanzania

In January 1998 USAID/Dar es Salaam initiated this delivery order to support the mission’s second strategic objective: Foundation established for adoption of environmentally sustainable natural resource management (NRM) practices in Tanzania. Intermediate results included policy reform, including public support of policy; institutional and technical capacity building; and the identification, field-testing and sustainable implementation of natural resource management technologies and approaches.

One area of emphasis was the wildlife sector in which, with mission support, different field-based models for NRM were tested in two different types of protected areas: a park and a game reserve. The stakeholders involved—the government, villagers, and NGOs—had expressed a commitment to improve NRM. GreenCOM supported their participation and commitment to improving the situation through EE&C interventions. A wide range of EE&C activities including training workshops, community-based activities, and meetings with the press and media were undertaken. All activities related to the single objective of improving wildlife conservation and the community welfare situation in the protected areas.

Coastal resource management (CRM) was another area of emphasis. USAID/Dar es Salaam's main effort in CRM related to policy and NRM training activities. GreenCOM provided technical support for a coastal environmental awards scheme. Working in two-person teams, GreenCOM made visits to six coastal districts (Mtwara, Lindi, Muheza, Pangani, Tanga, and Mafia) to meet with the district coastal environment award committees to assess progress and make further plans. These committees included representatives of governmental and non-governmental departments and organizations that facilitated the award scheme on a voluntary basis.

The coastal environmental awards scheme culminated successfully in a series of award presentation ceremonies. The first attracted local officials and a crowd of 3,000 in Tanga and the second, in Mtwara, attracted the regional commissioner, the district commissioner, the mayor, other officials, and another crowd of 3,000. Awards ranged from corrugated iron sheets, wood beehives, wheelbarrows, and tools for winning schools to bicycles and radios for individual winners. All the districts have now asked that this awards scheme be continued.

The GreenCOM video *Voices from the Coast*, in both English and Swahili, was repeatedly used to reach policymakers with the views and problems experienced by coastal dwellers relating to coastal resource management.

GreenCOM also trained members of Journalists for the Environment in Tanzania (JET) in ways to improve their environmental reporting. The workshop was held in conjunction with the National Management Council of the Environment (NEMC) of Tanzania.

In the last two years of the delivery order, on the basis of a GreenCOM assessment, USAID approved a social marketing campaign, and that effort was the focus of the final year. The last year also included two teacher-training workshops, production of a wildlife video, publication of a teacher environmental supplement, the second year of environmental awards, and technical assistance to the Roots and Shoots Program of the Jane Goodall Institute.

28. Africa: School-Community Linkages II

This delivery order was an extension of Task Order 10. It called for two items, adding Zambia as a third country for the examination of good models for school-community linkages, and a synthesis report in both English and French. Please refer to the more complete description above under delivery order number 10.

29. Haiti

USAID requested that GreenCOM collaborate with the Peace Corps/Haiti to carry out an inventory and assessment of the people and institutions involved in Environmental Education and Communication (EE&C) in Haiti. USAID asked that we put emphasis on rural programs and target audiences and particularly focus on school-community linkages in EE&C programs. The work took place in July and August 1999, with funding from USAID and technical assistance from both GreenCOM and Peace Corps/Washington.

To determine what was already taking place, GreenCOM/Peace Corps consultants used a survey and other data collection methods to identify existing strengths and weaknesses of programs in Port-au-Prince, Double Harvest, Forêt de Pin, Meyer, Jacmel, and Les Cayes. Information came from face-to-face interviews, focus-group discussions with farmers and Peace Corps volunteers, site visits, and document review.

The GreenCOM/Peace Corps consultants visited the following institutions and/or organizations during a three-week data collection period to explore their potential EE&C collaboration with Peace Corps:

United States Agency for International Development
United Nations Development Program
Ministry of the Environment
Ministry of Education, Youth, and Sports
Ministry of Agriculture, Natural Resources, and Rural Development
Agriculturally Sustainable Systems and Environmental Transformation Project (ASSET)
Catholic Relief Services (CRS)
Pan American Development Foundations (PADF)
Organization for the Rehabilitation of the Environment (ORE)
Partners of the Americas
South-East Consortium for International Development (SECID)
Association du Sud pour la Protection, la Rehabilitation, et l'Amélioration de l'Environnement (ASPREN)

At the conclusion of the assessment, the GreenCOM/Peace Corps consultants held a debriefing with key USAID and Peace Corps/Haiti staff to present preliminary findings and recommendations. Later a report in French and English offered specific recommendations as to how EE&C can increase the reach and impact of Peace Corps Volunteer efforts in community and municipal development and in the agribusiness and agro-forestry sectors. These recommendations point out how potential linkages/activities and partnerships in environmental education can enhance volunteer effectiveness in carrying out their assignments. The GreenCOM/Peace Corps consultants proposed several practical strategies to address these potentials. The consultants also determined that:

- The need for Peace Corps to develop and strengthen its EE&C program was justified. EE&C should be incorporated into existing Peace Corps/Haiti programs.

- Conservation education is more relevant than traditional environmental education to the needs of the rural communities, where most PCVs were assigned and where Peace Corps finds its niche.
- Non-formal EE&C and/or conservation education was the extension strategy that Peace Corps should utilize to carry out its related programs and activities.
- Peace Corps/Haiti should recruit trainees with an appropriate technical background, depending on whether it chooses to emphasize EE&C or conservation education more.
- Training of EE&C or conservation education trainers (in environmental education concepts, methodologies, and educational materials development) is a prerequisite for the launching of the new program.
- During the design and development of environmental education materials, the needs and characteristics of the diverse Peace Corps audiences and their environment had to be taken into account.
- Peace Corps should continue to assess its role in EE&C while gradually increasing its capacity to undertake discrete EE&C efforts as a part of its core sectoral programming.

30. Panama

In September 1998, in anticipation of the December 31, 1999, transfer of the Canal to Panamanian authority, USAID approved a two-year delivery order with GreenCOM to undertake EE&C activities in support of sound management practices within the Panama Canal Watershed (PCW). The objective of this activity was to assist USAID/Panama to increase awareness and support for PCW institutions and sound management practices through the strategic use of EE&C. GreenCOM was mandated to work with various Panamanian public, private, and nongovernmental institutions to develop or foster

- greater awareness and understanding of the major functions, current management practices, values, and importance of the PCW
- recognition of the various Panamanian institutions that have the legal authority and management responsibility to safeguard the ecological integrity and productive capacity of the PCW. This will include awareness and support of the legal existing environmental frameworks and institutional arrangements relevant to the PCW.

The work began with a baseline survey on knowledge, attitudes, and practices of PCW inhabitants and Panamanian stakeholders. GreenCOM contracted a local research firm to provide data collection and analysis services, and presented the results to the AID technical team.

The findings and analysis confirmed the initial hypothesis that PCW inhabitants did not have a conceptual image of the watershed, its components, or its relationship with the Canal. They perceived almost no personal benefits from the PCW or the Canal. Furthermore, they had a very negative image of protected areas and parks as places where they were forbidden to do things. The majority did not perceive that their present occupation had any impact on the watershed nor did they feel they could change to another, less harmful occupation. The majority did not know the institutions that were in charge of protecting and administering the PCW, nor did they know about the laws that govern these institutions. These data were the basis of the communication campaign to be launched in early 2000.

Phase I of GreenCOM ran from February to December 1999, Phase II from January to September 2000. Phase I activities developed an array of discrete yet coordinated, reinforcing, and integrated initiatives that established a solid awareness among PCW stakeholders of why it was personally relevant to manage and protect the PCW.

After the reversion of the Canal to Panamanian control, Phase II activities introduced more specific messages and logical arguments to the same audiences, aimed at key desired behaviors that complement and reinforce the continuing awareness-raising efforts begun in Phase I.

Communication products included a full-color informational brochure (1,550 copies) directed towards Panamanian government institutions, elected officials, NGOs, private enterprises, universities, media representatives and international representatives of other environmental groups and donors. Also, GreenCOM created a traveling exhibit of the Panama Canal Watershed; radio spots and a PCW-related radio series; TV spots featuring well-known Panamanians; and a video on the PCW. GreenCOM organized a seminar for media executives and brought in the director of the Salvadoran newspaper *El Diario de Hoy*, who had played such a prominent role in GreenCOM's EE&C work there. We also developed a Web site.

A key effort in Panama was a series of seminars for newly elected mayors in the PCW to increase their awareness of the scope, significance, value, and importance of the PCW to municipal and national quality of life, productivity, and economic survival. A workshop called "The Municipalities and the Panama Canal Watershed"

brought together 52 leaders of watershed municipalities. Canal and watershed officials outlined their programs to these leaders, and then the leaders in roundtable discussions analyzed how their communities could take part in the care and preservation of the watershed.

An inter-agency team was formed to prepare the national campaign for the preservation of the watershed. This team, including people from ANAM (the National Authority and the Panama Canal Commission (PCC), created the campaign contents following the theme "The Watershed of Our Canal is Vital." The campaign promoted the notion of how indispensable the watershed is for the nation because of the many important services it provides to the national economy, especially the provision of water for the smooth running of the Canal. The GreenCOM-supported team launched this campaign in March 2000 as part of the activities of the new Panamanian management of the Canal.

31. Uganda

At the request of USAID/Kampala, GreenCOM assisted the Wildlife Clubs of Uganda in the development of a five-year, results-oriented strategic plan. To accomplish this objective, GreenCOM sent a consultant to Uganda for six weeks to work with the Wildlife Clubs of Uganda on an environmental education strategy, an implementation strategy, and a strategy for activity development. Midway through this assignment, the GreenCOM director joined the consultant to provide additional guidance to the Wildlife Clubs of Uganda. On the basis of a document review, interviews with key individuals, field visits with WCU guidance, and a workshop with stakeholders, GreenCOM drafted a plan. The following paragraphs summarize the plan's content.

This new WCU vision aimed at promoting EE&C to ensure sustainable use and protection of Uganda's natural resources for the benefit of present and future generations. In addition, WCU EE&C planning and development workshop participants wanted to see five specific achievements by the year 2004:

- An extensive needs assessment to identify EE&C-related problems or issues confronting Uganda's primary and secondary schools and the national community at large to determine the WCU's appropriate response(s).
- A reorganization of the staff and the provision to staff of specific training that allows them to respond better to the needs of WCU members, especially those in primary and secondary schools. In order to meet the clubs'

needs, three additional regional offices – more accessible, with staff, equipment and supplies – would greatly increase WCU's ability to serve the members and would save costs over time.

