

Breakthrough Strategies for Engaging the Public

*Emerging Trends in
Communications and Social Science*

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For Biodiversity Project
February 2005

INTRODUCTION

Challenges Facing Communicating about Biodiversity

Biodiversity is a complex concept, and humans are complex beings. The communication challenge for biodiversity issues exists on multiple levels: the complexity of the problems and solutions regarding biodiversity loss, the urgency of the issue, and the competition with other urgent social issues in the media and social discourse. The public is deluged with information, yet they lack an understanding of basic ecological principles. Not only is biodiversity not salient (because people fail to make the connection to their everyday lives), people often feel a sense of hopelessness about the issue. Moreover, there is a lack of consistent messages about biodiversity among environmental organizations, zoos and museums, educational institutions, and scientific academies. People get confused about what biodiversity is and why they should care about it.

Although the problem of biodiversity loss is complex, emerging trends—in evaluation, communication strategies, and social change research—address many of the communication challenges that have been identified by biodiversity advocates. Researchers in the communications field are clarifying evaluation theory and methodology and have developed useful recommendations for how to design and evaluate campaigns. Current communication strategies take an audience-centered approach in order to be more effective, recognizing that people have different values and myriad ways of engaging with the natural world. A variety of strategies is needed for the whole array of solutions—from individual behavior change to public policy change.

Yet another challenge is that the scientific study of human beings—how we feel, think, and behave—is complex and crosses disciplines in the social sciences. The affective, cognitive, and behavioral domains intersect, and each of these domains is defined differently, depending on the discipline and theoretical model. The affective realm usually includes feelings and emotions, but it can also include sentiments, desires, and subjective responses. Emotions have a cognitive component, and they can be a predictor of behavior. The term “values” similarly has a range of definitions that includes affect, cognition, and behavior, and it has been used synonymously with “preferences,” “attitudes,” “motives,” and “goals.” Values contribute to the development of morals and ethics as well as critical thinking, and they guide and motivate behavior. The term “attitude” is also often defined ambiguously; it combines feelings and thoughts and is used synonymously with “opinion.” Cognition usually includes knowledge and awareness, yet is influenced by affect. And behavior change is affected by many variables, including knowledge, attitude, experience, values and morals, self-efficacy, skills, social norms, and outside influences, to name a few (Schneider and Cheslock, 2003; Huitt, 1996, 1999).

Strategies to Meet the Challenge

At a recent meeting held by a working group on the Global Initiative on Communication, Education, and Public Awareness in preparation for the Seventh Conference of the Parties to the Convention on Biological Diversity, international biodiversity specialists discussed ways that biodiversity can be communicated in the media and to the public. Participants identified some of global challenges regarding communicating about biodiversity. They talked about not only framing biodiversity as a species loss issue, but also placing biodiversity in a broader sustainability context, which includes lifestyle and over-consumption issues. They also discussed the value of NGOs developing a consensus to pool their messages to “brand” biodiversity but realized that, because of different organizational agendas, this probably would not work; instead, a consensus about the technical aspects of biodiversity would be more feasible. Local aspects of biodiversity tend to get neglected in the media, further perpetuating people’s lack of connection to the issue.

Recommendations for biodiversity messages from the meeting included supporting the use of positive images about biodiversity and conveying notions of beauty, health, and prosperity. The question remained as to whether the messages should appeal to utilitarian, economic interests or moral reasoning and values. Participants reinforced the notion that strategies need to be tailored to specific target audiences and interests. Suggested pathways included increasing the local connections to biodiversity, the spiritual dimensions of protecting biodiversity, and the economic benefits to the business community. Another recommendation was to appeal to emotions so as to create deep messages with a lasting effect (Hyvarinen, 2004).

This paper addresses the recommendations these international leaders made and examines the challenges inherent in implementing them. In so doing, it provides an overview of lessons learned regarding communications campaigns, social change theories, and emerging techniques and trends in the social sciences that have relevance to biodiversity communications. With regard to techniques and trends, values-based communication, strategic framing, and social marketing strategies are discussed. Each of these strategies has a different purpose: Values-based communication is used to raise awareness and motivate action, whether personal or policy-related; strategic framing is used to *redefine* an issue in order to redirect public attention to social systems and policy change; social marketing focuses specifically on individual behavior change. The emerging field of conservation psychology and its research agenda can enhance all three of these strategies, as can another newly developing field, conservation sociology.

I. CONCEPTUAL FRAMEWORKS OF COMMUNICATIONS CAMPAIGNS

This section provides an overview of the definitions and categorizations of communications campaigns, some underlying theories and models of social change that influence campaigns, the challenges of evaluation, and the lessons learned about what makes a good communications campaign.

Definitions of Communications Campaigns

Simply stated, communications campaigns impart ideas for a strategic purpose (Dorfman, Ervice, Woodruff, 2002:2). The Communication Consortium Media Center (CCMC) recently commissioned a series of reports (under the auspices of The Evaluation Project) that look at the way communications campaigns on social change issues can be evaluated. While most of the literature on social change campaign evaluations is in the arena of public and family health and safety (including children, teen, and family planning issues), the CCMC papers also included some environmental issue campaigns.

In order to gain clarity about definitions of key terms, the report by the Berkeley Media Studies Group suggested a “taxonomy” of communication campaigns. Campaigns can be evaluated along a continuum of purpose, from changing individual personal behavior to changing policy. Communications campaigns can also be evaluated along a continuum of scope (from small and targeted to large and broad), and maturity (from young and informal to older and more formal) (Dorfman, Ervice, Woodruff, 2002: 4-15).

