

Heating Up Society to Take Environmental Action

**A GUIDE TO EFFECTIVE
ENVIRONMENTAL EDUCATION
AND COMMUNICATION**

Acknowledgements

The AED Center for Environmental Strategies would like to thank the United States Agency for International Development (USAID) for its funding and support of the Environmental Education and Communication Project known as GreenCOM.

There are many people at USAID to thank, one of whom is Anthony "Tony" Meyer, a global pioneer in the use of communication for development. Tony served as the first program officer for the project and continues to be a great champion for GreenCOM. We would also like to express our appreciation for three other individuals who served as program officers over the life of the contract: Kate Barba, who served GreenCOM for over six years; Mike Philley, who helped draft the original contract and then returned to see it through near the end; and Roberta Hilbruner, the project's most recent enthusiastic program officer.

The Center for Environmental Strategies also extends its thanks to USAID project officers in the various countries where GreenCOM has worked. Their vision to use environmental education and communication was a leap of faith into a new realm for USAID. These officers spent much time and energy to work with us and to give us the opportunity to learn the lessons reported in this publication.

We would be remiss not to mention the tremendous support of staff in USAID's Global Bureau who supported us in so many ways during the project's first seven years. There are too many to mention by name, but in particular we are grateful to David Hales, Deputy Assistant Administrator for Environment, Emily Vargas Baron, Deputy Assistant Administrator for Human Capacity Development, and William "Bill" Sugrue, Office of Environment and Natural Resources.

The Center for Environmental Strategies is delighted to have had the opportunity to help the field of environmental education and communication grow and to share lessons learned in this publication and in many others created over the life of the contract. Most of these products (including this publication) may be downloaded free of charge from the project's Web site, www.greencom.org.

On behalf of AED, the Center for Environmental Strategies, and the staff and consultants who have worked on the GreenCOM project, we wish to express our gratitude for the opportunity to be involved in global environmental education and communication.

Brian A. Day
GreenCOM Project Director
E-mail: greencom@aed.org

GreenCOM
Strategic Environmental Communication

The Center for Environmental Strategies would also like to thank the dozens of staff members who served the GreenCOM project, both those who worked in Washington and those who made the project possible by their dedicated work in the field. GreenCOM was blessed with an incredible array of dedicated professionals who made this program successful. Their creativity, professionalism, and passion for their work enabled our project to examine, innovate, and experiment with a wide variety of education and communication strategies that addressed a broad set of issues scattered across the globe.

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ISBN 0-89492-118-5



Printed on 100% recycled post-consumer waste paper using soy-based inks.

Introduction

Most environmental problems are caused by human behavior. Protecting the environment and managing natural resources ultimately depend on what *people*—government decision makers, municipal leaders, private sector managers, non-governmental organization (NGO) staff, community groups, and individuals—*do* to their environment and natural resources. Ultimately, long-term sustainable solutions to safeguard environmental quality and preserve the ecological integrity or productive capacity of natural areas require a change in human behavior. As a result, the people most affected must be an integral part of the decision making process and be directly engaged in developing solutions.

In 1993 the United States Agency for International Development (USAID) initiated the Environmental Education and Communication Project, which is also known as GreenCOM. Its mandate was to explore how lessons learned from successful behavior change programs in public health, education, and agricultural technology transfer could be used to help governments, communities, and individuals develop sustainable environmental solutions in their countries, towns, and homes. GreenCOM brought together a broad

group of specialists, including communicators, educators, social marketers, behavior change specialists, environmental interpreters, and journalists to define the strategies, methods, and tools that would best help people take action to improve or protect their environment.

Over the past eight years, GreenCOM has employed this diverse group of experts in examining how research-based environmental education and communication (EE&C) may be used to address complex issues such as environmental policy reform, global climate change, biodiversity conservation, solid waste management, watershed management, sustainable forestry, ecotourism development, environmental interpretation, protected area management, gender, and local participation in municipal

development. Project staff learned that systematic application of EE&C can play an instrumental role in helping environmental protection and natural resource managers address these issues across different geographical, cultural, economic, and political divisions.

Through the years GreenCOM has learned a great deal about what works and what doesn't. The project has also functioned as a clearinghouse for common questions that people around the world raise about EE&C. Most importantly, GreenCOM has demonstrated the value of EE&C and helped managers, planners, and decision makers understand that it is much more than just posters, brochures, videos, and textbooks. EE&C encompasses a wide variety of activities and products that lead to changed behavior.

Although GreenCOM has accumulated and disseminated a wealth of lessons about influencing the environmental behavior of diverse individuals, communities, and even governments, there is much left to learn and do. In the following pages you will learn how environmental education and communication can benefit you in your work. This booklet summarizes the lessons learned from eight years of experience in over thirty countries. It provides environmental protection and natural resource managers, planners, and decision makers with insight on how EE&C can help them achieve their goals and objectives.

ULTIMATELY, LONG-
TERM SUSTAINABLE
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A CHANGE IN HUMAN
BEHAVIOR.

WHAT ENVIRONMENTAL EDUCATION AND COMMUNICATION (EE&C) CAN DO FOR YOU

Environmental protection and natural resource managers, planners, and decision makers routinely face seemingly impossible tasks. They are often asked to demonstrate impact in a short period of time and with only modest financial resources. Their supervisors demand tangible, verifiable, durable, and cost-effective results. Nevertheless, most of their decisions and actions involve *people and what they do* to maintain or improve environmental quality and productive capacity. As any manager, planner, or decision maker will attest, desired or anticipated results often do not materialize if certain individuals and groups are ignored. Planners, managers, and decision makers and the people they work with therefore need effective strategies, methods, and tools that address the *human dimension* of their projects and programs. This is the cornerstone of environmental education and communication.

There are many ways that strategic investments in EE&C can help people who work on environmental protection and natural resource management issues reach their goals and objectives more quickly, more cost effectively, and with greater citizen participation. The result: greater impact through real change in how people interact with their natural and built environment. For example, EE&C can:

- **Persuade** a country's decision makers to adopt new environmental policies and build constituency and support at the same time.
- **Strengthen** the capacity of municipal leaders, NGO representatives, and community-based organizations to manage natural resources sustainably.
- **Develop** partnerships among governments, local communities, and NGOs to encourage people to work together for environmental change.
- **Motivate** private sector CEOs and engineers to adopt cleaner production technologies.
- **Raise** awareness and support for national parks and biodiversity conservation among people who live in and around the parks, as well as business leaders and entrepreneurs.
- **Accelerate and improve** farmers' adoption of technologies and behaviors that lead to sustainable agriculture and forestry.
- **Convince** families to adopt environment-friendly behaviors such as conserving water, protecting common water sources from contamination, putting garbage into bins, changing harmful fishing techniques, and preventing forest fires.
- **Generate** excitement in an entire community that leads to community-wide behavior change.

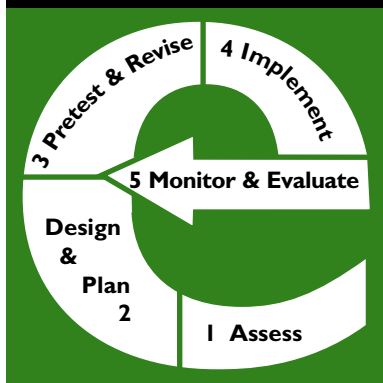
YES...

BUT WHAT IS EE&C?

EE&C builds on and incorporates the most relevant and practical elements of various disciplines such as behavior analysis, social marketing, instructional design, anthropology, social organization, and community participation. When combined, these disciplines offer a powerful and complete set of strategies, methods, and tools to empower and persuade people to make changes in their lives. EE&C is developing into a more rigorous science-based profession that builds on the lessons learned from health, population, and agricultural behavior change programs. What else is EE&C?

GreenCOM has learned that effective EE&C is a systematic process that uses public participation and audience research to develop comprehensive strategies that lower barriers and emphasize the benefits of environmental stewardship. These strategies increase public awareness, develop people's skills, produce better products and services, contribute to improved policy, and strengthen existing social support systems (media, informal social associations, neighborhoods, religious groups, schools, NGOs, the private sector, and communities) by encouraging and rewarding desired behaviors. This process, engaged simultaneously across a number of segments of society, can begin to "heat up" that society, leading to broader, community-wide change. In the end, the communication process gives local people the capacity to continue EE&C into the future.

Figure 1: The GreenCOM communication process



EE&C is a process

GreenCOM adopted and modified a communication process used with great success by health communicators and explored how it could address the unique and diverse challenges of environmental protection and natural resource management. This simple and systematic five-step process (Figure 1) is pragmatic and iterative; each step builds on those that precede it. Moreover, the process fosters communication among key parties—policymakers, municipal leaders, technicians, communities, families, and individuals—that is essential for success.