- Training provided to WCU's trainers (patrons, teachers, students, and community leaders) in participatory methods for EE&C curriculum analysis and development and for production and dissemination of EE&C materials that meet the needs of the clubs' leaders and participants. These skills are what they need to fully carry out this strategic plan.
- A consistent and permanent WCU endowment fund generating revenue for greater self- sufficiency.
- The establishment of an advisory board for sustainability and the identification of potential supportive corporate and associate members who might prove useful in the endeavor.
- Establishment of a system of regional and global partnerships to address the effective delivery of EE&C programs.
- Establishment of a networking mechanism to enhance WCU's dialogue with other organizations involved in EE&C advocacy, policy making, management, and development.

WCU collaborating bodies will include, but not be limited to:

Ministry of Education
Ministry of Natural Resources
Ministry of Health
National Curriculum Development Centre (NCDC)
National Environment Management Authority (NEMA)
National Environmental Action Plan (NEAP)
Global Environmental Facility (GEF)
Grant Management Unit (GMU)
USAID
International Union for the Conservation of Nature (IUCN)
World Wildlife Fund (WWF)
National Wetland Conservation and Management Programme (NWC&MP)
United Nations Development Program (UNDP)
Uganda Wildlife Authority (UWA)
Uganda Wildlife Society (UWS)
Uganda National Park (UNP)

Because the development of this strategic plan came from the WCU itself, GreenCOM believed in it. The ideas came from many different people during the planning process, but were put forth in this document by those who will be responsible for implementing the plan. The WCU's next steps were to communicate these workshop results and issue progress reports to approximately 50 EE&C stakeholders; to work closely with primary and

secondary schools and community leaders to implement the strategy; and to develop a mechanism for two-way flow of information with its members.

32. Zambia

USAID/Lusaka requested GreenCOM services to address the issue of hazardous household products. GreenCOM was asked to contract with the Chongololo Clubs of Zambia, which were established in elementary schools in the early 1970s. After almost 30 years, these clubs had become one of the largest environmental youth programs in the world. They became GreenCOM's partners in the development of primary-level educational materials on the types of hazardous wastes and substances endemic in Zambian households—and particularly dangerous for the health and development of children—and on how families should handle these materials.

As a first step, GreenCOM consultant Dr. Jerome Nriagu, a professor of environmental and industrial health from the University of Michigan's School of Public Health and a research scientist at the UM Center for Human Growth and Development, traveled to Zambia and carried out an assessment of hazardous materials in Zambian homes. His input was then incorporated into the development of educational materials to be produced by one of Zambia's long-established environmental advocates, the Chongololo Clubs.

The Chongololo Clubs submitted for GreenCOM review drafts of primary-level education materials including posters, pamphlets, and booklets, and a prototype radio program based on Dr. Nriagu's report. The clubs also developed a dissemination strategy for these materials in concert with the Environmental Council of Zambia and the Wildlife and Environmental Conservation Society of Zambia. The clubs' final versions of these products, based on that review, were provided to GreenCOM.

33. Egypt Environmental Policy Program

The purpose of this project was to assist Egyptian institutions, including government ministries and NGOs, to design, implement, and evaluate public awareness activities in support of environmental policy reform. GreenCOM was requested to work particularly in sectors linked to industrial pollution; municipal solid waste management, energy and energy efficiency; environmentally sustainable tourism; and other issues such as urban air.

GreenCOM assisted with specific efforts to increase public awareness and support for a variety of Egypt Environmental Policy Program (EEPP) policy measures and pilot efforts. Public awareness campaigns applying state-of-the-art social marketing methods, more traditional environmental outreach programs, and a wide range of participatory activities, all targeted for audiences with particular relevance to change in the key policy areas, were part of this effort. Institutionalization of the ability to continue application of these approaches was a major consideration in selecting partner institutions and in undertaking specific interventions.

The work plan, based on early consensus between the Egypt Environmental Affairs Agency (EEAA), the mission, and other stakeholders, has identified a number of specific activities to be undertaken in the 12 months of the project:

- Green Corners, an initiative undertaken and implemented initially by Her Excellency Suzanne Mubarak, the First Lady of Egypt, to provide environmental education materials to a number of school libraries.
- A solid waste management environmental education supplement to be developed for industrial technical secondary school students.
- Energy efficiency campaign to promote availability/validity of energy-efficient service providers to relevant audiences, including investment community and business users.
- Red Sea campaign to assist the Tourism Development Agency (TDA) and EEAA to motivate the domestic and international tourists and Red Sea private sector developers to respect, maintain, and enhance the integrity of the Red Sea environment.
- Law #4 Business Campaign to motivate domestic industry to comply with Law #4 through a sound marketing strategy.
- Solid waste management campaign to heighten awareness of solid-waste management and motivate target audiences (general public) to understand their role in clean air through a social marketing campaign.

Specific steps under the scope of work for this project included:

1. KAP studies, marketing studies, focus groups, ad hoc surveys, and expert advice to provide an in-depth review of the target audience(s).

2. Design of messages and strategies for specific target audiences based on the preceding analysis.
3. Development, Pre-testing, and Revision of message concepts and media products through presentation of story boards, logos, slogans, etc.; refined messages based on the pretests; then repeated the pre-testing process for final, pre-production validation.
4. Monitoring of progress.
5. Evaluation and re-planning.
6. Gender considerations.

34. India

The India delivery order called for GreenCOM to produce research-based communication materials and provide training to Indian business leaders and journalists in support of USAID's Strategic Objective 4 and the larger issue of global climate change. The GreenCOM work was part of the USAID/ India GCC Strategy for India and the project worked closely with GEP. USAID designed and launched the Greenhouse Gas Pollution Prevention Project (GEP) specifically "to mitigate increases in greenhouse gases (GHG) associated with global warming." The delivery order called for a survey of stakeholders, the development of educational materials for USAID/Delhi to reduce greenhouse gases, and a media workshop with pre- and post-workshop evaluations.

COMMUNICATION MATERIALS

As a basis for these materials, GreenCOM carried out formative research on the intended target audience to explore current attitudes and levels of knowledge about global climate change, new flexibility mechanisms including the Clean Development Mechanism (CDM), foreign direct investment, and the incentives/obstacles to new investments. We contracted for a series of focused in-depth interviews with our target groups. These included members of the Confederation of Indian Industry (CII), individuals from power and intensive energy firms; officials in the Ministry of Environment and Forestry (MOEF); power company officials identified by colleagues at the National Thermal Power Corporation (NTPC) and its innovation arm, the Center for Power Efficiency and Environmental Protection (CENPEEP), and NGOs identified by Hagler Bailly and their NGO partner, Development Alternatives (DA).

USAID also asked that we survey economic and financial sector representatives as well as principals in the Ministry of External Affairs (MEA). Our materials were ultimately provided to these groups for dissemination to their constituents and for building awareness and knowledge about the unique investment opportunity now available to India through these flexible mechanisms such as the CDM.

Once the research was completed and analyzed, materials production began. GreenCOM staff and a materials development consultant worked with graphic designers and printers to design and produce materials that responded to the needs identified in the research results. Production was done in India by a local firm. GreenCOM reviewed the products and gave approval to full-scale duplication and dissemination.

Journalists' Training on Global Climate Change Issues

Based on discussions in India with USAID, GreenCOM offered workshops for business journalists relating to the process of closing a CDM agreement. We engaged the services of a local NGO to carry out basic printing work, organize workshops in several Indian cities, and provide representation for GreenCOM in India during this delivery order. Planning for these workshops began in earnest once the NGO was identified and after President Clinton's visit to India in late March 2000. The GreenCOM trainer participated in these workshops.

Appendix A: GreenCOM Publications

Country	Author	Title
AFRICA		
AFRICA	Tyson, B.	Regional Issues in Environmental Education in Africa (The Gambia, Madagascar, Namibia, and Uganda; article in <i>Southern Africa Journal of Environmental Education</i>)
AFRICA	Allen, I., Maubrey, R., Grieser, R., Monroe, M., Field, R.T.	People and Their Environment: EE&C in Five African Countries (in English & French)
AFRICA	Seidel, R.	Lessons From School-Based Environmental Education Programs in Three African Countries [Mali, Tanzania, and Zambia]. (In English & French)
ECUADOR		
ECUADOR	Booth, E.M., Hernandez, O.	Principal Results of a Market Study for a New Garbage Collection Service in Machala, Ecuador (in English & Spanish)
ECUADOR	Grieser, M. Rawlins, B.	Issues in Urban & Rural Environments: GreenCOM Gender Reports

ECUADOR	Booth, E.M.	Starting with Behavior: A Participatory Process for Selecting Target Behaviors in Environmental Programs
ECUADOR	Rivadeneira, F, Morales, O., Bastidas, R., Hernandez, O.	Gender and Recycling, Qualitative Phase, Quito, Ecuador
ECUADOR	GreenCOM/Ecuador & M. Encalada	Gender and Recycling: Quito, Ecuador
ECUADOR	Hernandez, O., Rawlins, B.	Recycling by Men and Women in Quito Neighborhoods: Findings and Implications
ECUADOR	Hernández, O., Rawlins, B., and Schwartz, R.	Voluntary Recycling in Quito: Factors Associated with Participation in a Pilot Program (in <i>Environment and Urbanization</i> , vol. 11, no. 2)
EGYPT		
EGYPT	GreenCOM/Egypt I & Ministry of Public Works and Water Resources	It's Our Country/ Water Scarcity Campaign (Arabic & English)
EGYPT	Grieser, M.	Gender Impact on Irrigation Issues of Small Farmers in Egypt
EGYPT	Wafai and Associates	Media Habits of the Egyptian Audience
EGYPT	GreenCOM/Egypt	Briefing Meeting to Review the Suggested Strategy for Establishing a Water Communications Unit in the Ministry of Public Works and Water Resources-Egypt
EGYPT	Wafai and Associates	Project Mesqa: Perceptions, Attitudes, Habits, and Behavior of Egyptian Farmers Regarding Village Canals / Qualitative Audience Research Report
EGYPT	Hilleman, D.	Communication Unit, MPWWR Communication Training, Egypt
EGYPT	Woods, J.L.	Helping Create and Train Water Communications Unit for Egypt's Ministry of Public Works and Water Resources (Report on initial training)
EGYPT	Woods, J.L.	Institutional Development Plan for Establishing the Water Communications Unit in the Ministry of Public Works and Water Resources in Egypt
EGYPT	GreenCOM/Egypt	Ministry of Public Works and Water Resources: Communication Strategy
EGYPT	Woods, J.L.	Final Report: Institutional Development Plan for Establishing the Water Communication Unit in the Ministry of Public Works and Water Resources
EGYPT	Water Communications Unit, MPWWR and Kreiger, L., Diamond, N.J., El Shennawy, L.H., Lewis, S. & Rawlins, B.	Farmer Awareness and Behavior Related to Limited Water: A Study in Three Egyptian Governorates (Fayoum, Aswan, and Dumiat)
EGYPT	Woods, J.L.	Water Scarcity Awareness Campaign--Egypt, Mid-term Report
EGYPT	GreenCOM/Egypt II	Water Scarcity Campaign 6 TV Spots (Arabic w/English subtitles)