Concerning the first continuum, Julia Coffman at the Harvard Family Research Project identified two types of media campaigns, 1) public will and 2) individual behavior change. Public will campaigns are strategically designed to legitimize and garner public support for social problems as mechanisms for achieving policy action or change. Individual behavior change campaigns (sometimes called public information or public education campaigns) are designed to change individual behaviors that lead to social problems, or to encourage behaviors that will improve individual or social well-being. Table 1 lists the characteristics of these two types of campaigns.

In a different project for the Foundation Center, authors Susan Nall Bales and Franklin D. Gilliam Jr. broadly defined communications campaigns as intentional efforts that use various techniques to advance a particular perspective on a social issue (Bales and Gilliam, 2004:11). Emphasizing news media, they stated that there are three overarching communications concepts that can be summarized as follows (Bales and Gilliam, 2004:15-20):

Agenda-setting: the process of placing issues on the policy agenda for public consideration and intervention. The news media are the primary vehicles for agenda-setting campaigns and are instrumental to the perceived salience of a particular social issue. News media may influence policy elites more than the general public. In general, agenda-setting focuses on the people who have the ability to change problems through political power.

Framing: the way a story is told by the news media, what the story is about. There are two types of news frames: 1) episodic and 2) thematic. News media are dominated by episodic frames, which focus on individuals, events, psychological factors, the private domain, appeals to consumers, a call for better information, and fixing the person. In contrast, thematic frames focus on issues, trends, political/environmental factors, the

public domain, appeals to citizens, a call for better policies, and fixing the condition. The type of frame used has an effect on the way in which people attribute responsibility.

Persuasion: the ability to recognize and manipulate attitudes and feelings that predispose people to take action. Persuasion focuses on people who have a problem and on personal actions they can take.

Communications campaigns can be classified further according to whether they target the individual consumer or the mass public. The campaigns that target the individual engage theories, strategies, and tools from the commercial sector, such as public relations, social marketing, and public service advertising, and primarily use persuasion techniques. The campaigns that target the mass public engage the theories, strategies, and tools from the political sector, such as grassroots mobilization, policy campaigns, media advocacy, and strategic frame analysis, and primarily use agenda setting and framing techniques (Bales and Gilliam, 2004:23).

Table 1: Types of Media Campaigns (Coffman, 2002:6)

Campaign Type/Goal	Individual Behavior Change	Public Will
Objectives	<ul style="list-style-type: none"> • Influence beliefs and knowledge about a behavior and its consequences • Affect attitudes in support of behavior and persuade • Affect perceived social norms about the acceptability of a behavior among one's peers • Affect intentions to perform the behavior • Produce behavior change (if accompanied by supportive program components) 	<ul style="list-style-type: none"> • Increase visibility of an issue and its importance • Affect perceptions of social issues and who is seen as responsible • Increase knowledge about solutions based on who is seen as responsible • Affect criteria used to judge policies and policymakers • Help determine what is possible for service introduction and public funding • Engage and mobilize constituencies to action
Target Audience	Segments of the population whose behavior needs to change	Segments of the general public to be mobilized and policymakers
Strategies	Social marketing	Media advocacy, community organizing, and mobilization
Media Vehicles	Public service/affairs programming: print, television, radio, electronic advertising	News media: print, television, radio, electronic advertising

Models and Theories of Behavior and Social Change

Below is a brief overview of some of the underlying models and theories that drive communications campaigns. New theories from sociology, such as social network theory, social network analysis, learning communities, and communities of practice, and from the information technology arena, such as actor-network theory, can also be applied to communications campaigns.

For the past several decades, the primary theories or models used to describe behavior change have been the Knowledge-Attitude-Behavior Model and Social Diffusion Theory.

K-A-B Model and Its Limitations

For many years, environmental education and communications campaigns have followed the Knowledge-Attitude-Behavior Model. The K-A-B model asserts that education leads to greater awareness and attitude change and then to responsible behavior. This model has been instrumental in shaping environmental education programs since 1975, yet researchers and educators have noted that an increase in knowledge does not necessarily precipitate an increase in behavior change. At least two kinds of barriers have been identified. The first relates to individual capability, which includes lack of specific skills, illiteracy, low social status, lack of resources (both time and money), lack of empowerment, and habits and routines. The second relates to external constraints, such as lack of choices, material costs and rewards, laws and regulations, available technologies, social norms and expectations, and social, economic, and political contexts (Leiserowitz, Kates, and Parris, 2004:32).

Researchers are thus beginning to make a theoretical shift from the K-A-B model to more complex models, recognizing that multiple factors affect behavior change. Knowledge, awareness, and attitudes are not enough to effect behavior change. Skill building, self-efficacy, and intentions—the theory of reasoned action and planned behavior described below—have been shown to be better predictors of successful behavior change (Bandura, 2001:17; Schneider and Cheslock, 2003:128). Specifically, antecedents, such as prompts or triggers, goal setting and commitment strategies, incentives, and role modeling or demonstrations increase the likely success of creating behavior change (Bandura, 2001:15; Schneider and Cheslock, 2003:46). Other strong predictors of behavior are emotions and moral convictions (Myers, 2003:7). Social contexts and social norms also play a role in changing behavior, as well as personal motivations, religious and cultural beliefs, and knowledge about the consequences of actions (Butler and Mattern, 2001:4).