EE&C: An art *and* a science

All too often, practitioners apply only the art of EE&C. They start by assuming they have the information people need to know, so they focus on creating materials, events, or curricula to convey that information. Some efforts have been successful due to the practitioner's creativity, personality, and even a bit of luck. In reality, however, achieving consistent success in EE&C results from applying a carefully

crafted and systematic methodology that is driven by research and rooted in science.

GreenCOM's experience demonstrates that effective EE&C is based on behavioral science. As mentioned earlier, EE&C is a methods-driven profession that utilizes research and public participation to guide strategies and generate measurable results. With adequate assessment, funding, and evaluation, EE&C will produce specific results.

Yet EE&C is also an art and the artist's creativity flourishes all the more within this scientific framework. The profession requires clever, innovative thinking in order to compete with the myriad messages and advertisements bombarding people in this information age. Make no mistake—EE&C products, messages, and materials must be capable of commanding the attention of their intended audience.

EE&C is for adults too

Traditionally, EE&C interventions have taken place in educational settings, such as schools or nature centers, and have primarily targeted children rather than adults. There is no question that children are the future and need to learn the importance of sustainable environmental and natural resource stewardship. However, there is growing consensus in the scientific community that adults must make significant changes in the way they interact with their environment and natural resources or there will be little or nothing left for these young stewards to manage. It is today's grown-ups—whether farmers or hotel owners, mothers or civic leaders, national politicians or industrialists—who will determine which natural resources will remain for their children. Parents and caretakers are also role models for their children and studies show that many basic values are acquired in the home before children go to school. As a result, EE&C is increasingly focused on changing the behavior of adults, not just educating and informing children and youth.



EE&C: Environmental Protection's Misunderstood Partner

Many people erroneously think that EE&C is:

- > only for school children and not for adults, especially not policymakers, government officials, or civic, religious, media, and corporate leaders
- > for special events such as an Earth Day celebration, a field trip, or a community clean-up day
- > a video, poster, or pamphlet
- > something that any individual with good intentions can do
- > a luxury they don't have time to invest in.

EE&C is often dismissed as something that isn't as important as other environmental protection or natural resource management project components, such as policy formulation, institutional development, human capacity building, or technology transfer. It is

commonly tacked on to projects as an afterthought or add-on training. But these other components involve people and what they know and do, so education and communication designed with people in mind provide the foundation for achieving environmental protection or natural resource management objectives.



WHAT HAS

GREENCOM

LEARNED?

From its involvement in more than thirty countries, GreenCOM has learned some simple lessons that are fundamental to EE&C and can be generalized across projects:

Successful EE&C is a dynamic process, not a one-time event

As the section on the communication process emphasized, successful environmental education and communication results from following five practical and systematic steps: assessment, strategic design and planning, pretesting, implementation, and monitoring and evaluation. This process is essential for sustainability because it develops local capacity and increases the participation of diverse stakeholders.

Many people who work on environmental and natural resource projects may be concerned that they don't have the time or money to invest in environmental education and communication. In reality, however, EE&C interventions are time-efficient and cost-effective. For example, information learned in the assessment

stage—which many managers cannot imagine allowing time for—actually pays for itself rather quickly by giving decision makers and practitioners vital information that helps them avoid costly miscalculations of what will work in their particular location. Such information may include identifying the individuals most likely to change their behavior early on (so-called early adopters), spotting potential project champions and leaders, and learning which local entities will anchor project activities while also growing in their own management capabilities. It should be stressed that using a systematic process does not obliterate the element of creativity or fun from EE&C! Instead, it gives practitioners the stability necessary for innovation to bloom.

Frequently there is great urgency or even pressure to dive in and develop a curriculum, brochure, or television spot (in other words, to create a one-time event) without first assessing what is really going on and developing a comprehensive strategy. Many practitioners leap directly into implementation, bypassing audience assessment, strategic planning, and the pretesting of materials and products. However, following the five-step process greatly enhances the probability that the project will be successful and sustainable.

**SIMPLY PUT,
PEOPLE DON'T
ALWAYS ACT THE
WAY THEY KNOW
OR BELIEVE THEY
SHOULD.**

Successful EE&C focuses on changing behavior

Awareness is not enough. Nor are information and education by themselves sufficient to cause behavior change. Experience gleaned from hundreds of behavior change programs around the world has shown that raising public awareness about a problem or issue does not ensure that people will act on their new knowledge.

Simply put, people don't always act the way they know or believe they should. The biggest gap in human behavior exists between what people know and what they practice (see box "What Is an Environmental Practice?"). For example, how many urban centers around the world have anti-littering campaigns with posters, billboards, and trash barrels instructing citizens not to litter? Yet city streets and sidewalks remain covered with paper products, plastic wrappers, and garbage.

So what makes some people *voluntarily* take action to protect their water, forest, air, or wildlife? It depends on *who* is taking *which action*. The reasons why people engage in varied environmental actions—recycling, practicing sustainable agriculture, or adopting cleaner production technologies—will be very different. Successful EE&C focuses on understanding not only which actions help the environment but also the specific factors that influence people to take those actions.

Successful EE&C involves people

EE&C is a people-centered process. It starts with listening to the people who will be involved in the environmental practice to understand what they know, what they are currently doing or not doing and why, what concerns them, and how environ-

What Is an Environmental Practice?

An **environmental practice** is a series of related actions or behaviors that can have a measurable impact on an environmental problem. Recycling, sustainable agriculture, controlled burning, clean production, and watershed conservation are all environmental practices. They can all be broken down into discrete, observable actions or behaviors that, if used together, will accomplish the environmental goal. For example, illustrative examples of ideal behaviors for the environmental practice of controlled burning could include:

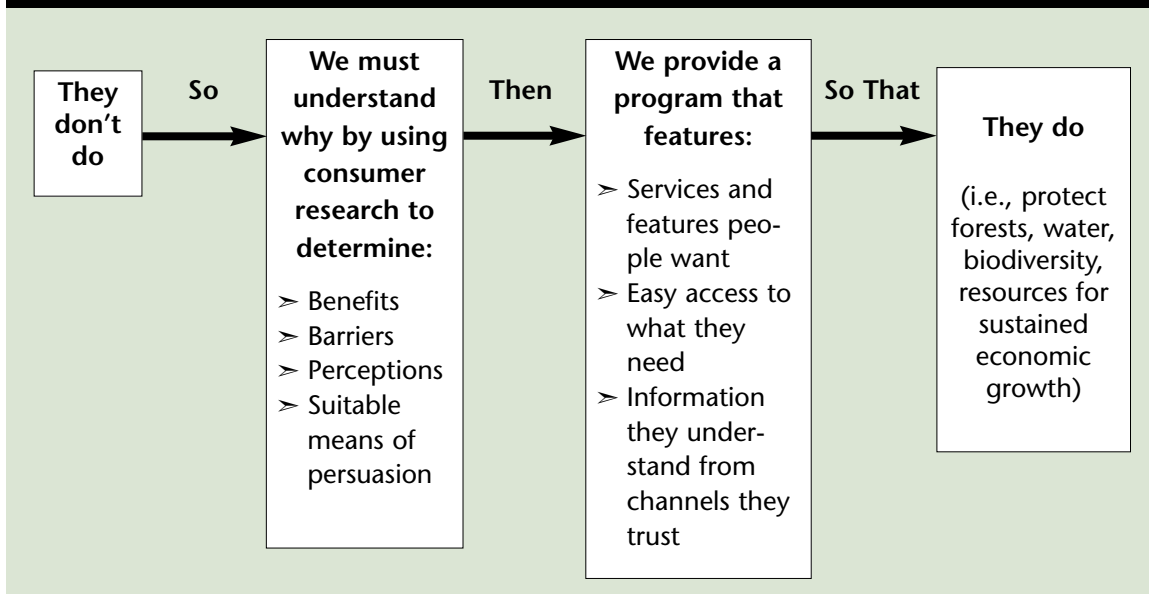
- > Burn after the first rains of the season (in tropical areas)
- > Burn during the coolest part of the day (early morning, for example)
- > Burn when there is very little wind
- > Burn against the wind
- > Supervise the burn until the fire is completely out.

mentally positive actions might affect them. Donor-funded programs need to involve local people and ensure local ownership of the environmental action so that strategies and messages are not imposed from the outside. Perhaps most importantly, EE&C programs should leave local people with the capacity to continue their efforts into the future.

Successful EE&C is integral to, rather than separate from, an environmental project

Successful EE&C is planned. It doesn't just happen. EE&C should be included in the earliest design stages of any environmental protection or natural resources management project. GreenCOM's work in Egypt provides a good example. While technicians helped the Egyptian government develop a solid waste management infrastructure, communicators worked

Figure 2: Behavioral model



PERHAPS MOST IMPORTANTLY, EE&C PROGRAMS SHOULD LEAVE LOCAL PEOPLE WITH THE CAPACITY TO CONTINUE THEIR EFFORTS INTO THE FUTURE.

with local people to show them how to obtain the maximum benefit from the new system to store solid waste and keep their communities clean and healthy. Launching a communications campaign without assuring that technical services are in place or that a policy will be enforced results in negative repercussions later on. EE&C, therefore, must be integrated with other strategic tools, such as policy, technology transfer, and capacity building in order to be effective and sustainable.