EGYPT	GreenCOM/Egypt II	Water Scarcity Campaign 5 Radio Spots or Mawal Folk Songs (Arabic)
EGYPT	Woods, J.L.	Water Scarcity Awareness Campaign--Egypt, Final Report
EGYPT	GreenCOM/Egypt AND MPWWR	Calendar (green w/hand holding droplet logo) for 1997
EGYPT	GreenCOM/Egypt III	Semi-annual report: Implementing a MPWWR Participatory Communication Program for supporting Water Policy Formulation and Implementation
EGYPT	MPWWR/WCU and Kemprecos, L.	Survey Design for Study of District Engineers' Knowledge, Attitudes, and Practice
EGYPT	GreenCOM/Egypt III	Inception Report Implementation Plan & Work Plan: Implementing a MPWWR Participatory Communication Program for Supporting Water Policy Formulation and Implementation
EGYPT	ACDI/VOCA	ACDI/VOCA Educational Media Series: Television, Radio, Print for GreenCOM
EGYPT	Woods, J.L.	GreenCOM III Project Progress Indicators: A Project Management Tool
EGYPT	GreenCOM/Egypt AND MPWWR	Water conservation poster with hand holding droplet logo
EGYPT	GreenCOM/Egypt AND MPWWR	Water conservation report cover with hand holding droplet logo (for use w/binders)
EGYPT	GreenCOM/Egypt AND MPWWR	Water conservation decals with hand holding droplet logo (4 sizes: small circle, large circle, 4x5 in. rectangle, 6x8.75 in. rectangle)
	GreenCOM/Egypt AND MPWWR	Water conservation baseball cap with hand holding droplet logo
EGYPT	GreenCOM/Egypt AND MPWWR	Water conservation tee-shirt with hand holding droplet logo
EGYPT	GreenCOM/Egypt AND MPWWR	Water conservation briefcase filled with: portfolio w/built-in calculator, note pad, pen; "The Future of Egypt=The Future of Water" event folder w/2 brochures, pen, key chain; children's coloring/activity book; big ruled notebook
EGYPT	Mackie, W. E.	Video Production Handbook: Video Editing (for Water Communication Unit, MPWWR)
EGYPT	GreenCOM/Egypt, MPWWR, Water Comm. Unit, and Kemprecos, L.	Knowledge, Attitudes and Practices of Irrigation Engineers-Egypt Baseline survey
EGYPT	Loza, S.	National Community Water Conservation Program in Egypt: Best Practices Final Report
EGYPT	El-Zannaty & Associates and MPWWR, Water Comm. Unit	Knowledge, Attitudes & Practices of Egyptian Farmers Toward Water Resources: A National Survey
EGYPT	GreenCOM/Egypt III	12 TV Spots: 6 60-sec Framers; 3 30-sec Water Quiz; 3 60-sec Children's Spots (Arabic w/English subtitles AND English)

EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Water: Egypt's Situation/8 fact sheets (in Arabic & English)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Water: Egypt's Situation/2-pocket event folders w/photos, drawings (Arabic & English on folder)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Water: Egypt's Situation event bags (Arabic & English on bag)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Wise Farmer: Rice (blue brochure & flier, Arabic)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Wise Farmer: Rice video (Arabic)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Wise Farmer: Sugar Cane (green brochure & flier, Arabic)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Wise Farmer: Sugar Cane video (Arabic)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Camel comic book for children (Arabic)
EGYPT	GreenCOM/Egypt and Ministry of Public Works and Water Resources, Water Comm. Unit	Animals in front of video camera poster (Arabic)
EGYPT	Kemprescos, L., GreenCOM Egypt, and MPWWR, Water Communications Unit	Knowledge, Attitudes, and Practices of District Irrigation Engineers in Egypt: Impact survey, Final Report
EGYPT	GreenCOM/Egypt III	9 radio spots for the Water Conservation Campaign
EGYPT	GreenCOM/Egypt III	GreenCom Egypt III : final report -- May 1997-October 1999
EGYPT	Organization for Energy Planning & GreenCOM/AED?	The Energy Efficiency Council: A Public Private Partnership Guiding the Energy Efficiency Practice in Egypt for a Sustainable Economic Growth and a Better Environment (informational booklet; Arabic & English versions)

EGYPT	Ministry of State for Enviro. Affairs, Egyptian Environmental Affairs Agency, & GreenCOM/Egypt III	Solid Waste Management Campaign Concepts: GreenCOM/EEAA Meeting
EGYPT	Tourist Development Authority, Red Sea Governorate, & GreenCOM/Egypt III	Red Sea Public Awareness Campaign Concepts
EGYPT	Pan Arab Research Center, Egypt	Environmental Protection Survey-Omnibus, April 2000
EGYPT	Pan Arab Research Center, Egypt	Report for Environmental Policy Program's Omnibus April 2000
EGYPT	SPAAC	Report on Banks & Energy Efficiency Counsel (Audience Formative Research)
EGYPT	Suliman, P., and Kubala, P.	Evaluation of Environmental Education Materials and Recommendations for Promoting Increased Awareness of Environmental Risks
EGYPT	El Gammal, M. R.	Research Report: Testing GreenCOM TV Spot Animatics
EGYPT	El-Kammash, A. M.	Available National Environmental Campaigns Materials: Identification of Characters Used Throughout the Environmental Awareness Programs/Campaigns
EGYPT	El-Kammash, A. M.	Readership Penetration Report & Interpretation of Readership Penetration Report for Articles Published within the Month of April 2000
EGYPT	Ministry of State for Enviro. Affairs, Egyptian Enviro. Affairs Agency, USAID	"Friends of the Environment" children's workbook on solid waste (little girl on cover cutting paper, boy collecting bottles)
EGYPT	Garas, N., and Kemprecos, L.	GreenCOM Research for Environmental Communication/Volume 1, Environmental Tourism in Egypt: Mediterranean Tour Operators Survey
EGYPT	Kemprecos, L., Hernandez, O., El-Zannaty, F., and Hamed R.	GreenCOM Research for Environmental Marketing and Communication/Volume 2: Environmental Knowledge, Attitudes, and Practice of Egyptian Industry
EGYPT	El-Zannaty & Associates	Survey Results: Environmental Knowledge, Attitudes, and Practice of Egyptian Industry
EGYPT	SPAAC	Report on Knowledge, Attitudes, and Practices of Influentials and Banks Towards Energy Efficiency and the Energy Efficiency Council
	Pan Arab Research Center, Egypt	Environmental Protection Survey-Omnibus, August 2000
EGYPT	Pan Arab Research Center, Egypt	Report for Egypt Environmental Policy Program's Omnibus August 2000
EGYPT	GreenCOM/Egypt	Final Report: Environmental Education and Communications Public Awareness Support for USAID/Cairo Environmental Policy Program

EGYPT	Omar, S.	GreenCOM Egypt Subcommittee IV: Final Report
EGYPT	Abou Bakr, H. and Adel, H.	Summary Report on Environmental Education Activities for Green Corner Librarians (held May 2000)
EGYPT	GreenCOM/Egypt	Green Corner
EGYPT	Abou Bakr, H. and Adel, H.	Summary Report on the Environmental Education Workshop: Solid Waste Management for Secondary Technical School Teachers in Alexandria Governorate (held July 16-19, 2000)
EGYPT	Abou Bakr, H. and Adel, H.	Summary of the Environmental Education Workshops for Primary, Preparatory, Secondary, and Technical School Teachers in the Red Sea Governorate (held August-Sept. 2000)
EGYPT	GreenCOM/Egypt & Ministry of State for Environmental Affairs	Environmental Protection Fund poster (blue with photos)
EGYPT	GreenCOM/Egypt & Ministry of State for Environmental Affairs	Sample page from EPF Web site
EGYPT	GreenCOM/Egypt & Ministry of State for Environmental Affairs	Environmental Protection Fund brochure (blue w/photos)
EGYPT	GreenCOM/Egypt & Ministry of State for Environmental Affairs	Media information packet (blue cardstock folder)
EGYPT	GreenCOM/Egypt/EEPP	Energy efficiency material targeted to youth (weekly insert)
EGYPT	GreenCOM/Egypt/EEPP	Materials & summary from "Environment & Media Partnership and Integration" journalists workshop
EGYPT	GreenCOM/Egypt	Journalists information packet (fact sheets on SWM, energy efficiency, Red Sea sustainable development, & clean air)
EGYPT	El Gammal, M. R.	Research Report: Testing GreenCOM TV Animatics (Red Sea Animatics)
EGYPT	Ministry of State for Enviro. Affairs, Egyptian Enviro. Affairs Agency, USAID	Global Climate Change: Egypt Faces the Challenge
EGYPT	GreenCOM/Egypt	Final Report: Environmental Education and Communications Public Awareness Support for USAID/Cairo Environmental Policy Program (Sept. 1, 1999 through Sept. 28, 2000)
EGYPT	Paden, M., Abou-Bakr, H., and Adel, H. (GreenCOM/Egypt & EEPP)	Green Corner Research Report