Social Diffusion Theory

Social Diffusion Theory (also called Diffusion of Innovation Theory) explains how innovations occur in an individual and society. Diffusion is defined as “the process by which an innovation is communicated through certain channels over time among members of a social system” (Rogers, 1962:5). Research studies have identified the types and characteristics of people who adopt new information or innovation; people are labeled innovators, early adopters, early majority, late majority, or laggards, depending upon how quickly they adopt new ideas and behaviors. Whereas the diffusion process

happens within society, the adoption process happens to an individual and occurs in five stages: awareness, interest, evaluation, trial, and adoption. The innovation-decision process for individuals also occurs in five stages: knowledge about the innovation, attitude about the innovation, decision to adopt or reject the innovation, implementation of the innovation, and confirmation of this decision (Rogers, 1962). Most communications campaigns focus on the early stages of the adoption process and the innovation-decision process.

Coffman recently identified other theories and models that underlie social change media and communications campaigns (Coffman, 2002:17-19):

Theory of Reasoned Action and Planned Behavior

A behavior is determined by a person's intention to perform it. Two factors influence intention: 1) attitude—a person's attitude toward the behavior—and 2) subjective norms about the behavior—a person's judgment that people who are important to him or her feel that he or she should or should not perform the behavior.

Social Cognitive Theory

Behavior is determined by a person's 1) self-efficacy, or belief that he or she has the skills and abilities necessary to perform the behavior, and 2) motivation to perform the behavior, such as an incentive or prohibition.

Health Belief Model

Behavior is influenced by 1) a feeling of being personally threatened by a disease and 2) a belief that the benefits of adopting the behavior will outweigh the perceived costs.

Stages of Change Model

People operate on a continuum of behavior change, so it is necessary to determine where people are on the continuum and develop interventions that move them from one stage to another. The stages are pre-contemplation, contemplation, preparation, action, and maintenance. This model is used in social marketing campaigns.

For public will campaigns, additional theories are:

Agenda-Setting

The media operate as gatekeepers of information, determining which issues are important and what people should think about them. Information or issues that appear more often become more salient, and this in turn determines political and social priorities.

Priming

The media attend to some issues and not others, and thereby alter the standards by which people evaluate issues, people, or objects. Because people do not have knowledge about a lot of things and do not take everything they do know into account when making a decision, they make decisions based on what comes to mind first.

Framing

An organization packages information in a way that affects people's perception of the issue, connecting it to one of several existing frames of reference or pre-existing concepts. Communication (language, visuals, messengers) is constructed in such a way that it triggers meaning for the listener or observer by suggesting how to interpret and classify the information.

Evaluation of Communication Campaigns

Models and theories of communication campaigns drive the selection of outcomes that will be measured. Many campaigns perform only process evaluations that measure effort (how much gets accomplished), distribution (number of materials disseminated), placement (amount of earned media coverage, number of op-ed pieces), and exposure (how many times the target audience encountered the campaign). In contrast, outcome evaluations measure the effect of the campaign, such as knowledge/awareness, saliency, attitudes, norms, self-efficacy, behavioral intentions, behavior, skills, constraints, media frames, and policy change. Impact evaluations are studies that measure the aggregate results of the campaign's outcome (Coffman, 2002:20-24).

Evaluating communications campaigns is challenging, because these campaigns are complex and aim for a number of outcomes across social, physical, economic, and political sectors, as well as outcomes at the cognitive, individual behavior, community, or systems level. Many campaigns also try simultaneously to influence: 1) social/cultural change (through policy and agenda setting), 2) community level change (by affecting norms, expectations, and public support), and 3) individual behavior change (through skill teaching, positive reinforcement, and rewards). The effect of interventions used in campaigns is usually unpredictable; for example, it is difficult to determine who has been reached with diffuse media like radio, billboards, television, and radio.

Moreover, the variables that are being measured (outcomes such as awareness, knowledge, attitudes, intentions, skills, and behavior) do not occur in isolation; context and multiple influences make performing evaluations on specific outcomes problematic. Similarly, most campaigns lack access to control or comparison groups; thus it is hard to determine whether the outcomes were influenced by the campaign. In addition, there is a lack of knowledge or precision about appropriate outcomes for public communication campaigns and likewise a lack of necessary tools to measure them. (Coffman, 2002:11-12). Finally, because very few longitudinal studies of communications campaigns have been conducted, it is difficult to determine changes in outcomes (Schneider and Cheslock, 2003:37, 128).

Lessons Learned

Julia Coffman summarized the characteristics that researchers have identified as crucial to an effective campaign. Campaigns that include these characteristics are more likely to produce their intended results (see Table 2).

Table 2: Characteristics of an Effective Campaign (Coffman, 2002:20)

Tasks	Issues to Consider
1. To capture the attention of the right audience	Defining the target audience, selecting channels to reach the audience, attracting sufficient attention
2. To deliver an understandable and credible message	Source credibility, message clarity, fit with prior knowledge, duration of exposure
3. To deliver a message that influences the beliefs or understanding of the audience	Providing information, directing attention, triggering norms, changing underlying values and preferences
4. To create social contexts that lead toward desired outcomes	Understanding the pressures that govern the behavior of interest

Consistent with the Coffman’s research, an analysis of effective environmental public service announcements yielded these recommendations (Bator and Cialdini, 2002:6-11):

- Determine who is most at risk for the undesirable behavior and who is most open to persuasion.
- Make the issue personally relevant to the audience.
- Use highly credible sources, as they are more persuasive.
- Create messages that help resolve problems, for they have the most persistent effects.
- Use vivid information that grabs emotionally, is specific, triggers the imagination, and is immediate in a sensory, temporal, or spatial way.
- Drive behavior change home by encouraging commitment.
- Incorporate a cue as a memory trigger—a visual cue that can elicit memory at the time the target audience is going to act on the message—for when the audience sees the cue at a decision-making moment, it will spark recall of the message and thereby prompt behavior.
- Pre-test messages and collect reactions from the intended audience before messages are finalized.
- Use post-tests to find out whether the audience remembered the message and/or acted on it.