Successful EE&C is multidisciplinary in its approach and implementation

Successful EE&C integrates social marketing, public participation, behavior change, policy formulation, research, training, advocacy, partnership development, and new information technologies such as the

Internet to generate maximum impact and results. For example, EE&C practitioners work closely with multidisciplinary teams of scientists (such as biologists and ecologists), technicians (such as extensionists and foresters), the private sector (production engineers and CEOs, for instance), and representatives of local stakeholder groups (including average citizens, consumers, and civic and religious leaders). Each discipline and perspective provides important guidance to the development and implementation of effective EE&C.

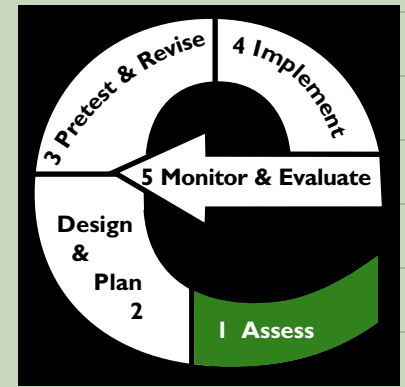
The preceding pages provided a general overview of environmental education and communication. What follows are more specific lessons meant to stimulate thought and to suggest where and how to incorporate a particular EE&C element into existing or proposed programs and projects.

Assess

Don't Assume...Assess!

Politics, personalities, preferences, power structures. These are just a few things that must be understood before an EE&C intervention begins. Effective education and communication places a priority on first *listening to people* about their perspectives, habits, and needs. It develops and strengthens mechanisms that facilitate their participation in project design, implementation, and evaluation. A good assessment actually goes beyond learning about people's knowledge, attitudes, and practices. It also seeks to understand the specific reasons or factors, barriers, and motivations that shape their action or inaction.

Assessments are meant to provide practical and valuable information that can be used to shape the EE&C strategy. This step need not be excessively long or drawn out. Rather, the duration and scale of an assessment will depend on available time, funding, and human resources.



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1

Lesson 1. Assessments Reveal Surprises

An EE&C assessment frequently reveals surprises, such as unexpected policy shifts, inappropriate technologies or services, the lack of alternative livelihoods, or any other overlooked facts that explain why people act the way they do. Assessments permit implementers to explore the real problems, barriers, and opportunities that need to be addressed and to avoid jumping to erroneous assumptions about the target audience, the solution, or even the nature of the problem itself. Carefully posed, open-ended questions provide windows of opportunity to gain knowledge about an issue and about people's everyday attitudes, beliefs, and behaviors. This, in turn, allows planners to home in on environmental priorities for specific groups or audiences and the specific factors that influence their actions.

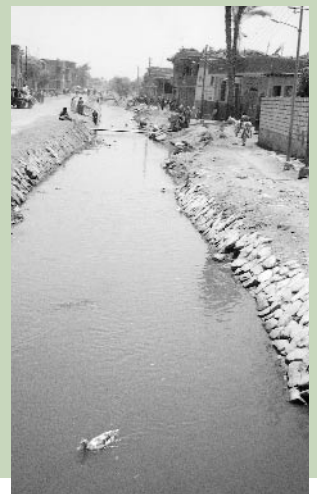


What Egyptian Farmers Really Wanted

In Egypt, GreenCOM worked with the Ministry of Public Works and Water Resources (MPWWR) to develop an awareness campaign for farmers about water scarcity and conservation. At the beginning of the project, water department managers wanted to focus on messages that stressed the facts about water shortages, the details of international treaties, and the good job being done by the water department. GreenCOM convinced them to wait

before developing messages or implementing a campaign while local staff were trained in assessment methods and data analysis and interpretation.

Through focus group discussions and in-depth interviews with farmers, the water department team found out that farmers were already well aware of water scarcity problems; many were already practicing water conservation strategies. The managers discovered that farmers cared little about national water statistics or international treaties but they cared deeply about food and water security for their families. Appropriate messages were developed that focused on the farmers' concerns, communicating that conserving water ensures food now and a secure future for their families. The MPWWR achieved its objective of encouraging water conservation by making its message relevant to the needs of the target audience.



Assessments don't need to be complicated, costly, or lengthy. A range of experiences has shown the value of using innovative assessment techniques that involve local groups in ways that build environmental support (advocates) and provide ample training opportunities.

In sum, an assessment is a reality check. And reality may prove to be very different from how project managers perceive it. For instance, technical specialists frequently tend to think that if they just tell people the facts and stress how important their cooperation is to the world, the environment, the government, the economy, or their community, then people will comply. But people usually have very good reasons for behaving as they do. Most people base their actions on more personal, and often less visible, reasons that managers, planners, and decision makers may not understand or address without an assessment.

Therefore, an EE&C assessment can help to ensure that a project is well designed and actually produces the intended outcomes for various stakeholders or beneficiaries. Although it is tempting, don't make the mistake of jumping straight into planning, design, or implementation.

2

Lesson 2. Ask the Right Questions

Assessments can focus on six basic questions:

1. Which **action(s)** could people take to make a difference for a specific environmental or natural resource management issue?
2. Which specific **group of people** (or target audience) should take these actions to address the environmental problem?
3. What are the **perceived barriers** that prevent the target audience from taking these actions? What are the **perceived benefits** they would receive if they changed their behavior? Why is it in the best interest of the target audience to take these actions? How can the barriers be lowered and the benefits increased?
4. What is the target audience presently **doing instead of** the preferred actions? What are the barriers they perceive if they were to change their behavior? Which benefits do they feel they would be giving up?

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Pollution in India: Assessment Hits the Mark

An EE&C assessment on cleaner production in India explored industrial pollution generated by medium- and large-size businesses in various sectors. It identified a group of sugar and cement industry CEOs who were anxious to implement energy conservation measures but lacked the investment capital to buy more energy-efficient equipment. The assessment helped EE&C planners select those CEOs as their target audience. It also helped planners determine specific messages for this audience, which included promoting cleaner production technologies and actions that wouldn't require purchasing additional equipment.

5. What is the best way to reach and involve the target audience? What are the best time and place to do so? Which media do they use to receive information? Who or what are credible sources of information? Which groups and individuals most influence the target audience, and how can they be involved in the strategy? Which combination of mass media, interpersonal communication, folk media, and print materials should be used?

6. Which other groups and individuals should be involved *as partners*?

Answering these questions means first looking at the big picture—the overall

contextual factors (social, economic, cultural, and political) as well as environmental conditions—and then tailoring the most feasible and effective strategy to employ within that context.

Comparing doers (people who are currently practicing an environment-friendly behavior) and non-doers (people who are doing something else) is a cost-effective way to help shape feasible and effective strategies. Why do the doers practice environment-friendly behaviors? What motivates them? Why do non-doers behave in other ways? The differences between the two groups often hold the key to change and may become the focus of the EE&C plan of action.

3

Lesson 3. Make the Assessment Participatory

Just as important as asking the right questions in an assessment is making sure that the assessment team includes local partners and representatives of stakeholder groups. As much as possible, involve local partners and stakeholders in the assessment process. Participatory research is an excellent way for them to discover causes of environmental problems, comprehend the information, and propose appropriate solutions. Involving stakeholders in the assessment process helps ensure:

- project appropriateness
- application of research results to solve the problem, not just to collect information
- validity of the information gathered
- local ownership of the information
- correct interpretation of the findings within the project context.

Building stakeholders' and partners' assessment skills also increases the likelihood that they will continue to use participatory research in their decision making processes involving other environmental or natural resource management issues.

Participatory Rapid Assessment in Morocco

In Morocco, GreenCOM helped design an action plan to improve waste collection services in poor neighborhoods. Three stakeholder groups participated in an action plan design workshop: residents, municipal officials, and representatives from regional and central urban development government agencies. These three groups formed integrated commissions to gather and interpret information on the constraints both service providers and end users faced in the efficient disposal of household waste. Over a three-day period, the neighborhood residents identified how the households in two neighborhoods disposed of their waste. The stakeholders used these assessment results to discuss existing problems and identify possible solutions, such as improved waste collection routes and systems.

4

Lesson 4. Men and Women Are Different

Recognizing that men and women are unique in the ways they receive, process, and use information has made environmental education and communication efforts more successful. GreenCOM has identified at least three ways in which gender considerations may result in more effective interventions:

- ***Include both women and men in assessing, pretesting, and monitoring/evaluation research samples.*** Women play crucial, but often misunderstood, undervalued, and underestimated roles in environmental stewardship and natural resource management. The introduction of new technologies or behaviors may affect women negatively, piling additional responsibilities onto their already full workload. As a result, men and women often have distinct concerns or face different obstacles in relation to resource management. Deliberately including ***both men and women*** in research samples provides a more complete picture on

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which to base the EE&C strategy; understanding differences in men's and women's needs and perspectives is sometimes pivotal to success.