EGYPT	Kemprecos, L., Hernandez, O., El-Zannaty, F., and Hamed R.	Environmental Management Systems, Energy Efficiency, and Waste Management: A Cross-Sectoral KAP Study of Egyptian Firms
EGYPT	Paden, M., Abou-Bakr, H., and Mostafa, H.	Creating a Well-Balanced Environmental Children's Library Collection in Egypt: Green Corner Libraries Research Report
EGYPT	Alaa Eldin Magazine	Draw and Save Energy
EGYPT	GreenCOM/Egypt/EEPP	Sample of GreenCOM/EEPP's weekly press bulletin
EGYPT	GreenCOM/Egypt	Work Plan, GreenCOM Egyptian Environmental Policy Program
EGYPT	GreenCOM/Egypt/EEPP & Nexant	Energy-Efficiency-Egypt (press info packet; English & Arabic)
EGYPT	GreenCOM/Egypt/EEPP	Newspaper clips w/promos for energy efficiency project
EGYPT	GreenCOM/Egypt & Ministry of Environmental Affairs	"Cleanliness is part of faith" poster with Khadra the Sunflower
EGYPT	GreenCOM/Egypt & Ministry of Environmental Affairs	"Cleanliness is part of faith" pocket calendar and booklet calendar with Khadra the Sunflower
EGYPT	Abou Bakr, H., Kandil, S., Adel, H., El Zayyat, H., and Omar, S.	Solid Waste Management: Environmental Education Activities for Secondary Technical Schools (Arabic & English)
EGYPT	Abou Bakr, H. and Adel, H.	Environmental Education Activities for the Green Corner Library
EGYPT	GreenCOM/Egypt	The Green Corner (poster)
EGYPT	GreenCOM/Egypt	The Green Corner (tee-shirt, in Arabic)
EGYPT	Ministry of State for Environmental Affairs (Egyptian Enviro. Affairs Agency), USAID, AED	The Natural Wonders of the Eastern Desert and Red Sea
EGYPT	EEPP, Nexant	Energy Efficiency in Egypt: Technical Manuals & Case Studies (36 technical manuals from Energy Conservation & Environmental Project; 2-volume set of case studies from Energy Conservation & Environmental Project; English)
EGYPT	National Parks of Egypt/Red Sea Protectorates & AED	Red Sea Conservation and Sites of Interest (eco-tourism guide to Red Sea and its flora & fauna; contains map)
EGYPT	EEPP	ISO 14001 Preparatory Program: Good for Your Business, Good for the Environment (informational brochure on ISO 14001 environmental mgmt system; English & Arabic versions)

EGYPT	EEPP	Egyptian Environmental Policy Program brochure
EGYPT	NEXANT	25 Years of USAID Support Promoting Efficient Use of Energy Resources
EGYPT	EEPP, AED, USAID	EEPP Fact Sheets (Arabic & English)
EGYPT	Adel, H. & Abou Bakr, H.	Summary Report on the Environmental Education Workshops for Green Corner Librarians (held May 2001)
EGYPT	AED, USAID, Egyptian Ministry of Environmental Affairs	Participant pack for NGOs Capacity-Building Institute (held July-August 2001)
EGYPT	EEPP, AED, USAID	Eye on Environment: Newsletter of the Egyptian Environmental Policy Program (English)
EGYPT	Adel, H. & Abou Bakr, H.	Summary Report on the Environmental Education Workshop: Solid Waste Management for Secondary Technical School Teachers in Aswan, Quena, and Sohag Governorates (held March 28-April 2, 2001)
EGYPT	Abou Bakr, H., Adel, H., Maher, A., Abdel Fattah, M. B. (technically not under GreenCOM contract)	Report on the Environmental Education Capacity Building Institute for Non-Governmental Organizations, Cairo-Ras Sedr--July 28-August 15, 2001
EGYPT	Egyptian Ministry for Environmental Affairs, USAID/EEPP Project	Egyptian Environmental Directory: Companies and Agencies Providing Environmental Goods and Services (Arabic & English in same book)

EGYPT	Mourad, M.	Energy and Sustainable Development (Proceedings of the Energy Efficiency Seminar held by Al-Ahram newspaper, June 2001. Pub'd by Al-Ahram.)
EGYPT	Hamza, A. & AED/EEPP Project	Guidelines for Environmentally Friendly Industrial Cities
EGYPT	AED & Green Corner/Egypt (technically not under GreenCOM contract)	Promotional packet for Public Awareness and Education Agenda 21 Children's Poster Contest
EGYPT	GreenCOM/Egypt AND E. Naguib	Nile map poster on water problems
EGYPT	GreenCOM/Egypt AND MPWWR	"Conserve water before it's too late" poster with people, buildings, trees, animals tipping the scale
EGYPT	GreenCOM/Egypt	Six TV Spots (Arabic)
EGYPT	GreenCOM/Egypt	The Village Owners (Arabic w/English subtitles)
EGYPT	GreenCOM/Egypt	GreenCOM Water Scarcity Campaign 6 TV spots
EGYPT	GreenCOM/Egypt III	Short Season Rice (Arabic)
EGYPT	GreenCOM/Egypt III	Sugarcane and Gated Pipe Irrigation (Arabic)
EGYPT	GreenCOM/Egypt III	Water News for Farmers (Arabic TV spots on Channel 5 Alexandria; 3 tapes, 26 different spots)
EGYPT	GreenCOM/Egypt	It's Our Country (3 posters--2 Red Sea, 1 desert)
EGYPT	GreenCOM/Egypt & MPWWR, Water Communications Unit	Green & blue poster with water facts and man standing with a giant key
EGYPT	GreenCOM/Egypt & E. Naguib	"This is the problem with water" poster (little people with jugs on heads)
EGYPT	GreenCOM/Egypt & MPWWR, Water Communications Unit	Cartoon poster with flowing river and pollutants being dumped into it
EGYPT	GreenCOM/Egypt & MPWWR, Water Communications Unit	Farmer & trucker shaking hands to cooperate on Nile conservation
EGYPT	GreenCOM/Egypt & Ministry of Water	Unhappy water droplet holding water-wasting people in his hands
EGYPT	Water Communication Unit	Folder with boat on cover (Arabic)
EGYPT	El Zanaty	Card stock brochure with three photos on the cover (Arabic)
EL SALVADOR		
EL SALVADOR	Daniel Carr & Associates	Flash Report Qualitative Research of Concepts for the Environmental Campaign in El Salvador
EL SALVADOR	Prado, R. G., Guerrero, A. S.	Propuesta De Organizacion, Metodos Y Funciones de La Unidad De Comunicaciones Del Nuevo Centa

EL SALVADOR	de Ferreiro., A., and Daniel Carr & Associates	Qualitative Research of Specific Actions for the Global Environmental Communication Campaign- El Salvador (Investigation Cualiativa Sobre Acciones De proteccion Para La Campana De Comunicacion Sobre El Medio Ambiente)
EL SALVADOR	Quezada, M.	Facilitacion y seguimiento para talleres de capacitacion en Educacion Ambiental a Gestores Educativos, Directores de Instituciones y Coordinadores del Servicio Social de Centros Educativos del Nivel Medio
EL SALVADOR	GreenCOM/El Salvador & Ministerio de Agricultura y Ganaderia	Ley de Conservacion de Vida Silvestre
EL SALVADOR	GreenCOM/El Salvador	El Guanaquin--Sample color newspaper supplement brochure
EL SALVADOR	Pareja, R., Sanchak, J, Hernandez, O, Rawlings, B	El Guanaquin: Newspaper Supplement Evaluation-El Salvador
EL SALVADOR	Rawlins, B., Hernandez, O.	Report on El Salvador Gallup Data: 1993-4 National Surveys
EL SALVADOR	Ministerio de Educacion, El Salvador	Guia Didactica I Educacion Ambiental: El Medio Ambiente y Yo
EL SALVADOR	Ministerio de Educacion, El Salvador	Guia Didactica II Educacion Ambiental : El Medio Ambiente y Nosotros
EL SALVADOR	GreenCOM/ El Salvador	Educacion Ambiental: Algunas Historias De Exito
EL SALVADOR	GreenCOM/El Salvador & Monroe, M.	Environmental Education and Communication: Some Success Stories
EL SALVADOR	Andino de Ortiz, A.R. & Mata, J.I.	Asistencia Tecnica para la Elaboracion de Dos Guias Didacticas de Educacion Ambiental (Educacion Basica)
EL SALVADOR	Green Project/El Salvador	Gotita a Gotita: Las aventuras de la gotita clarita clarita en su viaje por la tierra (Serie Radiofonica infantil sobre el agua y el medio ambiente)
EL SALVADOR	Perez, S.	Plan de Educacion Interpretacion Ambiental para el Parque Nacional el Imposible
EL SALVADOR	GreenCOM El Salvador	Me Lo Conto Un Pajarito

EL SALVADOR	Blumberg, R.L.	Report on Rapid Rural Appraisal Research Related to Forestry Incentives Plan: El Salvador
EL SALVADOR	Alberti, A.	Informe Sobre Lo Relativo a La Lena en El Salvador
EL SALVADOR	Mata, J. I. & Dominguez, A.C.	Educacion ambiental en El Salvador: Lineamientos para una politica nacional
EL SALVADOR	GreenCOM/El Salvador	Apuntes Sobre la Calidad del Agua
EL SALVADOR	Ministerio de Educacion, El Salvador	Guia Didactica III Educacion Ambiental: El Medio Ambiente y La Comunidad
EL SALVADOR	GreenCOM/ El Salvador	Mi Amigo Invisible
EL SALVADOR	GreenCOM/ El Salvador	Sube Corre Vuela: Amiga Viajera
EL SALVADOR	GreenCOM/ El Salvador	Pasito a Pasito, Carapachito
EL SALVADOR	GreenCOM/ El Salvador	5 Gatos: Los Felinos Silvestres De El Salvador
EL SALVADOR	GreenCOM/ El Salvador	Success Stories/Historias de Exito (Eng. & Span.)
EL SALVADOR	GreenCOM/El Salvador; PNUD; USAID; Instituto Salvadoreno para el Desarrollo de la Mujer; SEMA; GREEN; FIAES	Mujer y Medio Ambiente II (conference documents, March 19-20, 1997)
EL SALVADOR	GreenCOM/El Salvador; PNUD; USAID; Instituto Salvadoreno para el Desarrollo de la Mujer; SEMA; GREEN; FIAES	Mujer y Medio Ambiente II conference tote bag
EL SALVADOR	GreenCOM/El Salvador	Educacion Ambiental: Dos Premisas Y Un Intento De Definicion
EL SALVADOR	GreenCOM El Salvador	de ra ma en ra ma

EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	Guia Metodologica / Serie De Television y Folletos Complementarios a la Casa Del Agua
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales, AND PROMESA	De La Mano Con La Microcuenca- Fabric educational tool useful to be used at field level.
EL SALVADOR	Diaz, G.	Organizacion , participacion y movilizacion social en aqua y saneamiento
EL SALVADOR	Diaz, G.	Proyecto Proteccion del Medio Ambiente Componente de Educacion Ambiental: Calidad y Cantidad de Aqua para Vivor
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	La Casa Del Agua
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	Los Chorritos Que Riegan La Tierra
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	Viviendo Con La Naturaleza
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	El Enemigo Del Agua
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	No La Botes Ni La Ensucies
EL SALVADOR	GreenCOM/ El Salvador, Ministerio de Medio Ambiente y Recursos Naturales	Una Manita Para El Ambiente
EL SALVADOR	Shapiro, E., & Tran, A.	Acciones Ambientales: Para el Mejoramiento del Medio Ambiente en las Comunidades Rural
EL SALVADOR	GreenCOM/El Salvador	Agua Limpia Para Vivir (Spanish)
EL SALVADOR	GreenCOM/El Salvador	Guia Metodologica y de uso para el notafolio: "De la Mano con la Microvenca"
EL SALVADOR	GreenCOM/El Salvador	Intercambio de Enfoques Conceptuales y Metodologicos para proyectos Comunitarios de Aqua: Primer Encuentro Regional
EL SALVADOR	GreenCOM/El Salvador Ministerio de Medio Ambiente Y Recursos	Proyecto Proteccion Del Medio Ambiente Promesa

	Naturales	
EL SALVADOR	Ministerio de Medio Ambiente y Recursos Naturales and GreenCOM/El Salvador	Conocimientos, Percepciones y Comportamientos Sobre El Agua Para Consumo Humano en Hogares Rurales (I & II)
EL SALVADOR	Ministerio de Medio Ambiente y Recursos Naturales and GreenCOM/El Salvador	Biblioteca basica para acciones comunitarias en agua y saneamiento ambiental
EL SALVADOR	Trejo, C.	Organizacion y lid Erazgo: Cartilla No. 1
EL SALVADOR	Velasquez, O.	Formacion de Comites de Aqua y Saneamiento (CAS): Cartilla No. 2
EL SALVADOR	Velasquez, O.	Sostenbilida de los Sistemas Communianos de Aqua: Cartilla No. 3
EL SALVADOR	Barrera, G.	El agua y su relacion con la salud y la enfermedad
EL SALVADOR	Barrera, G.	Proteccion de Microcuencas: Cartilla No. 5
EL SALVADOR	Aquirre, H. Guerrero, G. Mejia, R. Molina, M.	Reforestacion y agroforesteria: Cartilla No. 6
EL SALVADOR	Velasquez, O.	Saneamiento Basico Rural: Cartilla No. 7
EL SALVADOR	Garcia, M.	Tratamiento del Aqua: Cartilla No. 8
EL SALVADOR	Valle, J.	Operacion y Mantenimiento de Sistemas de Aqua: Cartilla No. 9
EL SALVADOR	Maldonado, M.	Establecimiento de Tarifas por Servicio de Aqua: Cartilla No. 10
EL SALVADOR	Aquirre, H.	Administracion y Contabilidad en los Sistemas de Aqua: Cartilla No. 11
EL SALVADOR	Ordenez, G.	Guia de uso serie de television educativa "Aqua limpia para vivir"

EL SALVADOR		El proceso de intervencion para la sostenibilidad de proyectos de aqua
EL SALVADOR	Ministry of Natural Resources	Guia Didactica de Educacion Ambiental Para maestros/as de Parvularia; yo Cui do mi medio ambiente
EL SALVADOR	Day, B. A.	From War-Torn to Environmentally Educated: Applied General Theory of Systems in El Salvador
EL SALVADOR	GreenCOM El Salvador	Nuestro hogar: el media ambiente (video & teacher guide)
EL SALVADOR	GreenCOM/El Salvador	Matriz (also known as El Salvador Tape #2)
EL SALVADOR	GreenCOM/El Salvador	La Ciudad y el medio ambiente el agua (also known as El Salvador Tape #4)
EL SALVADOR	GreenCOM/El Salvador	El Suelo (also known as El Salvador Tape #5)
EL SALVADOR	GreenCOM/El Salvador	Leyes Ecologicas: para proteccion de los recursos, del aire, del agua (30-second spots on resources, air, water)
EL SALVADOR	GreenCOM/El Salvador & Ministerio de Medio Ambiente y Recursos Naturales	"Dejemos de contaminar el agua, la necesitamos limpia para vivir" poster
EL SALVADOR	?	Los Investigadores Ambientales: Primera Mision: Diagnostico de los Desechos Solidos de Concepciondeataco
EL SALVADOR	?	Serre de Videos Educativos, Guia de uso
EL SALVADOR	Meyer, A. and Bossi, R.	GreenCOM Approaches to Solid Waste Issues: Examples from El Salvador (journal article?)
EL SALVADOR	GreenCOM/El Salvador, Rodriguez, J. A., de Jesus Hernandez, N., de Chavez, L. G., de Benitez, D.	Desinfeccion del Agua con cloro al 70% (Folleto No. 1 para el Taller "La Escuela y la Este taller es impartido para maestros y alumnos de Escuelas Modelo en coordinacion con el Ministerio de Educacion, SEMA y la asistencia tecnica del Proyecto de Educacion y Comunicacion Ambiental, GreenCOM/El Salvador)
EL SALVADOR	GreenCOM/El Salvador, Rodriguez, J. A., de Jesus Hernandez, N., de Chavez, L. G., de Benitez, D.	Abonera de Trinchera (Folleto No. 2 para el Taller "La Escuela y la Este taller es impartido para maestros y alumnos de Escuelas Modelo en coordinacion con el Ministerio de Educacion, SEMA y la asistencia tecnica del Proyecto de Educacion y Comunicacion Ambiental, GreenCOM/El Salvador)

EL SALVADOR	GreenCOM/El Salvador, Rodriguez, J. A., de Jesus Hernandez, N., de Chavez, L. G., de Benitez, D.	Como hacer su Bomba de Mecate (Folleto No. 3 para el Taller "La Escuela y la Este taller es impartido para maestros y alumnos de Escuelas Modelo en coordinacion con el Ministerio de Educacion, SEMA y la asistencia tecnica del Proyecto de Educacion y Comunicacion Ambiental, GreenCOM/El Salvador)
EL SALVADOR	GreenCOM/El Salvador, Rodriguez, J. A., de Jesus Hernandez, N., de Chavez, L. G., de Benitez, D.	Filtro lento para la purificacion del agua (Folleto No. 4 para el Taller "La Escuela y la Este taller es impartido para maestros y alumnos de Escuelas Modelo en coordinacion con el Ministerio de Educacion, SEMA y la asistencia tecnica del Proyecto de Educacion y Comunicacion Ambiental, GreenCOM/El Salvador)
EL SALVADOR	GreenCOM/El Salvador & Ministerio de Medio Ambiente y Recursos Naturales	Las Historias Saludables de Cantarito No. 2: La organizacion comunal
EL SALVADOR	GreenCOM/El Salvador & Ministerio de Medio Ambiente y Recursos Naturales	Las Historias Saludables de Cantarito No. 5: Las aguas servidas y su contaminacion
EL SALVADOR	GreenCOM/El Salvador & Ministerio de Medio Ambiente y Recursos Naturales	Las Historias Saludables de Cantarito No. 11: Usando todos las letrinas
THE GAMBIA		
THE GAMBIA	Allen, I.	Organizations and Resources for Environmental Education in the Gambia
THE GAMBIA	Allen, I.	The Gambia: Final Report
THE GAMBIA	Allen, I.	The Gambia Environmental Awards Scheme: Creating Environmental Awareness Through Participation (Case Study)
GUINEA		
GUINEA	Maubrey, R.	Environmental Education and Communication Inventory in Guinea
HAITI		
HAITI	Shafritz, L., and Gottert, P.	GreenCOM-Sustainable Cities Haitian Urban Sanitation Project Formative Research
HAITI	Bernard, J.M., Saint-Louis, M., Supplice, H., Hernandez, O., Shafritz, L.B.	Distribution d'Eau Potable a Cite Soleil: Etude Qualitative Testant l'Acceptation et la Participation de la Population

HAITI	Ndayitwayeko, A. and Savage, R.	A Report Pertaining to Environmental Education and Communication Support for Peace Corps/Haiti (also in French: Project de rapport sur le status de l'education et la communication environnementale en Republique d'Haiti)
INDIA		
INDIA	India Market Research Bureau, Business & Industrial Research Division	Study of Indian Stakeholders on CO 2 Emissions Mitigation
INDIA	Hernandez, O. and Breitenstein, R.	Study of Indian Stakeholders on CO2 Emissions: Executive Summary
INDIA	Paden, M. and Hernandez, O.	Final Report: Communicating Climate Change in India
INDIA	Paden, M. and Hernandez, O.	Proposed Messages for Indian Business Groups on CO2 Emissions Mitigation
INDIA	Indian Market Research Bureau	Pre-testing Messages to the Indian Business Community on CO2 Emissions Mitigation
INDIA	K. Chhokar and Centre for Environment Education (CEE)	Market Opportunities through Climate Change Mitigation: Press Briefings (Info. Kit)
ISRAEL		
ISRAEL (MEPP)	State of Israel Ministry of National Infrastructures Water Commission	Public Awareness video
ISRAEL (MEPP)	GreenCOM	Water Sector in Israel: Best Practices
JORDAN		
JORDAN	Royal Society for the Conservation of Nature	Water Conservation-Summary of the Teacher's Manual
JORDAN	Royal Society for the Conservation of Nature	The story of Water in Jordan
JORDAN	Taminian, L.	Formative Research for the Development of a Curriculum Water Conservation Education Project-- Jordan
JORDAN	GreenCOM/Jordan & Royal Society for the Conservation of Nature	A Water Conservation Curriculum for Jordan
JORDAN	GreenCOM/Jordan	Jordan Water Conservation Project Outline
JORDAN	GreenCOM/Jordan	Applied Research Summary: Qualitative Formative Research for Water Conservation Education Project
JORDAN	GreenCOM/Jordan	GreenCOM Project Brief: Jordan