Additional recommendations made by European environmental communicators include (GreenCom, 2004:17, 22):

- Pay attention to timing—e.g., a debate in the media, a change in the climate—to leverage your message.
- Link messages to quality of lifestyle.
- Incorporate humor in the message.
- Make message products look modern and “cool.”
- Be consistent, and work with long-term goals.

Evaluation is a significant component of any communications campaign in order to determine its efficacy. Julia Coffman performed a cross-case study of communications campaigns and identified five items that should inform campaign evaluation (Coffman, 2003:36-39):

- Start with sound (and where possible research-based) conceptual models or theories about how the campaign will achieve the desired social change.
- Conduct front-end research that informs and determines both the campaign and the evaluation focus.
- Focus on evaluation for learning and continuous improvement.
- Push for methodological innovation and rigor wherever possible.
- Recognize and accept that different evaluations and capabilities require different evaluation designs.

II. COMMUNICATIONS STRATEGIES

Communications campaigns employ different strategies depending upon their purpose. This section explores values-based communications, strategic frame analysis, and social marketing, their definitions, underlying theories, and research findings; the methodology they use; and examples of relevant applications.

1. Values-Based Communications

Definition, theory, and research findings

Simply stated, values are expressions of, or beliefs in, the worth of qualities, behaviors, or objects. “They often invoke strong feelings and are typically expressed in terms of good or bad, better or worse, and desirability or avoidance” (Leiserowitz, Kates, and Parris, 2004:1). Groundbreaking work on values was performed by M. J. Rokeach, who defined values as “an enduring belief that a specific mode of conduct or end of state existence is personally or socially preferable to an opposite or converse mode of conduct or end of state existence” (Rokeach, 1973:3). His assumptions are that a person’s personality accounts for his or her unique individual values and that societal experiences and cultural identities create shared values. Rokeach identified 18 *terminal values* (“end of state existence”), or personal goals; these include a comfortable life, an exciting life, the world at peace, equality, freedom, happiness, national security, pleasure, salvation, social recognition, true friendship, wisdom, beauty, family security, mature love, self respect, sense of accomplishment, and inner harmony. The terminal values are distinguished from 18 *instrumental values* (“mode of conduct”), or ways of reaching those goals; these are ambition, broad-mindedness, capableness, cheerfulness, cleanliness, courage, forgiveness, helpfulness, honesty, imagination, independence, intellect, locale, humor, obedience, politeness, responsibility, and self-control. Although other values survey instruments have been developed, particularly to take into account the difference between personal, social, and cultural goals, the Rokeach Value Survey has been widely used in social science research.

Corporations and politicians successfully use values-based communications to promote their products, image, and policies. Values-based communications are grounded in communication theory and persuasion theory. Communication theory describes the principles of transmitting information and the methods by which it is delivered; one definition of persuasion theory is the “conscious symbolic act intended to form, modify, or strengthen the beliefs, opinions, values, attitudes, and/or behaviors of another or ourselves” (Burgoon, Hunsaker, and Dawson, 1994:177). Values-based communications campaigns raise awareness and knowledge and motivate action, whether personal or policy-related. Possible outcomes of values-based campaigns include awareness, knowledge, saliency, attitudes, norms, and behavior intentions. A change in cultural values over time as a result of values-based communications exemplifies social diffusion.

Appealing to personal values is a powerful tool for developing persuasive communication campaigns (Wirthlin Report, 2001; Elder, 2002). By understanding the values that people attach to an issue, messages can be developed that create a bridge between the audience and desired actions. “This ‘communications pathway’ links the rational reasons for doing something to the emotions and values that make it personally relevant and spur someone to act. As we [at Wirthlin] say, *you persuade by reason and motivate through emotion*” (Wirthlin Worldwide, 2001:2).

The challenge in creating messages about biodiversity is how to reach an American public whose attention tends toward individual self-interest. This self-interest is often at odds with altruistic self-sacrifice for the sake of the greater good, which is the message often implied by the environmental movement. A recent study, based on a model called Schwartz’s Value Measure, looked at social research on American values and how they relate to environmental messages. Schwartz’s Value Measure, which is cross-cultural in scope, classifies human values along two dimensions that operate as continuums. The first dimension orients around life goals, namely *self-transcendence* (goals that transcend the individual and promote interests of the other and the natural world, such as being broad-minded, helpful, honest, and forgiving) and *self-enhancement* (goals that promote one’s own self-interests regardless of others). The second dimension orients around social change and tradition, namely *openness* (goals like creativity, curiosity, excitement, pleasure) and *conservatism* (goals such as respect for tradition, humility, honoring parents and elders) (Schultz and Zelezny, 2003:128).

Results from the cross-cultural study of 38 countries showed that people in the U.S. tend to hold values in the self-enhancement dimension, specifically with goals that focus on mastery (such as success, capability, independence in choosing own goals), and scored low on values of self-transcendence. In addition, people in the U.S. scored high in their level of openness and were moderate in their level of conservatism. Research shows negative correlations between environmental concerns and the values of self-enhancement and conservatism, and a positive correlation between environmental concerns and self-transcendence values; research findings regarding the correlation between openness and environmental concerns are less clear (Schultz and Zelezny, 2003: 128-129).