➤ ***Involve women and make sure they receive benefits from their participation.*** Throughout the developed and developing world, women have demonstrated their eagerness to become involved in activities that will improve conditions for their families and communities. However, women are often underrepresented when it comes to decision making at the local government level and in community-based organizations. Even when they are involved, at times they don't receive the benefits (economic, educational, job, and decision making authority) that male participants receive. Gender inclusiveness may be difficult and require special effort when working in traditionally male-dominated cultures, but it pays off. Conducting a gender analysis to see whose roles change and how negative impacts might be mitigated leads to increased success of the activity. Some of the ways EE&C practitioners can strengthen women's involvement include: holding meetings, events, and training at times that are convenient for women; working with women in groups rather than individually; providing sufficient time for women to reach consensus on a particular issue or action to be taken; and ensuring that women receive benefits from their work, including improved access to and control over social services, training, and environmental and economic resources.

➤ ***Design strategies, materials, and messages specifically for women.*** Literacy levels of women in developing countries are often much lower than levels for men. Women are frequently less fluent in the national language, speaking only the dialect of their local area. In some countries, women also have fewer opportunities than men to view printed materials, so they aren't always familiar with the conventions associated with pictorial literacy such as symbols, perspective, and close-ups. Women are also not a homogeneous group. For example, teenage girls, rural farmwomen, and urban professionals may need specific environmental messages delivered through different communication channels. Good EE&C materials feature women and girls in ways that demonstrate their positive environmental stewardship roles, thus increasing their status and expanding the range of socially acceptable female behavior.

Gender and Recycling in Ecuador

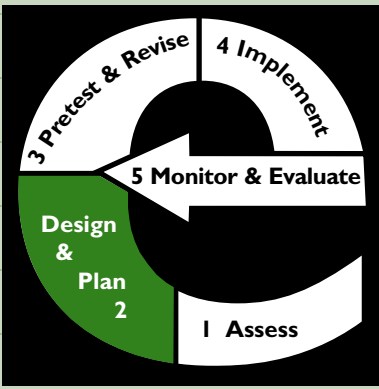
The city of Quito, Ecuador, instituted a pilot recycling program in some of its lower-middle and lower class neighborhoods.



Initially, city officials had launched a major communication campaign to promote the program and to encourage recycling. Although the program met with success for a few months, participation declined dramatically at about the same time that the communication campaign ended. City government leaders felt that a new education intervention was needed to restart community recycling habits. Before such an intervention could be launched, however, they needed to understand the big picture behind the drop-off in participation.

GreenCOM conducted research on men's and women's knowledge, attitudes, and practice with regard to garbage and also investigated the different views men and women held about recycling. Results of the study indicated that the end of the city's communication initiative did have a negative effect on program participation. More important, however, were researchers' findings that gender also played a role in shaping residents' recycling habits and that an education plan would need to address gender issues in order to succeed.

For example, researchers found that women supported community recycling efforts because the refund money they generated brought in needed revenue for neighborhood improvements. Men, by contrast, were uncomfortable with the idea of a community reaping the financial reward for recycling and preferred a plan in which each family did its own recycling and collected the money for itself. Because the study highlighted the difference between men's and women's perceptions of recycling, the city government could then tailor its recycling education program to address the concerns of each group.



Plan & Design

Use the Assessment As Your Guide

The information gathered during the assessment is used to make decisions during the planning and design of EE&C strategies, materials, and messages. This means setting aside preconceived ideas and plans and constantly recalling what the assessment revealed in order to develop the most effective and participatory EE&C approach. During this step, EE&C planners use the answers to the questions asked during the assessment to determine:

- specific environmentally positive actions people can take to make a difference
- the specific group of people (target audience) who need to take these actions
- the barriers that need to be lowered so the target audience can take this action, as well as the benefits that need to be increased
- the best way to reach and involve the target audience (the most important messages, the most appropriate time and place, and the most effective combination of mass and electronic media, interpersonal communication, folk media, and print materials)
- other groups and individuals who need to be involved as partners.

5

Lesson 5. Do It *WITH* Rather Than *FOR*

Participation is critical to achieving the sustained practice of environment-friendly habits. Effective EE&C does not simply provide information and materials for target audiences; it employs a participatory process that increases people's capacity to identify and prioritize resource management needs and problems, develop consensus, and generate solutions. Participation also permits people to make informed decisions and encourages them to seek, organize, and use data from a wide range of sources to improve their decision making processes.

As discussed earlier, assessments can identify key stakeholders, interested partners, and potential project funding support. During planning, it is important to foster participation among these groups in order to:

- obtain mutually agreed upon and dedicated commitments of time and participation
- create new partnerships and coalitions (NGOs, private sector, government, for example) that maximize efforts
- match people with resources
- connect individuals and groups with common goals.

Forging connections among diverse individuals and groups can lead to valuable coalition building. Including people and their ideas in the communication process builds ownership, ensures that the audience will "buy in" to the strategy, and develops local capacity to utilize EE&C as a tool for environmental stewardship.

Creating Critical Alliances in the Philippines

A critical part of GreenCOM's coastal resource management (CRM) communication strategy in the Philippines was the formation of networks and alliances of municipalities, government institutions, NGOs, donor organizations, businesses, academics, people's organizations, and media groups. The island of Olango provides one example of how forging connections among diverse groups, institutions, and sectors in the country resulted in a coalition that played a pivotal role in the success of the communication strategy.

Olango, a small island off the coast of Cebu, is home to an internationally recognized bird sanctuary. GreenCOM's formative research and consultations revealed limited and inadequate municipal and government presence on the island, as well as a dearth of community-based organizations to collaborate with.

A series of consensus-building workshops led to the creation of the multi-institutional and multi-sectoral Olango Synergy Group, which planned, implemented, and monitored the Olango communication program.

The Synergy Group's efforts resulted in several significant events, one of which was the first-ever visit to the sanctuary by a Catholic Cardinal based in Cebu, who was an important opinion leader in the region and who also blessed the sanctuary. A media advocacy workshop, attended by representatives of the major Cebu-based media organizations, was conducted the same day. Participants toured the sanctuary, sat in on technical briefings, and had opportunities to interview the Cardinal, the municipal mayor, and other community leaders.



6

Lesson 6. Make Projects Relevant to People

Many EE&C strategies and materials focus on the benefits of environmental action to protect animals, plants, and birds. Frequently overlooked are the people whose lives are either positively or negatively impacted by these actions. In the Philippines, fisher folk recognized that their catch had significantly fewer and smaller fish every year and that they should let the reefs rest so that numbers could build up again. "But," they said, "how would we live? What would we eat?" Although community members may appreciate the flora and fauna of their national parks, they will not stop hunting, poaching, or over-harvesting if they don't have an alternative way to earn a living or feed their families. Sustainable environmental improvements, natural resource management, and biodiversity conservation ultimately depend on the benefits and opportunities environmental actions create for people—especially when natural resource use has direct impact on an individual's family or livelihood.

Nevertheless, behavior change studies have conclusively shown that people don't base choices about their actions solely on economic self-interest. Those studies have also shown that people perceive different barriers for diverse environmental and natural resource actions. These may include peer pressure, the perceived inability to execute a behavior or use a technology with success, or lack of confidence.

In essence, it depends on *who* is taking *which* action. When GreenCOM looked at the reasons why people quit participating in a recycling program in Quito, Ecuador, men generally wanted the cash generated by the program to revert back to their homes while women generally wanted the money to go back to the community. But both groups found it difficult to give away their recyclables to benefit new small business enterprises.

Again, success depends on determining *who* is taking *which* action and addressing each audience with relevant messages, removing barriers, increasing incentives, and developing local capacity for decision making and action. Environmental education and communication always comes back to people and making sure that the barriers and benefits they perceive for a given action are the starting point rather than the ideas and desires of the project planners, managers, and decision makers.

SUSTAINABLE ENVIRONMENTAL
IMPROVEMENTS, NATURAL
RESOURCE MANAGEMENT, AND
BIODIVERSITY CONSERVATION
ULTIMATELY DEPEND ON THE
BENEFITS AND OPPORTUNITIES
ENVIRONMENTAL ACTIONS
CREATE FOR PEOPLE.