JORDAN	Grieser, M., Rawlins, B., Tubaishat, K.	Water Conservation in Jordan: A Participatory Approach to Curriculum Development
JORDAN	Evans, D. Grieser, M. Hernandez, O. Ledsy, R. Middlestadt, S. Rawlings, B. Sanchack, J.	Jordan Water Conservation Education Project: Final Evaluation Report
JORDAN	GreenCOM/Jordan	Man brushing teeth with faucet running decal; decals advising against letting water drip or run and flushing trash down the toilet
JORDAN (MEPP)	USAID, Ministry of Water & Nature, Jordanian Environmental Society	Water hourglass poster
JORDAN (MEPP)	USAID, Ministry of Water & Nature, Jordanian Environmental Society	Hand squeezing water out of globe & little kids catching it in cups poster
JORDAN (MEPP)	USAID, Ministry of Water & Nature, Jordanian Environmental Society	Colorful hands surrounding water droplet poster
JORDAN (MEPP)	USAID, Ministry of Water & Nature, Jordanian Environmental Society	Yellow poster with circle showing rain-evaporation cycle
JORDAN (MEPP)	GreenCOM/Jordan & Amman Chamber of Industry	"Water Prevention First" poster
JORDAN (MEPP)	GreenCOM/Jordan & Royal Society for the Conservation of Nature	Pollution of ground & surface water poster
JORDAN (MEPP)	GreenCOM/Jordan & Royal Society for the Conservation of Nature	Home gardens & irrigation poster
JORDAN (MEPP)	GreenCOM/Jordan & Royal Society for the Conservation of Nature	Domestic water conservation poster
JORDAN (MEPP)	GreenCOM/Jordan & Royal Society for the Conservation of Nature	Ground water poster
JORDAN	GreenCOM/Jordan & Royal Society for the Conservation of Nature	The water cycle in nature poster
JORDAN	Daoud, R.	Middle East Water Conservation Awareness Project: Best Practices Research (Background Report)

JORDAN	Daoud, R.	Middle East Water Conservation Awareness Project: Best Practices Research (Final Summary Report)
JORDAN	GreenCOM/Jordan GLOBE	Jordan: Global Learning to Benefit the Environment (GLOBE)--Linking Students, Teachers, and the Environment
JORDAN	Middlestadt, S., Grieser, M., Hernández, O., Tubaishat, K., Sanchack, J., Southwell, B., and Schwartz, R.	Turning Minds On and Faucets Off: Water Conservation Education in Jordanian Schools Journal of Environmental Education (in press--I don't know what this means; Nada entered it)
LEBANON		
LEBANON	Habib, M., and GreenCOM/Lebanon	Guide to Participatory Environmental Rapid Assessment: Lebanon
LEBANON	Khawlie, M., and GreenCOM/Lebanon	Cluster/Community-Level Rapid Environmental Assessment: Lebanon
MADAGASCAR		
MADAGASCAR	Grieser, R.	EE&C (Assessment for Madagascar) Global Vision, Inc.
MALI		
MALI	Allen, I., Chiotha, S. Kalowekamo, F. , & Trudel, M.	National Environmental Education & Communication Strategy
MALI	GreenCOM/Mali, Global Vision, Malian Ministry of Education	Approche Integrative Des Objectifs et Des Activities Relatifs A l'education Environnementale En Rapport Avec les Programmes du Premier Cycle De l'enseignement Fondamental
MALI	Toure, B., Niagate, B., Diarra, Y., Dia, R., Traore, A.	Report: Atelier de Formation des Animateurs/Producteurs des Radios de Proximite en Communication Environnementale
MALI	GreenCOM/Mali & GTZ	Basic Education Expansion Project Radio Training Workshop at San, Mali (SECAM)
MALI	GreenCOM/Mali & Global Vision	Desktop Publishing/ Mali workshop (PowerPoint slide printouts; in English & French)
MALI	Grieser, R.	Final report : GreenCom/Mali [environmental education and communication]

MALI	Sullivan, J.	Desktop Publishing Workshop November 30-December 11, 1998 Bamako, Mali (French: Atelier de Publication Assistee a l'Ordinateur)
MALI	Benghazi, B., and GreenCOM/Mali	Formation Des formateurs Des Maitres
MALI	Diarra, S.	School-Community Linkages In Environmental Education: Factors of success in PFIE, non-PFIE and Community schools in Mali
MALI	GreenCOM/Mali	Radio Bediana: Spots sur environnement (II, III, V) AND Magazines (Insalubrite; Quelle solution) (4 tapes in French)
MALI	GreenCOM/Mali	Radio Kenedougou: Microprogrammes (4 themes: Cultures intra-domicilieres; Reboisement; Hygiene lieux publics; Hygiene alimentaire) (1 tape in French)
MALI	GreenCOM/Mali	Radio Jamana (8 themes: Les dechets plastique; Les dechets solides; Ressources fauniques et halieatiques, Reboisement, In frastruct d'assainissement, Insalubrite; Le Reboisement; La Gestion du paturage) (4 tapes in Bamanan language)
MALI	GreenCOM/Mali, Radio Faso Kann, A. Coulibaly	Magazines: Problimes Environnement (3 themes: Deboisement; Operation Mali-Vert; Insalubrite) (1 tape in French)
MALI	GreenCOM/Mali	Radio Dionakan Koulikoro: Danbe'ko--Question d'honneur (1 tape in French)
MALI	GreenCOM/Mali and COCAN	"Mali Saniya, Semaine de l'Environnement, 5-10 Juin 99" (shirt with woman throwing trash into a covered receptacle)
MALI	GreenCOM/Mali, ONG/WALIA, & GLOVIS	Notre Environment--Le Sahel, UN NID
MALI	GreenCOM/Mali AND Realisation Production	Radio Kenedougou: Emission Series (5 themes: Cultures intra-domicilieres; Journee "Mali Vert" Organisees par la direction regionale CMDT Sikasso; Visite d'echange a Farako sur L'emondase du pterocarpus eurinaceus; Mesures a prendre pour ameliorer le cadre de vie et assainir l'environnement; Dechets solides) (5 tapes in French)
MALI	GreenCOM/Mali	Recontre avec les employes and Micro Trottor (1 tape in French)
MALI	GreenCOM/Mali	Recontre avec le G.I.E./C.P.E. (cellule de protection de l'environnement) (1 tape in French)
MALI	GreenCOM/Mali	Radio Rurale de Douentza (8 themes: Brigade de anti-aripe de Boni; Coupe ahisive; Dechet liquides; Arloire de pamege d' animaux; Feu de Brousse; Diguect Diguette; Dechets solides; Coupe Ahisive Boni) (2 tapes in French?)

MALI	GreenCOM/Mali AND L. Mariko	Radio Rurale communautaire: Benso Kolondieba Magazine & Spot (3 themes: Les eaux sales stagnees; Les dechets plastics; Les eaux sales stagnees--usees ruissellement) (2 tapes in French)
MALI	GreenCOM/Mali	Journee de salubrite organisee par l'A.M.H.L. (1 tape in French)
MALI	GreenCOM/Mali	Emission sur les dechets liquides et hospitaliers
MALI	GreenCOM/Mali	Radio Guintan
MALI	Konandji, Y., Traore, A. M., Sangare, A. K., Sow, F. S., Dembele, M. T., Fane, D., Grieser, R., Benghozi, B.	Cahier d'Activities: Pour favoriser l'integration de l'Education Environnementale dans les ecoles fondamentales
MALI	GreenCOM/Mali	Radio Kourou Kan: (6 themes: Gestion des ordures et eaux; Deforestation; Pepiniere; Defrichement ameliore [protection de l'environnement]; Foyer ameliore; Reboisement) (2 tapes in French)
MALI	Grieser, R. and FRENCH CONSULTANT (?)	Evaluation des Connaissances, Attitudes et Pratiques sur la Gestion des Ordures Menageres dans le Quartier de Medina-coura et aupres des Occupants et Passants de l'Autogare de Sogoniko
MALI	Grieser, R. and FRENCH CONSULTANT (?)	Education Environnementale
MALI	Grieser, R. and FRENCH CONSULTANT (?)	GreenCOM: Projet de Communication et d'Education pour l'Environnement
MALI	Grieser, R. and FRENCH CONSULTANT (?)	Guide Pour Les Maitres
MALI	Grieser, R. and FRENCH CONSULTANT (?)	Guide for Teachers- A good education should fit the body, the soul, and the spirit
MALI	GreenCOM/Mali	"Republique du Mali: Un Peuple-Un But-Une Foi" poster (map of country showing where native plants & animals are found)
MIPPE		

MEPP	Lenzen, C.	Water and Antiquity
MEPP	Mason, M.	Ancient Water Systems and Practices in Tunisia and Morocco
MEPP	Al Rawahy, H. M.	A Report on Best Domestic Water Conservation practices in the Sultanate of Oman
MEPP	GreenCOM/MEPP & USAID	Communicating Water Scarcity: Regional Strategy Development Workshop
MEPP	Palestinian Water Authority and GreenCOM/MEPP	Water for All (Arabic)
MEPP	MediaOne, J-Net Communications, GreenCOM	Water for Arid Regions (English/Hebrew/Arabic)
MEPP	GreenCOM/Middle East Peace Project	Water Care 2000 Calendar (Arabic & Hebrew)
MEPP	GreenCOM/Middle East Peace Project	Public Awareness Survey Report (Arabic survey & English pretest summary report; post-test canceled 5/25/99)
MEPP	Al-Labadi, A. M.	Domestic Water Conservation Best Practices in the Palestinian Territories (West Bank and Gaza Strip)
MEPP	Kimchie, S.	Best Practices for Domestic Water Conservation in Israel (Background Report, Part A)
MEPP	Palestinian Water Authority & GreenCOM/MEPP	Water droplet aghast at people polluting a town poster (Arabic)
MEXICO		
MEXICO	Davenport, R.	Institutional Assessment of Mexican Environmental NGOs
MOROCCO		
MOROCCO	GreenCOM/Morocco, Environmental Health Project, and Dreyf, M., Daoudi, M., Wifak, A.	Community Participation to Improve the Urban Environment in the District of Zouagha Fez, Morocco/Projet de participation communautaire pour l'amélioration de l'environnement urbain dans la commune de Zouagha, Fes, Maroc (Eng. & French)