An additional cross-cultural study performed on college students regarding their values, environmental attitudes, and behaviors found values-based attitudes formed around three clusters:

- Egoistic concerns focusing on the self (health, quality of life, prosperity, convenience)
- Social-altruistic concerns focusing on other people (children, family, community, humanity)
- Biospheric concerns focusing on the well-being of living things (plants, animals, trees)

Cross culturally, social-altruistic concerns rated the highest. Students in the U.S. scored higher on egoistic than biospheric concerns, while students in Latin American countries scored higher biospheric than egoistic concerns. As for egoistic concerns, the researchers stated, “our prediction would be that a person who scores high on self-enhancement will care about environmental problems when the problem affects them directly, and he or she will be motivated to act when the rewards... outweigh the costs” (Schultz and Zelezny, 2003:130). They found that the types of environmental concerns people have and the actions they take are those involving a direct connection to their lives, like soil and water contamination (Schultz and Zelezny, 2003:129-130).

In sum, this specific research supports the crafting of biodiversity messages that address socio-altruistic concerns or make biodiversity relevant to everyday life (egoistic concerns). Similarly, messages can incorporate values that address self-enhancement, conservatism, and openness. The key is targeting audiences and using a “diversity of messages that will appeal to people with a different range of value orientation” (Schultz and Zelezny, 2003:134).

The body of research that relates to cultural values and social change comes from a variety of fields, and there is not necessarily consensus on a single model or theory of how values influence behavior. More research is needed to test the effectiveness of values-based messages. In particular, the gap between values and behaviors needs to be examined, along with the ways in which values are ranked and the tradeoffs made between them (Leiserowitz, Kates, and Parris, 2004:31). The values associated with openness (goals like creativity, curiosity, excitement, pleasure) should also be explored, since people in the U.S. scored high on this dimension.

Methodology

Message Development

A typical values-based message starts with a careful analysis of the intended audience and what *they* value. Problems and solutions are then framed, using the audience’s values and concerns. The message states what the problem, issue, or opportunity is and then provides a recommended solution or course of action to address it. Beginning with values makes the issue personally relevant to the lives of those in the audience; it’s no

longer just someone else's problem to solve. "Starting with the values places the issue in the realm of doing what is right for one's community, one's family, and the future" (Elder, 2002:101).

A message is not a slogan or sound bite. It is a clear, compelling, and short paragraph that does four basic things:

- Gives audiences a reason to care about the issue by appealing to their values.
- Describes a threat and often suggests who is responsible for the problem.
- Provides a solution.
- Describes what action will help solve the problem.

An example of a message paragraph looks like this:

Like other parents who live in Smith Meadows [target audience], we want our children to grow up in a healthy and beautiful community. The wetlands in our area help keep our drinking water clean and provided an opportunity to enjoy wildlife throughout the year [why people should care—egoistic values]. But developers are seeking an exemption to our wetlands regulations to build a new housing tract and shopping mall [describes problem and who is responsible]. We have a responsibility to our community and to our children's future to protect these special areas. By protecting the wetlands, we're protecting the quality of life in Smith Meadows [social-altruistic values]. We can prevent this destruction by making our views known at the next city council meeting on September 21st [action to take to solve problem].

Values-based messages are most effective when they are targeting a specific audience and its values. Public opinion research (surveys and focus groups) is a way to identify audiences, values, and concerns. "If your target is the general public, you don't have a target audience" (Elder, 2002:102).

To convey a persuasive message, the messenger, visual images, and language used must be in alignment with one another. The messenger needs to be authentic, credible, persuasive, and appropriate for the message itself. Images should reflect the message and include a positive appeal to the audience's values and a description of the problem. The language in the message should be appropriate to the setting, speak to the audience, and avoid jargon. According to the Biodiversity Project's 1996 poll, people understand the terms "habitat" and "ecosystem" more readily than the term "biodiversity"; "ecosystems" is one of the best words to use when describing biodiversity (Biodiversity Project, 1999:18-24).

An additional tip when using values-based messages is to lead with a story and follow-up with facts. Again, the appeal is to a person's feelings, attitudes, and connections to everyday experiences, and stories can appeal to all of these and "motivate through emotion." An appeal to reason is also important, but people are often confused by contradictory information and the many facts they are bombarded with on a daily basis.

In order to have the most credibility, use facts that are specific to the issue and that relate and connect to people's everyday lives or experience (Biodiversity Project, 1999:18-24).

Public opinion research

Values-based communications use the tools of quantitative research, such as surveys and polls, and qualitative research, such as focus groups or interviews. Depending on the scale, public opinion research can be expensive—a national poll in the U.S. can cost close to \$100,000. Cluster analysis, a sophisticated research tool that can cross-analyze demographic data with attitudes, values, and concerns to identify target audiences, can be expensive as well. However, focus groups can be inexpensive to run—only the cost of a room, plus staff time for recruiting participants, gathering data, and interpreting the data. It should be noted that the genius of focus groups is in the design and interpretation; the more experienced the designer and analyst, the more reliable the data.

Inexpensive sources for public opinion research are university-based archives, such as the Roper Center for Public Opinion Research at the University of Connecticut and the National Opinion Research Center at the University of Chicago. Partnering with the communications or social science departments of a college or university is another way to collect data on a target audience.