7

Lesson 7. Negotiate Feasible Actions

Technical experts can describe *ideal behaviors*, the specific, observable actions they believe people need to perform in order to reduce or help resolve an environmental problem. But those actions may not be feasible for people to take. Selecting actions to promote means negotiating with people on reasonable actions that can still have a real impact on the problem. Using the assessment results and a participatory process, EE&C practitioners can assist groups of diverse stakeholders—technical experts, implementers, and target audience representatives, both men and women—to identify, negotiate, and prioritize behavioral changes that will make a difference. Together they can review the list of ideal behaviors and select ones that would have the greatest impact on the problem, are most economically and politically feasible, culturally acceptable, compatible with social norms, easy to do, and that provide the most immediate positive results to an individual, group, or institution.

Ecuador: Feasible Farming Solutions

In Ecuador, GreenCOM was asked to provide EE&C support to a USAID-funded sustainable land-use project working with residents of the buffer zone surrounding the ecological reserve Cotacachi-Cayapas. Through a series of workshops and meetings, a multidisciplinary team—technical experts, project staff, local extension agents, representatives of community groups, and local farmers—identified twenty-seven ideal behaviors that farmers should adopt in order to use their land sustainably. They included planting crops on a contour, keeping trees for ten meters along river and stream banks, and cultivating three ecologically compatible crops.

Local extension agents and residents conducted structured observation and in-depth interviews to collect information from community members, men and women alike, about the feasibility of adopting these behaviors. The results were graphed and analyzed by the multidisciplinary team and workshops were held with local farmers to share the findings. Together, they discussed and negotiated each action, fine-tuning it to make it workable for local conditions. The local farmers suggested three additional actions they should follow to carry out controlled burning, thus concluding with a list of thirty specific behaviors everyone agreed would be the focus of sustainable land use in the buffer zone. These became the objectives of the program and the indicators of success for EE&C.

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Lesson 8. Remove Barriers and Provide Incentives

As emphasized earlier, EE&C strategies that rely solely on providing information to raise awareness and change attitudes often have little or no effect on people's behavior. Behavior change research has demonstrated that:¹

- People naturally gravitate toward actions that yield high benefits and for which there are few barriers.
- Perceived benefits and barriers vary dramatically among individuals. A benefit to one person may be a barrier to another.
- People choose between behaviors. If they decide to do something differently, it is usually because that behavior provides more benefits and has fewer barriers than what they are currently doing.

That's why the EE&C assessment compares doers and non-doers; it explores what doers perceive to be the barriers and benefits of performing the environment-friendly action while also looking at what non-doers see as the barriers and benefits of what they are currently doing as opposed to the desired action. The differences between the two groups usually hold the key to behavior change. The EE&C strategy can then incorporate other components such as the provision of environmental services, development of alternative livelihoods, transfer of clean technologies, or formulation of natural resource management policy to lower the barriers and increase the benefits and incentives associated with the proposed environmental actions.

¹Doug McKenzie-Mohr & William Smith, *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing* (British Columbia, Canada: New Society Publishers, 1999)

Creating Change by Providing Incentives

Incentives for behavior change take many forms. Sometimes people get direct personal benefits from awards, including recognition from their peers. An environmental awards scheme was successfully implemented in The Gambia and Tanzania, and is now under design for implementation in Egypt. The scheme uses a social mobilization approach to increase environmental action among a wide range of stakeholders—schools, municipalities, businesses, organizations, community groups, and individuals. This incentive program has been sustainable because it catalyzes and builds on local resources to maintain itself. The Gambia has run its environmental awards scheme for several years without technical assistance or donor funding.

GreenCOM's work in coastal communities in Tanzania has been oriented toward motivating a variety of groups—schools, women's associations, small businesses, and villages—to take concrete action to improve the coastal environment. Using small awards as an incentive (watering cans, bicycles, and wheelbarrows, for example), this plan turned into a major social mobilization effort. After just three years over 50,000 people in seven districts are now involved in the awards scheme on an annual basis.

Each year, award ceremonies draw significant numbers of district residents and also political leaders, who serve as speakers. Award scheme participants have become a very visible constituency for the new coastal policy drafted by GreenCOM's partner, the Tanzania Coastal Management Project (TCMP). The program is now being expanded to more coastal districts to help implement the coastal policy in other parts of the country.



9

Lesson 9. Establish a Baseline and Indicators of Success

Assessment results document the initial situation (baseline) and establish the indicators of success that should be written into the EE&C strategy or action plan. Indicators may include changes in knowledge, attitudes, and behaviors, but they need to be achievable, specific, and quantifiable. Some examples of indicators and targets are "number of industries using cleaner protection technologies"; "percentage decline in volume of municipal water use"; "number of local visitors to a national park"; or "percentage increase in household recycling." Now monitoring and evaluation can measure how well EE&C is meeting these targets.

Indicators that describe changes in behavior are the easiest to measure because people can observe them. For example, in GreenCOM's work with the Cotacachi-Cayapas reserve in Ecuador anyone—project donors, managers, technicians, or community members—could travel through the buffer zone around the reserve and evaluate how well the sustainable land-use program had met its objectives. This could be done by using a simple observation checklist to count the number of farmers who had

Setting EE&C Indicators in El Salvador

In El Salvador, USAID's strategic objective was "increased access by rural households to clean water." EE&C indicators were developed to respond to and help USAID achieve the intermediate results necessary for accomplishing this objective.

USAID Intermediate Results	EE&C Indicator
More effective citizen actions to water issues	<ul style="list-style-type: none">> Percentage of the target audience that knows address at least one cause and one consequence of poor water quality (<i>measures change in knowledge</i>)> Percentage of the target audience that knows appropriate solutions to keep water safe for human consumption (<i>measures change in knowledge</i>)> Percentage of the population that applies household solutions to improve the quality of the water it consumes (<i>measures change in individuals' behavior</i>)
Improved performance of water delivery systems	<ul style="list-style-type: none">> Number of municipal ordinances and agreements related to the protection of water safety (<i>measures change in institutional behavior</i>)> Amount of municipal investment in increasing water access and protecting or improving water quality (<i>measures change in institutional behavior</i>)

adopted targeted behaviors such as planting crops on a contour, keeping (not cutting) trees for ten meters along river and stream banks, and cultivating at least three ecologically compatible crops.

Once a baseline and indicators have been established, monitoring and evaluation can measure how well EE&C is meeting these targets. In fact, monitoring and evaluation are essential in the EE&C process because they permit implementers to understand what they have achieved and what they need to do to improve their strategies, messages, and materials. Monitoring and evaluation foster participatory, two-way communication because they require EE&C practitioners to maintain an ongoing relationship with their target audiences and to respond to their changing needs. Constant feedback from monitoring will ensure that EE&C is having the desired effects and will reveal weak areas that require mid-course corrections. If results show that progress is not being made, changes may be needed. Further research and public participation can identify exactly what needs to be done to improve the project.

**ESTABLISH INDICATORS
DURING THE PLANNING STAGE
SO THAT EE&C MONITORING
AND EVALUATION CAN LATER
USE THOSE INDICATORS TO
MEASURE IMPACT AND
EFFECTIVENESS.**

Qualitative research techniques such as in-depth interviews and focus group discussions can then be used to understand the reasons why people did or did not take certain actions and what can be done to improve the program to support and maintain the desired environmental actions.

Unfortunately, evaluation of EE&C interventions is seldom viewed as a high priority or is overlooked in the project design phase. Don't fall into the trap of putting evaluation off until after implementation is over. Instead, plan early for sufficient time and resources to carry out effective monitoring and evaluation and build it into any implementation or work plan. Whether measuring changes in knowledge, attitudes, or behaviors, the important point is to establish indicators during the planning stage so that EE&C monitoring and evaluation can later use those indicators to measure impact and effectiveness.



Pretest & Revise

Prevent Costly Mistakes

It's often said that you only have one chance to make a good first impression. That said, it is extremely difficult to undo the impression made by misguided and ineffective EE&C once a plan has been implemented. Pretesting strategies, messages, and materials helps to prevent costly, and sometimes embarrassing, mistakes before it is too late. It provides the opportunity to consult with and listen to people to ensure that the EE&C strategies, messages, and materials respond to and meet their needs.

Pretesting also increases effectiveness and impact because testing on a small scale helps to avoid a costly, large-scale implementation effort that may be ill conceived and subject to failure.

PRETESTING STRATEGIES, MESSAGES, AND MATERIALS HELPS TO PREVENT COSTLY, AND SOMETIMES EMBARRASSING, MISTAKES BEFORE IT IS TOO LATE.

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Lesson 11. Pretest Strategies, Messages, and Materials

Pretesting strategies, messages, and materials will make them more effective because, if done right, it actually involves the target audience in their design, refinement, and fine-tuning. The following examples briefly describe how pretests are carried out.

➤ **Pretesting Strategies:** New EE&C strategies designed to address such issues as recycling, forest fire prevention, or water conservation, may be pretested in a number of ways, including participatory processes that involve average citizens through focus group discussions, rapid surveys, and in-depth interviews. In this way, people who will be affected by the strategy have the opportunity to give feedback about how it can be improved. The results of the pretest frequently provide crucial information needed to revise the strategy before it is implemented on a city, regional, or national scale.