MOROCCO	Grieser, M., Hernandez, O., Bouziane, A., Hughes, J., and Rharbi, L.	Participatory Workshop Presentation: Solving Solid Waste Collection Problems in Zouagha Fez, Morocco
MOROCCO	Bouziane, A.	Participation et démocratie Eléments de réflexion méthodologique sur la recherche participative au Maroc
MOROCCO	Lahlou Abdelhadi, M.	Best Water Conservation Practices in Morocco (short version & long version)
NAMIBIA		
NAMIBIA	Monroe, M.	Environmental Education and Communication Inventory in Namibia
NEPAL		
NEPAL	New ERA and GreenCOM/Nepal	Forest Management by Nepali Communities
NEPAL	Grieser, M., Brooke, P., & Sharma, K.	General Guidelines for Using Community Video in Community Forest User Group Social Mobilization
NEPAL	GreenCOM/Nepal & Himalaya Films	Herbs Farming for the Future (English; documentary)
NEPAL	GreenCOM/Nepal & Himalaya Films	Forum (Nepali)
NEPAL	GreenCOM/Nepal & Himalaya Films	Sahamati (Nepali w/English subtitles; docu-drama)
NEPAL	Frantz, C.	Comparison Between Community Controlled Video Letter and Community Consultation Video Projects
NEPAL	Sharma, K.	Process Documentation of Video Making Activities for Community-Controlled and Community Consultation Videos
NEPAL	Sharma, K., and Frantz, C.	Impact Assessment of the Community Forestry Forum
NEPAL	Sharma, K. and Frantz, C.	Large Group Intervention in Forest Policy in Nepal: Process Documentation and Analysis in Video Making Activities
NEPAL	Sharma, K.	The Making of Nepal's Community Video Letter: Presenting a Picture from the Village to Environmental Policy Makers (Case Study)
NEPAL	GreenCOM/Nepal	1. Video letter from UCHANIMBU 2. CVP
NEPAL	GreenCOM/Nepal	Community Video Letter

NEPAL	Himalaya Films Pvt. Ltd.	Report on the GreenCOM/Nepal Media Productions
NEPAL	GreenCOM/Nepal	EE&C: Environment and Forest Enterprise Activity (EFEA) Final Report
NICARAGUA		
NICARAGUA	GreenCOM/Nicaragua	COMSAP Usando la Educacion y Comunicacion Ambiental para hacer el cambio
NICARAGUA	GreenCOM/Nicaragua	Reserva Natural, Isla Juan Venado Donde la Naturaleza se Arraiga
NICARAGUA	GreenCOM/Nicaragua	Refugio de Vida Silvestre, Rio Escalante Chacocente El Bosque el Mar en Perfecta Armonia
NICARAGUA	GreenCOM/Nicaragua	Parque Nacional Volcan Masaya Fuego Creador
NICARAGUA	GreenCOM/Nicaragua	Parque Nacional Archipelago Zapatera Sobreviviente del Pasado
NICARAGUA	GreenCOM/Nicaragua	Reserva Natural Mirafior Su Encanto le Cautivara
NICARAGUA	GreenCOM/Nicaragua	Refugio de Vida Silvestre La Flor Ruta Milenaria
NICARAGUA	GreenCOM/Nicaragua	Reserva Natural Volcan Consiguina El Vigilante del Pacifico
NICARAGUA	GreenCOM/Nicaragua	Reserva Natural Volcan Mombacho Belleza entre las Nubes
NICARAGUA	GreenCOM/Nicaragua	Nicaragua... Naturalmente poster with snapshots of all Nicaragua stamps
NICARAGUA	GreenCOM/Nicaragua	Areas Protegidas de Nicaragua guia turistica
NICARAGUA	GreenCOM/Nicaragua & MARENA	Sistema Nacional de Areas Protegidas de Nicaragua--SINAP poster
NICARAGUA	GreenCOM/ Nicaragua	Participation in the Aprovechamiento Program and Turtle Protection Behaviors in the Buffer Zone of the la Refuge: Exploratory Qualitative Study

NICARAGUA	GreenCOM/Nicaragua/U SAID	Nicaragua...Naturalmente- series of postal stamps
NICARAGUA	La Prensa Grafica	Suplemento Medio Ambiente
NICARAGUA	Janquin, L. Orteja, J. Jorge, C.	Guia Practica Sobre Derechos y Responsabilidades Ambientales en Nicaragua
NICARAGUA	Ham, S., and Whipple, R.	Volcán Masaya National Park: Visitor Profile, Nicaragua, Final Research Report
NICARAGUA	Templeton, P.	Compendium of Selected EE&C Training Activities for GreenCOM/Nicaragua
NICARAGUA	GreenCOM/Nicaragua	Nicaragua Naturalmente: 2000 El Nuevo Milenio
NIGER		
NIGER	Guindon-Zador, E.	Environmental Education and Communication Assessment: The Rural Code Process in Niger (French & English)
PANAMA		
PANAMA	GreenCOM/Panama & ANAM	Maletin Tecnico de la Cuenca
PANAMA	GreenCOM/Panama	Panama GreenCOM
PANAMA	Parque Natural Metropolitano & GreenCOM/Panama	Tesoro Verde--Descubrelo!
PANAMA	Ham, S., and Weiler, B.	Ecoturismo en la Cuenca del Canal de Panama-- Primera Parte: Estudio de Operadores de Turismo
PANAMA	Ham, S., and Weiler, B.	Training Ecotour Guides in Developing Countries: Lessons Learned from Panama's First Guides Course
PANAMA	GreenCOM/Panama	Planes Ambientales Municipales--Seminario-Taller: Diagnosticos Ambientales
PANAMA	GreenCOM/Panama & ANAM	Comisiones Ambientales Municipales de la Chorrera, Arraijan y Capira
PANAMA	GreenCOM/Panama	Taller De Monitoreo Seguimiento a los Diagnosticos Ambientales Municipales Comisiones Ambientales Municipales de La Chorrera, Arraijan Y Capira

PANAMA	GreenCOM/Panama	Propuesta Taller: "Seguimiento al Diagnostico Ambiental Municipal"
PANAMA	GreenCOM/ Panama	Las Organizaciones No Gubernamentales Y Los Planes Ambientales Municipales
PANAMA	Pantoja-Dominguez, A., and GreenCOM/ Panama	Productos "No Editados" Taller Diseno Plan Ambiental Distrito La Chorrera
PANAMA	Dominquez, A.	Productos Editados del Taller: "Diseno de Planes Ambientales Municipales" Insumos para la Edicion del Plan Ambiental del Distrito de Arrayar, Provinciade Panama
PANAMA	Ham, S. & Weiler, B.	Ecoturismo en la Cuenca del Canal de Panama-- Segunda Parta: Estudios de los Turristas en las Areas Protegidas de la Cuenca del Canal de Panama
PANAMA	GreenCOM/Panama	Talleres De Diseno De Planes Ambientales Municipales De La Cuenca Del Canal De Panama Casos De Los Distritos De Capira, La Chorrera Y Arraijan
PANAMA	GreenCOM/Panama	Campana De Comunicacion "La Cuenca del Canal es Riqueza natural" Evaluacion Realizada Por "Los Guardianes de la Cuenca del Canal"
PANAMA	ANAM, GreenCOM/Panama, & IRG	Informe Seminario-Taller "Produccion MAS LIMPIA: Politicas Y Oportunidades En Panama" ANAM, GreenCOM/Panama, IRG
PANAMA	GreenCOM/Panama	Evaluacion De Indicadores De USAID/Panama Mandos Medios De las Instituciones Que Integrating La Comision Interinstitucional Para La Cuenca Hidrografica del Canal
PANAMA	GreenCOM/Panama	Evaluacion De Indicadores De USAID/Panama Residentes En La Cuenca Hidrografica del Canal
PANAMA	GreenCOM/Panama	Municipalidades Y La Cu enca Del Canal: Plan Ambiental Municipal
PANAMA	Telemetro; Malta igor es fuerza!; Caja de ahorros; El Panama America	Panama Quiz
PANAMA	GreenCOM/Panama	National System of Protected Areas (in English & Spanish)
PANAMA	GreenCOM/Panama	Guardianes De La Cuenca Del Canal: Primera Mision
PANAMA	GreenCOM/Panama	Guardianes De La Cuenca Del Canal: Une Importante Mision "Sembremos Arboles"
PANAMA	GreenCOM/Panama	Visitor Guides--Guias De Visitantes (Eng. & Span.)

PANAMA	GreenCOM/Panama	Sistema Nacional de Areas Protegidas Guardianes De La Cuenca Del Canal
PANAMA	GreenCOM/Panama & Autoridad del Canal de Panama	"La Cuenca es Electricidad" poster
PANAMA	GreenCOM/Panama & Autoridad del Canal de Panama	"La Cuenca es Alimento" poster
PANAMA	GreenCOM/Panama & Autoridad del Canal de Panama	"La Cuenca es Agua Para el Canal" poster
PANAMA	GreenCOM/Panama & Autoridad del Canal de Panama	"La Cuenca es Naturaleza" poster
PANAMA	GreenCOM/Panama & Autoridad del Canal de Panama	"La Cuenca es Agua Para Todos" poster
PANAMA	GreenCOM/Panama	GreenCOM/Panama baseball cap
PANAMA	GreenCOM/Panama	GreenCOM/Panama event folder with waterfall
PANAMA	GreenCOM/Panama	Las Historias Saludables de Cantarito
PANAMA	GreenCOM/Panama	Visitor Guide: Metropolitana Natural Park
PHILIPPINES		
PHILIPPINES	Booth, E.M., and Hernandez, O.	IEM & NRM Communication Indicators
PHILIPPINES	Hernandez, O.	Communication Indicators for IEM and Forestry Resource Management
PHILIPPINES	Booth, E.M.	Industrial Environmental Management Information, Education, Communication and Social Marketing Assessment

PHILIPPINES	Amoyen, N. D.	Formative Research in Support of Pilot Environmental Communication Campaigns in Davao del Sur
PHILIPPINES	Rudolf Rahmann Research Center	Formative Research, Pilot Campaigns in Three Sites Philippines
PHILIPPINES	Silliman University Interpretive Team and GreenCOM/Philippines	Silliman University Environmental Interpretive Plan: Interpretation and Education Tools for Coastal Resource Management
PHILIPPINES	Diamond, N. and Rawlins, B.	Summary of gender-related research findings and recommendations for the pilot environmental communication campaigns from Palawan, Davao del Sur and Cebu Provinces
PHILIPPINES	GreenCOM/Philippines	Unified Environmental Communication and Education Strategy for USAID and the Philippines
PHILIPPINES	Pestano-Smith, R.	GreenCOM Communication Interventions in the Pilot Sites (Olango Island, Cebu; Malalag, Davao del Sur; and San Vicente, Palawan)
PHILIPPINES	Chilton, T. and Myrabo, C.	The Marine Laboratory and Silliman Hall
PHILIPPINES	Grieser, M.	FRM Information, Education, Communication, & Social Marketing Assessment
PHILIPPINES	GreenCOM/Philippines	An Assessment of Communication Training Capacity in the Philippines
PHILIPPINES	Abregana, B. C.	Let the Women Speak: Engendering Community-Based Resources Management
PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"Philippine Fisheries in Decline: No Time to Lose" poster
PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"It's their ocean, too. And their future." poster
PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"Ang dagat ay buhay ating kinabukasa'y dito nakasalalay" (Month of the Ocean poster with boy lying on goldfish mural; in Tagalog)

PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"Imagine the future without mangroves" poster (English & Tagalog)
PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"A call for leadership" poster (English & Tagalog)
PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"Para sa maayong kaugmaon" poster (Tagalog)
PHILIPPINES	GreenCOM/Philippines and Coastal Resource Mgmt Project, Dept of Environment & Natural Resources	"Coastal Alert!" poster (English & Tagalog)
RUSSIA		
RUSSIA	Misenzhnikov, V.	Russia GLOBE: Linking Students, Teachers and the Environment, GreenCOM Final Report
TANZANIA		
TANZANIA	Juma, S., Llewellyn, P.	Inventory of Activities in the Field of Environmental Data Systems
TANZANIA	Kashaija, A.	Policies on the Environment
TANZANIA	GreenCOM/Tanzania	Report: Environmental Education Workshop for National Parks
TANZANIA	GreenCOM/Tanzania and Journalists' Environmental Association of Tanzania	Environmental Reporting Training Workshop
TANZANIA	Allen, I., and Downie, B.	School-Community Linkages: Success Factors of Conservation Clubs in Tanzania
TANZANIA	Allen, I., Kashaija, A., Amaral, M., and Luhikula, G.	Coastal Environmental Award Scheme: Enhancing Motivation to Manage Coastal Resources
TANZANIA	GreenCOM/Tanzania	About GreenCOM/Tanzania: Strategic Objective 2-- Integrated Natural Resources Mgmt Established

TANZANIA	Allen, I., Swai, F., and Ngalason, P.	Encounters with Wildlife (in English & Swahili; 1 book)
TANZANIA	GreenCOM Tanzania and Allen, I.	Teacher's Environmental Education Handbook (in English & Swahili; 2 books)
TANZANIA	Tanzanian Ministry of Natural Resources and Tourism (Wildlife Division) and GreenCOM/Tanzania	Wildlife Policy of Tanzania & Community Based Conservation: Training for District Game Officers Report (from conference March 26-30, 2000)
TANZANIA	GreenCOM/Tanzania and TCMP	For a Better Coastal Environment/Mazingira ya Pwani Tanzania (Pilot for a regular environmental TV-video magazine)
TANZANIA	GreenCOM/Tanzania and TCMP	"Shindano La Kuhifadhi/Mazingira ya Pwani" tee shirt (Back side reads: "Jali Utunzaji wa Mazingira Yako!")
TANZANIA	Tanzania National Parks & GreenCOM/Tanzania	Tarangire National Park
TANZANIA	Tanzania National Parks & GreenCOM/Tanzania	Lake Manyara National Park
TANZANIA	GreenCOM/Tanzania	Shindano! (Advertisement for Coastal Environmental Awards Scheme; in Kiswahili)
TANZANIA	Tanzania Coastal Mgmt Partnership & GreenCOM/Tanzania	Let us Conserve Coral Reefs/Tuhifadhi Matumbawe (English & Kiswahili)
TANZANIA	Tanzania Coastal Mgmt Partnership & GreenCOM/Tanzania	Conserving Mangrove Forests/Kuhifadhi Mikoko (English & Kiswahili)
TANZANIA	Tanzania Coastal Mgmt Partnership & GreenCOM/Tanzania	Don't Delay!! Don't Wait!! Participate Now!!/Tuzo Katika Kuhifadhi Mazingira (Informational brochure on Coastal Enviro. Awards Scheme; English & Swahili)
TANZANIA	Mohamed, N. H. and GreenCOM/Tanzania	Mwongozo wa Waalimu: Hifadhi ya Serengeti
TANZANIA	GreenCOM/Tanzania and TCMP	Voices from the Coast/Sauti ya Pwani (English & Swahili)
TANZANIA	GreenCOM/Tanzania and Tanzania National Parks	"Some Large Mammals of Tarangire and Lake Manyara National Parks" poster (Swahili: "Baadhi ya Wanyama Wakubwa wa Hifadhi za Tarangire na Manyara")
TANZANIA	GreenCOM/Tanzania?	"Environment Award Scheme" tee shirt (Back side reads: "We Care!")
UGANDA		

UGANDA	Field, R.T.	Environmental Education and Communication in Uganda-- Organizations and Resources
UGANDA	Ndayitwayeko, A., and Day, B.	Wildlife Clubs of Uganda (WCU) Environmental Education & Communication Five Year Strategic Plan
ZAMBIA		
ZAMBIA	Downie, B., and Nsongela, S.	School Community Links in Environmental Education: A Review of the Factors of Success in the Chongololo Clubs of Zambia
ZAMBIA	Nriagu, J.O.	Hazardous Wastes in Zambian Households: A pilot study
ZAMBIA	GreenCOM/Zambia and Nriagu, J.O.	Safety from Hazardous Households Products
TAGS		
TAGs	GreenCOM	First Annual TAG Meeting Briefing Book
TAGs	GreenCOM	First Annual TAG Summary Report
TAGs	GreenCOM	Second Annual TAG Meeting Briefing Book
TAGs	Rawlins, B.	Second Annual TAG Summary Report
TAGs	GreenCOM	Third Annual TAG Meeting Briefing Book
TAGs	Rawlins, B., Monroe, M., & Hernandez, O.	Third Annual TAG Summary Report
TAGs	GreenCOM	Fourth Annual TAG Meeting Briefing Book
TAGs	Schwartz, R., Hernandez O.	Fourth Annual TAG Summary Report
TAGs	GreenCOM	Fifth Annual TAG Meeting Briefing Book
TAGs	GreenCOM	TAG 5th Annual Meeting : Final (or Summary) Report
GREENCOM CORE SYNTHESIS PUBLICATIONS		

GreenCOM CORE/SYNTHESIS PUBLICATIONS	Archie, M., Mann, L., and Smith, W.	Partners in Action: Environmental Social Marketing and Environmental Education
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM	Environmental Education & Communication Project
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Allen, I.	GreenCOM Project: Lessons Learned in Environmental Education and Communication from Five Country Studies (Summary of presentation at NGO Women's Forum in Dakar, Senegal)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM	Framing Environmental Education and Communication for an Urban Agenda: A Technical Workshop on GreenCOM's Heating-Up Approach (compilation of articles & other documents from a seminar)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM	"Nature knows how to change. So do you." (poster with rainbow-colored lizard on tree branch)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Grieser, M.	The Role of Communication and Gender in Environmental Policy (Paper presented at UNEP Roundtable in Nairobi, Kenya)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Ham S., & Krumpke, E.	How Site-Based Interpretation Can Be Used to Change Behaviors and Contribute to Biodiversity and Ecosystem Conservation in Central America
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Day, B. A., and Smith, W. A.	The Applied Behavior Change (ABC) Framework: Environmental Applications
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Booth, E. M.	Starting with Behavior: A Participatory Process for Selecting Target Behaviors in Environmental Programs (in English and Spanish; also listed under Ecuador)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Grieser, M., and Rawlins, B.	Issues in Urban and Rural Environments: GreenCOM Gender Reports
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Foster-Turley, P.	Making Biodiversity Conservation Happen
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Scriabine, R.	Putting People Into Policy: The Role of Environmental Education & Communication
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM	GreenCOM Methods Handbook (DRAFT ONLY)

GreenCOM CORE/SYNTHESIS PUBLICATIONS	Nagle, W. J.	Mid-term Evaluation of Environmental Education and Communication Project
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Day, B. A.	Keeping Resources from Collapse: A Systems Perspective for Strategic Communications
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Tarnapol Whitacre, P.	Fostering Sustainable Cities: The Role of Environmental Education and Communication
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Ham S., & Krumpe, E.	Identifying Audiences and Messages for Nonformal Environmental Education: A Theoretical Framework for Interpreters (article in <i>Journal of Interpretation Research</i>)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Monroe, M. C.	Workshop: Using Communications to Make Environmentally Sustainable Development Happen- Summary Report
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Hernandez, O., Shafritz, L., Gottert, P., Bouziane, A., Grieser, M.	Sustainable Cities: GreenCOM's Experience in Supporting the Provision of Basic Services to Poor Neighborhoods (Morocco & Haiti)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM/USAID	Rapport D'Activites des Partenaires Du Projet GreenCOM Pendant La Semaine de L'Environnement Du 05 Au12 Juin 1999
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM/USAID	Rapport Sur L'Impact Des Jeunes Vis Avis De L'Environnement
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM, USAID, NAAEE, WWF, & WRI	GreenCOM Policy Symposium 1999 (Cincinnati, OH)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Mata, J. I.	GreenCOM Tutorial--Heating-Up Process: A Multi-disciplinary Approach to Environmental Behavior (compilation of articles by various authors for a tutorial seminar)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Day, B. A., and Monroe, M. C.	Environmental Education & Communication for a Sustainable World: Handbook for International Practitioners (in English & Spanish)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Day, B. A.	Environmental Communication: Toward a Model for Policy Adoption (journal article in <i>Advances in Education</i> , Vol. 4)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Hilbruner, R. W. and Day, B. A.	Environmental Interpretation: Translation Across Subsystems (journal article in <i>Advances in Education</i> , Vol. 4)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Day, B.A., Grieser, M., Monroe, M., Hernandez, O., Templeton, P., Robins, A., Preusch, P.	GreenCOM Training Modules: Environmental Education and Communication Project (DRAFT ONLY)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM	GreenCOM: Using Education and Communication to Solve Environmental Problems

GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM	Listening to People: Using Environmental Education & Communication to Improve the Environment (in English, French, Spanish)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	GreenCOM & Ventana Productions	GreenCOM: The Human Nature Project (English/Spanish/French)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Hernandez, O.	The Role of Formative Research: An Example from the GreenCOM Experience (handout from workshop presentation)
GreenCOM CORE/SYNTHESIS PUBLICATIONS	Ham S., & Krumpe, E.	A Belief-Centered Approach to Designing Environmental Education for Sustainable Development (handout from workshop presentation)

Appendix B: Web Hits by Month, 1998–2001