The Biodiversity Project commissioned two national polls, in 1996 and 2002, to track public attitudes and concerns regarding biodiversity and to identify audience values. Some of the key points from the poll *Americans and Biodiversity: New Perspectives in 2002* (Russonello and Stewart, 2002) are:

- Americans believe that protecting biodiversity is the right thing to do: Preserving species and habitat is right in line with the values of a large majority of Americans. By overwhelming margins, poll respondents strongly agreed that we have a “personal” or “moral” responsibility to “protect plant and animal life” (69% and 65% respectively strongly agreed in a split sample). Respondents also saw protecting the environment for future generations (58%) and respecting “God’s creation” (56%) as “extremely important reasons” to protect the environment.
- Protecting biodiversity is very important to a majority of Americans: 55% of those surveyed said that maintaining biodiversity was important to them personally (once the term “biodiversity” was explained).
- Americans are increasingly worried about habitat loss: Poll respondents viewed, “the rate at which land is being developed and places in nature are being lost” as the most serious environmental problem we are facing, outranking air and water pollution for the first time. The public’s apprehension about habitat loss appears to be growing more acute. In 1996, this issue ranked as the third most serious problem.
- Many Americans are disconnected from their impact on the environment: People were able to identify individual actions that are very effective in helping preserve biodiversity, such as discontinuing the use of lawn and garden chemicals,

skipping a car trip once a week, choosing seafood wisely, and buying organic products. Yet 44% didn't think their actions counted for much when they agreed with the statement "What I do in my life does not impact the health of natural habitats."

Given these poll results, the recommendations for communicators and educators are clear: Continue to press for basic literacy—what biodiversity is and why it is important—and help make the connection between responsibility to protect biodiversity and what actions to take. Get the word out about what works to protect biodiversity, why it is effective, and how to do it (Biodiversity Education Network, 2002).

Applications

The applications of public opinion data and values-based communications are varied. The Biodiversity Project has collected anecdotal evidence of how the data and values-based messages are applied (see the Biodiversity Project's Web site at www.biodiversityproject.org). For instance, Chicago Wilderness has used public opinion data to develop messages for use in publications and forums about controlled prairie burns in urban and suburban areas around Chicago. The American Museum of Natural History, Missouri Botanical Gardens, and the New England Aquarium have used public opinion data to inform exhibit content, design, and evaluation. And the Pennsylvania Biodiversity Initiative has used public opinion data to help create education and outreach materials. Although there is little formal evaluation research on the effectiveness of values-based communications, anecdotal evidence from the Biodiversity Project has shown this approach to be useful to an array of institutions—zoos, museums, environmental organizations, and educational organizations, to name a few.

2. Strategic Frame Analysis

Definition, theory, and research findings

Strategic Frame Analysis is an empirical approach that draws on theory and research from the cognitive and social sciences to document and analyze the impact of people's worldviews and widely held assumptions on their policy preferences. "Put simply, framing refers to the construct of communication—its language, visuals, and messengers—and the way it signals to the listener or observer how to interpret and classify new information. By framing, we mean how messages are encoded with meaning so that they can be efficiently interpreted in relationship to existing beliefs or ideas" (FrameWorks Institute, date unknown). Strategic framing campaigns redefine social problems in order to focus public attention on social system and policy changes. Therefore outcomes from these campaigns include saliency, new narrative constructs, and policy change.

The following is a summary from the FrameWorks Institute Web site (see www.frameworksinstitute.org):

Strategic framing is a way to define an issue as a public problem or to get people to rethink a problem from a different perspective. Because a public problem often doesn't seem to exist until enough people think about it in the same way, and endorse a common solution, it is crucial to move ideas into public discourse and make them salient.

Framing is the way the information is conveyed — symbols, metaphors, messengers, visuals, messages, stories, numbers, and context are all important elements of the frame that ensure that an idea will not inadvertently cue up negative stereotypes or unhelpful if familiar distractions. These elements create the frame and signal what is important and what can be ignored. Frames define the issue, determine who is responsible, offer potential solutions, and thereby influence decisions.

Research on cognition has shown that ideas and issues come in hierarchies that direct thinking. Level One in the hierarchy is comprised of values, such as freedom, fairness, responsibility, and choice. Level Two consists of overarching issues or issue types, such as civil rights, community health, or the environment. Level Three is made up of specific issues, such as biodiversity loss, endangered species, and sprawl. Strategic frames can connect each of these levels and shape thinking.

As the FrameWorks Institute describes the process, people use mental shortcuts to make sense of the world. Since most people need to process incoming information quickly and efficiently, they rely upon cues within that new information to signal to them how to connect it with their stored images of the world. Walter Lippmann's "pictures in our heads" might better be thought of as vividly labeled storage boxes filled with pictures, images, and stories from our past encounters with the world and labeled "youth," "marriage," "poverty," "fairness," etc. The incoming information provides cues about which is the right container for that idea or experience. The efficient thinker makes the connection, a process called "indexing," and moves on.

Put another way, how an issue is framed is a trigger for these shared and durable cultural models that help us make sense of our world. When a frame ignites a cultural model, or calls it into play in the interpretation, the whole model becomes operative. This allows people to reason about an issue, to make inferences, to fill in the blanks when there is missing information, by referring to the robustness of the model, not the sketchy frame.

Some key principles from communications research, are used in strategic frame analysis:

- People rely on concepts and values to assign meaning.
- Understanding is frame-based, not fact based; narrative is processed before numbers.
- Information provides cues that connect with the pictures already in our minds.

In addition, it is important to place individual issues in an overall moral and ethical context and make sure the language in a message is resonant with an audience's cultural values and virtues. For more explicit descriptions of the theory and methodology of Strategic Frame Analysis, please refer to the FrameWorks Institute Web site at www.frameworksinstitute.org.

Methodology

As in values-based communications, the first step in a strategic framing communications campaign is to determine a clear definition of the problem, well-articulated solutions, and the values of target audiences. Strategically framed messages offer policy or systems solutions to a problem, as opposed to individual behavior change. To create an effective campaign, the FrameWorks Institute recommends that attention be paid to all structural elements of the frame, defined as follows (FrameWorks Institute, 2003a:17-25):

Context defines the problem in cultural, not individual, terms and establishes who is the cause of the problem and who is responsible for solving it. It connects the issue to what is being done at the community, state, or national level and to root causes, conditions, and trends.