➤ **Pretesting Messages and Media:** Prototypes of print and mass media materials may be shown to groups or individuals who are representative of the target audience. Posing a series of questions to a sample group helps to ascertain whether the materials deliver the intended message. Sometimes multiple versions of the same message or material are developed and people are asked which ones they think are better and why.

➤ **Pretesting Behaviors and Products:** Observe people doing desired actions, such as forest management practices, or using new environment-friendly products, such as water-saving devices, to identify barriers and benefits and refine training and reinforcement strategies.

Pretesting in El Salvador: Making a Good Idea Better

In El Salvador, GreenCOM decided to create a fictitious character that would serve as a symbol of the Usulután watershed communication campaign. Experience has demonstrated that people are more likely to believe and act on communication messages when they are delivered by a credible source of information. After much discussion the communication team chose as a symbol the *cantaro*, a jug that Salvadoran women in all of the country's rural communities use to collect water. Women use the same size



and shape of cantaro throughout the region, so the team thought it would be an excellent common symbol. The next step was to turn the cantaro into a personality.

The team chose the name Cantarito ("little cantaro") and their graphic artist created a visual design of Cantarito to pretest with the target audience. Because Cantarito would be singing some of the messages, they thought he should carry a guitar. Mexican rancheros music was the preferred musical genre in the region, so the graphic artist gave Cantarito the characteristics of a Mexican singer: big cowboy hat, mustache, and boots.



This design was taken to the field and pretested with men and women. The idea of Cantarito fascinated everyone, especially women. But they suggested many changes in his appearance and personality. First, his appearance was too "machista" so they suggested eliminating the mustache. The men also felt that his "Mexican" appearance wasn't appropriate in El Salvador, so the cowboy hat and boots were discarded in favor of a local dress style used by rural Salvadorans. Finally, in order to guarantee the credibility of his messages, they suggested that Cantarito's personality be friendly and fun even though he was charged with conveying a serious message.

After the pretesting, Cantarito became a well-known personality in the rural communities. The project team created a costume for him and he would participate in local fairs, parades, and community events, thus becoming a well-loved and credible personality throughout the region.



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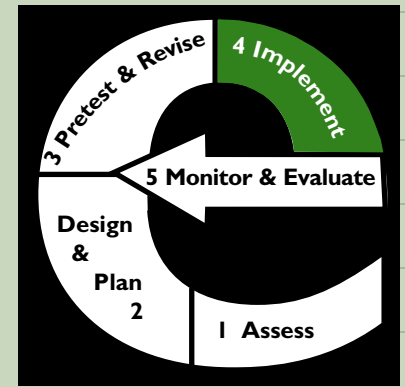
Lesson 12. Plan Time to Make Changes

Not even the most creative, experienced EE&C practitioner gets everything right the first time. Pretesting and then making changes in strategy, messages, or materials is a good step, not a sign of failure. It means that the practitioners have really listened to people and are responding to what they have learned. Schedule enough time for making the changes indicated by the results of the pretests.

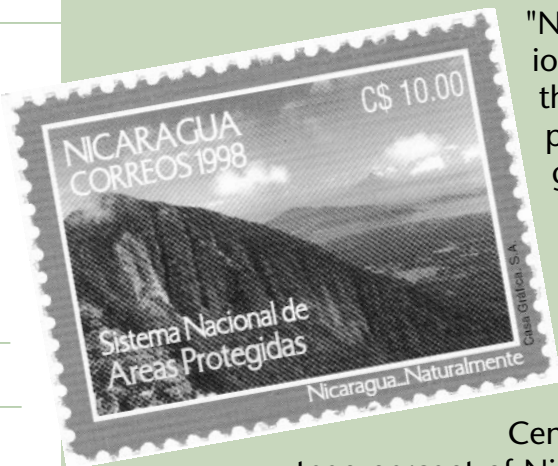
Implement

Let It Roll!

Assessing, planning and designing, pretesting, and revising are completed before implementation begins to ensure that the EE&C approaches, messages, and materials reach the right audience and produce the desired impact. If this groundwork is laid, implementation should run smoothly. Also, the capacity-building efforts of local partners that began in the assessment and planning and design steps need to continue throughout implementation. To build in sustainability, involve or mobilize a number of people instead of investing entirely in a single individual or group. For best results, implementation should be locally run, with outside technical guidance provided only as needed.



Changing How Nicaraguans View Their Protected Areas



"Nicaragua...*Naturally*" was the theme of a set of companion communication materials designed and produced through GreenCOM technical assistance and guided practice with multiple Nicaraguan counterparts from the government, the NGO community, and the private sector. The materials (posters, brochures, a tourist guide, and postage stamps) were designed as part of a strategy to promote the attributes of eight national parks, wildlife reserves, and forest reserves in Nicaragua's National System of Protected Areas (SINAP), which incorporates seventy-two unique locations throughout the Pacific, Central, and Atlantic regions of the country. Overall, seventeen percent of Nicaragua's national territory has been set aside as part of SINAP, which is one of the highest levels anywhere in the world.

Unfortunately, Nicaragua, like many countries, suffers from insufficient levels of funding, resources, equipment, and trained staff to properly manage and maintain each protected area. Competing local, national, and global interests and values also place considerable stress on the protected area system. Therefore, local, national, and international cooperation and help are needed to ensure that each area is left for future generations of Nicaraguans and other visitors to enjoy and appreciate.

Recognizing this set of challenges, GreenCOM and Nicaraguan counterparts developed a unique promotional initiative to attract national and international attention to SINAP as well as to provide a sustainable revenue stream to support environmental education and communication activities within the parks themselves. GreenCOM brokered an arrangement with the Cocibolca Foundation, a leading Nicaraguan environmental NGO, and the Nicaraguan Postal Service to produce a series of ten stamps featuring images of the eight protected areas previously mentioned. A percentage of the revenues from the sale of almost 950,000 stamps would be made available to Cocibolca to finance environmental education activities in the protected areas. GreenCOM, with Nicaraguan colleagues and USAID/Nicaragua, explored the possibility of developing a multi-year arrangement that would feature stamps from additional protected areas within SINAP, thus providing more income for environmental education purposes. In addition, an event called "Nicaragua...*Naturally*" was held at the National Palace of Culture in Managua. As part of the festivities, the first of the stamps were canceled. In addition to a panel of distinguished guests that included the president of Nicaragua, more than 350 representatives from Nicaragua's environmental NGOs, development and diplomatic communities, government ministries, and the private sector attended.



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Lesson 13. Implementation Is Dynamic and Flexible

An EE&C strategy is constantly evolving. Mid-course adjustments are the rule, not the exception, and improve the ultimate outcome. Monitoring and evaluation permit EE&C practitioners to *consult with and listen to* people being affected and to refine and fine-tune approaches, messages, and materials. As people begin to change—learning new information, developing new skills, and trying new things—they will likewise require new EE&C initiatives that respond to their evolving needs.

Video Letters in Nepal

A Community Video Letter (CVL) is a communication tool used to help people express themselves in a video format. An individual, a group, or a whole community can create a CVL. The benefit of communicating with CVLs is that creators may incorporate pictures and audio effects to make vivid presentations that do not require literacy to understand. CVLs are a way to help distant and isolated communities communicate their concerns and priorities to central and regional authorities and vice versa.

In Nepal, GreenCOM supported the Environment and Forest Enterprise Activity to accelerate local control and management of natural resources. One of the goals was to encourage bottom-up planning and policy reform. GreenCOM trained and supported community forest user groups (CFUGs) to produce video letters that expressed their concerns about forestry management policy. The footage was edited into a video letter that was presented to the CFUG members, who could then confirm that the decentralizing of forest management had been successful.



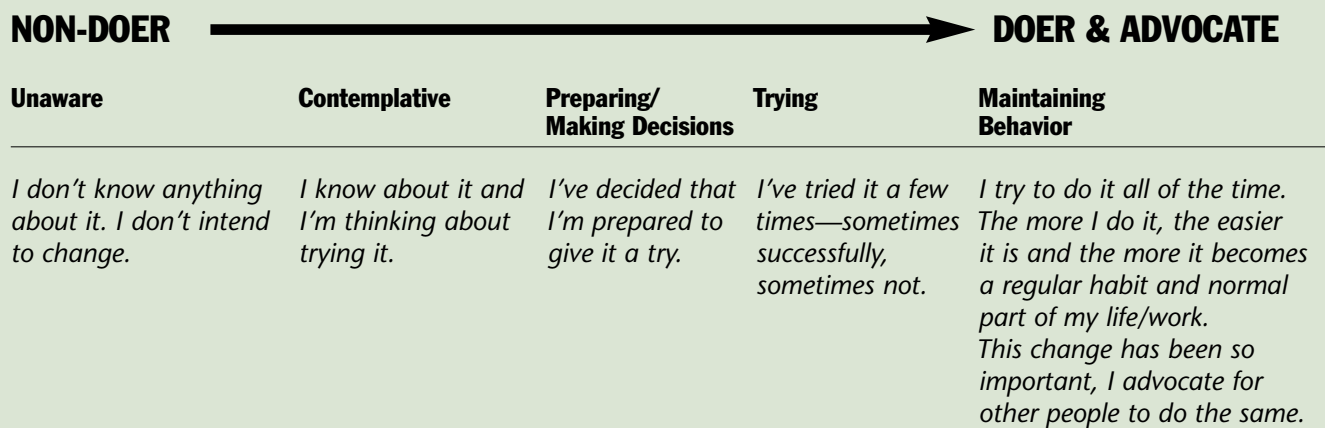
14

Lesson 14. Implementation Happens in Stages

Change doesn't happen overnight. Many theories view change as a process that moves along a behavior change continuum. People may enter, fall out of, or reenter the process at different places and for different reasons. Figure 3 presents five broad stages commonly observed as the process of changing behavior unfolds. At one end of the continuum is the non-doer, the individual or group uninterested in altering behavior in order to address an environmental problem. At the opposite extreme are the doers, who have not only changed their behavior but have become advocates who encourage others to change as well.

People need different kinds of EE&C messages, materials, training, and support in each of these stages. For example, people who are unaware that their behavior is harmful or damaging to the environment may need better information from sources they trust. Others who are thinking about trying a new environmentally benign behavior may need social support and skills training. When people first try a new behavior, they experience what psychologists call "cognitive dissonance," which is an uncomfortable feeling that makes them second-guess the new behavior. At this point, it is important for the EE&C strategy to reinforce the new behavior. Also, for a behavior to be maintained, repetition is critical. Successful EE&C planners and

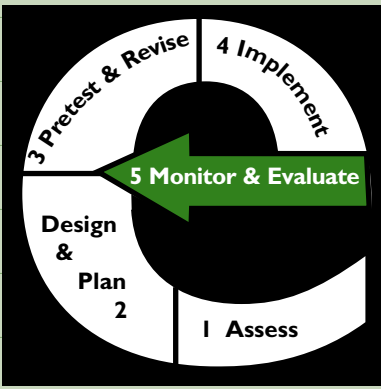
Figure 3: Stages in the behavior change continuum



Adapted from J.O. Prochaska and C.C. DiClemente, 1986

managers determine where the target audience is on the continuum and then develop strategies that make it easier for them to convert from being non-doers to being active doers and advocates.

This kind of change takes time. It takes repetition. How many days in the past century did Coca-Cola not advertise to encourage people to buy its product? The answer is zero. In fact, Coca-Cola spends hundreds of millions of dollars each year in the U.S. alone to encourage buying behavior. Everyone knows Coca-Cola. The company is not selling so much as it is reminding and reinforcing already established behavior. EE&C takes an ongoing commitment to support behavior change and maintenance. No one should quickly label an effort as a success or failure because it takes time to see results as people become aware, decide to try something different, learn new skills, and successfully make the change part of their daily lives.



Monitor & Evaluate

Is It Working?

Monitoring and evaluation provide vital information to design, refine, and fine-tune EE&C strategies, messages, and materials. Successful EE&C uses *formative evaluation* throughout the EE&C process to guide and shape the project. Assessment, pretesting, and monitoring are all formative evaluations used to listen to, consult with, and respond to what people want and need. When evaluation is conducted at the end of the project to measure its impact it is called *summative evaluation*.

To make evaluations useful and to reduce their cost, determine during the planning stage those indicators needed to measure success and focus the evaluation on measuring those specific indicators. For example, if the goal of the EE&C strategy is to increase awareness, then focus the evaluation on measuring changes in knowledge. If the goal is to change behavior, focus the evaluation on measuring the specific behaviors that the EE&C strategy is targeting.

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Lesson 15. Evaluation Makes Comparisons

Knowing whether EE&C has made an impact requires a comparison of current conditions with a previous status, another site, or a different group of people. Changes in knowledge, attitudes, and behavior may be measured by comparing levels before and after an EE&C intervention. Changes may also be measured by comparing the actions of people who were involved in an activity or exposed to communications (television or radio spots, billboards, or printed materials, for example) with people who were not. If there is no comparison, there can be no evaluation. Without an initial measurement, such as one taken before a project is implemented, the second observation loses its meaning and is merely a description of what is happening at the moment.

Jordan: Water Conservation Curriculum

Water scarcity and conservation are two of the most serious environmental problems faced by Jordan. If left unresolved they threaten to become a national crisis within the next decade.

GreenCOM worked with the Royal Society for the Conservation of Nature (RSCN), a Jordanian non-governmental environmental organization, to conduct formative research that was used to develop a new water conservation curriculum that advocated a number of specific personal, household, and parental behaviors to save water. The curriculum was used in Jordanian eco-clubs for youth, and GreenCOM trained the eco-club leaders on how to use interactive teaching methods to present it to club members.

After the clubs had used the new materials, an evaluation was conducted to measure the impact of the curriculum. The results indicated that changes in reported water conservation practices are possible as a result of using such techniques. Students involved in the new curriculum demonstrated a higher level of knowledge of water conservation facts than students in the control group. They also performed recommended behaviors more often than students who were not exposed to the curricular materials. Students who were exposed to multiple water-saving elements of the curriculum were more likely to discuss water use habits with their parents. An additional benefit was the training that club leaders received in interactive approaches to education.



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Lesson 16. Evaluation Is Ongoing

As EE&C implementation progresses, both the people (and, ideally, their environment) will be changing. EE&C monitoring is done regularly throughout implementation in order to help EE&C practitioners understand and respond to these changes. That is why the fifth step of the EE&C process—Monitor and Evaluate—shows an arrow leading back to the Plan and Design step. The results of monitoring are used to refine and re-plan how EE&C activities, messages, and materials can respond to changes and make it easier for people to adopt and maintain environment-friendly behaviors.

Evaluation can also provide vital information that decision makers, practitioners, and donors can use to guide the development and implementation of their programs. Don't wait until the project is over to evaluate. Smaller, frequent evaluation samples are effective and useful because it is impossible to use evaluation results to make project changes if too much time passes between implementation and evaluation.

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Lesson 17. Be Prepared to Innovate

Sometimes creative approaches can be taken to monitor and evaluate EE&C progress and impact. One cost-effective evaluation approach is to partner with and "piggyback" evaluation questions onto existing, ongoing research such as omnibus surveys conducted by the private sector, national government, and certain donor projects.

Involving and training community members to measure behavioral and environmental indicators, is another emerging and powerful tool to shape and measure change. It is powerful because it assists citizens in making informed decisions—that is, to seek, organize, and use data to improve both their built and natural environments. In countries around the world, community members are measuring water quality and identifying numbers of birds, trees, or animal species as a way to measure biodiversity. In Ecuador, local extension agents and farmers used an observation checklist developed by a multidisciplinary EE&C team to measure progress toward land-use management. In sum, evaluators need to be flexible, integrating research into projects that can be a learning tool for public participation.

Students Help Evaluate the Panama Canal Media Campaign



In Panama, GreenCOM created an eco-club called Watershed Guardians with fifth graders in twenty-six schools located throughout the Panama Canal Watershed (PCW). Each month, students work together to accomplish their "mission," a set of basic activities that increase local action to protect the watershed. One task was to collect evaluation data on knowledge, attitudes, and practices in order to measure the impact of a recent media campaign about the PCW and its benefits.

More than 600 fifth-grade students, both girls and boys, collected information from their mothers and fathers as part of a two-day homework assignment. Social scientists trained teachers in how to administer and support the students' data collection activities. Quality control measures included supervised role-playing before students conducted interviews in the community and daily homework review and feedback for the following day. The children interviewed 860 people from 534 households. After careful analysis to assure validity of the data, 815 interviews (411 mothers and 404 fathers) were considered reliable. The results of the students' research were found to be similar to a professional study conducted by the Center for Latin American Studies that used a probability sample of adults between 18 and 60 years old.

GreenCOM learned that school children can collect useful data for planning and monitoring mass media campaigns. The process of collecting this information helps them learn more about environmental problems and issues. Student involvement, plus data entry and analysis, cost \$1,500, making this type of research affordable for a low-budget program.



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Lesson 18. Share the Results

Sharing research results with stakeholders builds constituencies and advocates. It also ensures that everyone learns from successes and avoids common mistakes thereby helping the field of EE&C continue to evolve and improve. Involve key decision makers and influentials early to develop understanding of and commitment to the research process. Then keep them informed throughout the EE&C project and provide advance briefings before releasing research results. This helps to ensure that these results will be shared and used.