Numbers or facts to support the message must be chosen carefully. Meaning about the problem should be established first and then supported by data. Numbers alone cannot create pictures in our heads—the numbers need to be interpreted. Most people cannot judge the size or meaning of numbers and need other cues.

The *credibility of messengers* is very important. A message is reinforced or undermined by the choice of a messenger. Social science research shows that two criteria are critical for the messenger's credibility: the first is the speaker's knowledge of the issue, and the second is the speaker's trustworthiness. Likeability or familiarity of the messenger is not as important. Messengers who are unlikely allies can cause a viewer to pause and reconsider an issue or recommendation.

Images trigger mental models just as words do and serve as visual shorthand for the message. As with messengers, images can reinforce or undermine a message. Hence choosing the right visuals and using human figures, cultural symbols, or icons is important. Other tips are to avoid close-ups or traditional images usually associated with the issue; use sequence and placement of photos to demonstrate cause and effect and to illustrate trends instead of isolated events; and reinforce the societal nature of the issue with pictures of public, health, and community settings.

Metaphors and models complete ways of thinking, including patterns of reasoning. They allow viewers to make inferences beyond the words actually used and are an effective storytelling device.

The *tone* is important for engaging the audience. People switch between a “rhetorical mode” and a “reasonable mode” of thought and discourse about social problems. The rhetorical mode is characteristic of much media and political discourse and turns people off. The reasonable mode, which is more reflective of individual thinking processes, is more open to scientific findings and practical problem solving. If the tone is too doomsday, extreme, or partisan, many people will likely tune out the message. Use

language and analogies to help bring the problem down to earth, and avoid doomsday scenarios and partisan critiques.

The Frameworks Institute Web site pursues an integrated and iterative process of research for informing and evaluating a campaign based on strategic frame analysis. . . The approaches are:

- Public Opinion Research—either review and analysis of existing research or conducting original research (surveys, focus groups).
- Elicitations, or one-on-one interviews with key constituents, along with cognitive analysis to determine how people think about a topic, their pattern of reasoning, connections they make to other issues, and devices they routinely use to resist new information.
- Conceptual Metaphor Analysis to identify the metaphors most commonly associated with an issue and to evaluate their impact on policy preferences.
- Simplifying Model Creation to describe the mechanics of a particular social or environmental problem.
- News and Entertainment Content Analysis to document framing patterns commonly used by the media.
- Media Effects Tests to evaluate the impact of a particular media frame on policy and public attitudes.
- Talkback Testing, a quantitative variant on focus groups to make preliminary evaluations of what messages are most easily understood or most persuasive in helping people evaluate alternative policy solutions.

At the end of this process, the FrameWorks Institute translates this research into a MessageMemo, prescribing “do’s and don’ts” and offering the equivalent of a creative brief on the issue. Other applications materials that typically accompany a strategic frame analysis campaign include narrated and illustrated CD-Roms, Toolkits of exemplary materials, Workshops and MessageLabs.

Applications

Strategic frame analysis has been used in communication campaigns about children’s issues, health care, gender equity, wage equity, race, government, and the environment, namely toxins (Natural Resource Defense Council’s Detox Our Home campaign at www.detoxourhomes.org), oceans (The Ocean Conservancy and NRDC) and global warming (Climate Message Project).

In the FrameWorks Institute’s “Talking Global Warming” CD-Rom (FrameWorks Institute, 2003b), when researchers looked at the issue of global warming, they found that currently the issue is framed as “weather,” and therefore global warming is viewed in the following ways:

- It’s natural and not human caused
- There’s nothing you can do about it

- It's a consequence; no solutions are offered
- One can only make an adaptive response

Other problematic aspects of current frames applied to global warming include:

- It's an economic issue
- It's a necessary evil
- Environmentalists are ascetics
- Pragmatic compromises have to be made

The cognitive hierarchy for global warming looks like this:

Level 1 - Values	Act of God/Nature
Level 2 - Issue type	Weather
Level 3 - Specific Issue	Global warming

Many people believe global warming is a real problem, and they understand its negative consequences. However, they are not sufficiently familiar with solutions to the problem and will thus make an adaptive response to protect themselves and their families. They don't understand the human causes of global warming and the potential solutions, and they are turned off by the tone of the debate. To reframe the issue of global warming, the analogy is that instead of telling the story of Chicken Little, we should tell the story of the Little Engine that Could.

Because the research demonstrated that most people knew little about greenhouses and thus were not being educated about the impact of greenhouse gases, the FrameWorks Institute reframed global warming as a carbon dioxide problem that traps heat, causing environmental damage. Because it is a human-made problem, there are human-made solutions, this frame asserted. We have a responsibility to address this problem, and we can use managerial planning skills to help. The reframed cognitive hierarchy looks like this:

Level 1- Values	Stewardship, responsibility, ingenuity
Level 2 - Issue type	Solutions/technology
Level 3 - Specific issue	Carbon dioxide problem

The reframing of global warming yielded these campaign suggestions:

- Appeal to Level One values that are characteristic of Americans' entrepreneurial values, such as taking responsible action, using managerial planning skills, and being visionary.
- Introduce familiar environmental concerns before talking about global warming.
- Introduce a simplified model of global warming, one that incorporates human-made causes and solutions.
- Make the problem manageable by explaining how it works, that it is human caused, and the causes and consequences of global warming.