Holding press conferences or informing journalists about research results encourages media coverage of important urban and rural environmental and natural resource use issues. As an additional benefit, increased media coverage provides reinforcement of the desired environmental behavior. Successful EE&C widely shares and disseminates monitoring and evaluation experiences, findings, and implications for action with stakeholders, the media, donors, project managers, and other EE&C practitioners throughout every step of the process.

HEATING UP:

GETTING BEYOND

INDIVIDUAL BEHAVIOR

Behavior change research has shown that people don't change at the same speed. Some people (early adopters) are quick to try new things. Others (late adopters) are leery about and resistant to change. Most people fall somewhere in the middle, frequently watching how the early adopters fare before they try something new. If the early adopters are successful, others are more likely to follow. As a general rule, change spreads gradually through a country, community, or group just as water simmers before it boils.

It is also important to remember that the actions needed to address environmental protection and natural resource management problems are numerous, complex, and interrelated. In fact, the actions needed for families to protect and maintain the quality of their water source, for farmers to adopt soil conservation practices, for communities to carry out sustainable forestry, or for municipalities to manage their solid waste effectively, can seem so complex and overwhelming that people simply keep doing what they have always done.

The concept of "heating up" addresses both the varying rates of change and the complexity of change. Heating up means

starting with groups of receptive people who are ready to make a change. Therefore, focus on something they can do relatively easily and help them to be successful in doing it. When people are successful at trying something new, they gain competency and confidence in their ability to try other, more complex actions in the future. The concept of "heating up" addresses both the varying rates of change and the complexity of change. Heating up means starting with groups of receptive people who are ready to make a change. Therefore, focus on something they can do relatively easily and help them to be successful in doing it. When people are successful at trying something new, they gain competency and confidence in their ability to try other, more complex actions in the future. When different segments of society are trying to address a common environmental challenge or threat, a collective feeling emerges that change is happening, thereby generating more attention. Change starts simmering with the early adopters and builds to a boil over time until it becomes the social norm, something almost everyone does. The skills and confidence developed during people's first experience can be applied gradually on a larger scale that moves toward more complex environmental issues, problems, or

actions. Heating up takes place when the social dynamic of the various activities becomes a force to be reckoned with and consists of more than mere practice of spe-

potential to move beyond individual behavior change and toward the heating-up process. When significant investments are made and programs are successful, these people-centered, inclusive activities become a social whirlwind, building community support and involvement broader than would otherwise result.

The heating-up process is synergetic, meaning that the whole is greater than the sum of its parts. In development, there are limits to the investment that can be made in programs. If we are to achieve lasting results, we need to reach beyond the specific activities we can afford with development dollars and build on the enthusiasm they generate. This will ensure that the initial investments yield far higher returns.

In a community where the heating-up process has been successful, the spirit is festive and magical, and there is limited but powerful opportunity to enact deeper change. When the community reaches this "boiling point" the time to propose new social policy, make structural change, and change community practice has arrived. This is the time to promote the larger social agenda. When the excitement and community groundswell are at their peak, communication programs can make changes in the broader environmental agenda possible. Although this "heated state" may be sustainable for a limited period, it is the right time to initiate steps for long-term change because so many people are interested, excited, and receptive to new ideas. This enthusiasm ignites the interest of many other social groups who are drawn into the excitement and success and whose power in the community can be directed toward meeting the environmental goal.

WHEN CHANGE BEGINS TO TAKE PLACE ON THE INDIVIDUAL LEVEL, CONNECTIONS TO OTHER ELEMENTS OF THE COMMUNITY BECOME APPARENT, THUS OFFERING THE POTENTIAL TO MOVE BEYOND INDIVIDUAL BEHAVIOR CHANGE AND TOWARD THE HEATING-UP PROCESS.

cific behaviors. People see the innovators' enthusiasm and success and are motivated to try the same. They are drawn into successful, moving, changing, exciting processes. The enthusiasm caused by getting more than one set of activities going is contagious.

The environmental context, unlike many of the arenas in which individual change strategies have been used, offers more frequent opportunity to move from individual change to community change. The nature of environmental problems is such that one contributing factor is connected to every other factor; much as all parts of an ecosystem are inextricably linked. In a given society, one problem may have many deep social, political, religious and cultural roots. When change begins to take place on the individual level, connections to other elements of the community become apparent, thus offering the

MAKING STRATEGIC

INVESTMENTS IN EE&C

The lessons and experiences of GreenCOM suggest that environmental education and communication warrants reconsideration by environmental and natural resource professionals as a worthy strategic investment. If followed systematically, EE&C can result in reduced project costs over the long term; increased likelihood that desired project impacts will be achieved; easy monitoring and evaluation of different interventions; and real change in the way different individuals, groups, and institutions interact with, use, or benefit from their natural and built environments. To solve environmental problems, we must address the changes required in human behavior. EE&C provides a powerful tool for encouraging change.

If a commitment is made to invest in EE&C, do it right by being strategic. That means keeping in mind the following:

➤ ***Decide up front to follow the EE&C process by building sufficient time and resources into the project design.*** This commitment will help to use limited resources in more strategic, timely, and cost-effective ways. In addition, the price of doing EE&C well is real and can be significant; and, it is usually not a one-time activity.

➤ ***Involve stakeholders from the start and continue to involve them throughout the EE&C process.*** Build their capacity to take action by creating local solutions to environmental protection or natural resource management problems. That might include employing participatory techniques in community-based decision making, developing stakeholder consultation committees, using multidisciplinary, intersectoral teams to guide the EE&C process, or providing training to diverse groups.

➤ ***Focus on behavior to understand people's actions and the specific factors (barriers and benefits) that influence their action or inaction.*** EE&C develops comprehensive strategies that lower barriers and increase benefits. Remember, people will perceive different barriers and benefits for different environmental and natural resource actions. It depends on *who* is taking *which* action. Behavior change also takes time and repetition. As highlighted in the Coca-Cola example in Lesson 14, reinforcing and maintaining behavior demands an ongoing effort. EE&C may mean trying to bring about long-term cultural change, and it always takes time to create a new cultural norm.

- *Invest enough in both time and resources to allow for the heating-up process to be engaged.* Start small. Start simple. Promote and build on success. Realize that to trigger this process, a series of audiences and issues must be addressed. However, the value of this level of investment is multiplied because many people will voluntarily engage in changed behavior simply as a result of the excitement that is generated.
- *Engage the best professional communicators and educators you can find.* Environmental communication is neither a fluffy concept nor a magic wand

but rather a combination of different disciplines that, taken together, offer a powerful and complete set of strategies, methods and tools. Because most people think they are good communicators, they believe EE&C doesn't deserve much attention in their projects or programs. Yet there are real skills involved in producing effective EE&C strategies, messages, and materials, and there is a developing science to strategic communication. Don't fall into the common trap of thinking anyone can do this. When people build a road, they hire an engineer and when they design a building, they hire an architect. When you communicate, hire a communicator!

- *Establish a baseline of data* so evaluation can take place again and again.

As global threats and challenges to environmental quality and natural resource stewardship mount, conventional policy options, technological solutions, and management initiatives must be paired with new strategies, methods, and tools that focus on and involve people. Only by addressing human behavior can such threats be minimized and sustainable improvements introduced. Investing in EE&C may be one of the best actions a manager, planner, or decision maker can take.

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ADDITIONAL

INFORMATION

For more information about GreenCOM projects or obtaining GreenCOM services, please contact:

GreenCOM

Academy for Educational
Development
1825 Connecticut Avenue, NW
Washington, DC 20009
USA
Tel.: 202-884-8700
Fax: 202-884-8997
E-mail: greencom@aed.org
Internet: www.greencom.org

GreenCOM Publications

For additional information on EE&C methods employed by GreenCOM, please visit the project's Web site to download these publications at no charge:

Environmental Education & Communication for a Sustainable World: Handbook for International Practitioners edited by Brian A. Day and Martha C. Monroe. (2000)

Available in English and Spanish.

Fostering Sustainable Cities by Paula Tarnapol Whitacre (1997)

Making Biodiversity Conservation Happen by Pat Foster-Turley (1996)

Putting People into Policy by Raisa Scriabine (1996)

Starting with Behavior: A Participatory Process for Selecting Target Behaviors in Environmental Programs by Elizabeth Mills Booth (1996)

Academy for Educational Development Publications

Available from New Society Publishers at www.newsociety.com:

Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing by Doug McKenzie-Mohr and William Smith (New Society Publishers, 1999)

What Works: A Guide to Environmental Education and Communication Projects for Practitioners and Donors edited by Martha C. Monroe (New Society Publishers, 1999)

Resource Center

The GreenCOM Resource Center, a collection of environmental education and communication materials from around the world, is searchable through the project's Web site: www.greencom.org.

Photography credits:

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Design and production by Kenzie Raulin Design.

Printing by Westland Enterprises, Inc.