- Give solutions high priority, and get them into the message early. Highlight solutions for the present and future, and explain specific policy solutions.
- Describe consequences without sounding extreme.
- Appeal to people as problem solvers, and challenge leaders to be innovative.
- Use a reasonable, not rhetorical, tone.
- Use messengers associated with the frame, such as scientists who are also educators, business managers, science innovators, religious leaders, and environmentalists.
- Be strategic in the presentation of facts and numbers.

Other researchers offer complementary views on this same set of issues. In general, two types of metaphors are typically used in environmental discourse: 1) martial or apocalyptic metaphors (e.g., “the war against nature,” “the battle over nature”), which portray the issue as humans versus nature or the environment versus the economy, and 2) sustainable development metaphors (e.g., “we are all in this together”), which convey an image of building connections between the environment and the economy (Valiverronen and Hellsten, 2002:230). The metaphors that have been identified with biodiversity in apocalyptic or holocaust narratives are “the library of life” and “the museum of life.” These metaphors associate biodiversity with information, connect biodiversity to the arts, and evoke a feeling of responsibility to save unique things for future generations. In sustainable development narratives, biodiversity is called “the web of life” and “a network of relations”; this metaphor of connections is more abstract and does not evoke powerful images of irreversible loss the way the destruction of a library or museum does. Hence the authors suggest that martial images of fear and destruction are more useful, in calling forth rapid political mobilization (Valiverronen and Hellsten, 2002:238).

In the global arena, environmental discourse is shifting from conflict to consensus and the polarity between the environmental and economic considerations is overcome through references to sustainability and global concerns. The benefits of biodiversity are then calculated as “ecosystem services” and “green medicine. These metaphors of biodiversity as a repository and treasury “put forward the idea of ecological modernization and ecological sustainability” (Valiverronen and Hellsten, 2002: 240). Similarly, the metaphor of biodiversity as our “common heritage” implies that “biodiversity is one of the international commodities that can be exploited to a certain extent but still needs to be preserved for future generations” (Valiverronen and Hellsten, 2002: 241). Another metaphor that is emerging in the sustainability literature is biodiversity as a “life support system.” More empirical research needs to be done to identify appealing and motivating metaphors for biodiversity.

3. Social Marketing

Definition, theory, and research findings

Successful social marketing campaigns have been conducted in the U.S. for issues focusing on health, children, families, and adolescents, such as campaigns to prevent teen pregnancy, and they have proven to be effective in changing behaviors in these arenas.

The U.S. Agency for International Development has conducted social marketing campaigns in developing countries focused on environmental behaviors (Booth, 1996). More and more organizations are adopting this methodology, because research shows that it works. While social marketing campaigns focus specifically on behavior change, other outcomes include changes in norms, enhanced self-efficacy, an understanding of environmental constraints, increased behavioral intentions, and improved skills. Social marketing campaigns typically use social diffusion theory and the stages-of-change model; however, the theory of reasoned action, social cognition theory, and the health belief model are applicable to these campaigns. Social marketing is also grounded in communication theory and behavioral psychology.

Social marketing is the application of commercial marketing techniques to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society (Andreasen, 1995). Changed behavior is the bottom line for measuring success. Research on education and awareness campaigns indicates that informational packaging that does not promote participatory involvement is not successful in motivating conservation behaviors (Geller, 1989). Furthermore, research shows that even if someone expresses environmental concern, it does not mean that environmentally supportive behaviors will follow (The Hartman Group, 1996). Changing behavior continues to be a challenge for environmentalists, and social marketing offers some solutions.

While commercial marketing focuses on low-involvement behaviors, such as purchasing goods, social marketing has a tougher sell because it addresses high-involvement behaviors—ones that individuals care about, see significant risk in undertaking, think a lot about before acting, and frequently seek advice about before taking action. Behavior change takes place in stages—pre-contemplation, contemplation, preparation, action, and maintenance—so campaigns should be tailored to address each stage (Andreasen, 1995). Many social change programs underestimate the difficulty of changing behavior, the barriers to behavior change, and competing interests that affect the audience (McKenzie-Mohr and Smith, 1999). However, by using commitment techniques and modeling new behaviors in a campaign, social norms develop as people interact and develop new guidelines for their behavior. Social diffusion happens as people pass on information to one another regarding their experience with new activities.

Methodology

The conceptual framework for social marketing is often described in the literature as “The Four P’s”: product, price, place, and promotion (Andreasen, 1995).

Products range from tangible items to intangible services, practices, and ideas. People must perceive that they have a genuine problem and that the “product” offered is a good solution. Furthermore, the proposed solution must be packaged in such a way that it is desirable to the audience, the audience is willing to accept or adopt it, and it benefits the

social cause. Examples of products marketed in environmental campaigns range from composting to voting.

Price is what the target audience must pay or do to obtain the product. A decision to act is based on considerations of both the benefits and the costs, or barriers, to the target audience. Barriers include expenditures of money, time, and energy as well as psychological costs.

Place is the way the product reaches the target audience. Products and services must be easily accessible through established distribution networks. By determining the habits and activities of the target audience, as well as the satisfaction and reliability of the delivery system, an ideal means of distribution can be identified.

Promotion is the method of creating and sustaining demand for the product. Promotions consist of an integrated use of advertising, public relations, media, entertainment, and direct contact. Examples include brochures, ads, TV spots, PSAs, rewards for behavior, labeling, and coupons.

Other P's that may be used in social marketing campaigns are policy and partnerships.

Policy is the regulation of behavior and legislative support to change behavior in the long run.

Partnerships are alliances among organizations in order to enhance credibility and access to target audiences, increase resources and support, and help identify gaps, weaknesses, or threats to a campaign and ways to overcome them.

In order to conduct a social marketing campaign, the first step is to segment the audience and determine the social norms, skill levels, and self-efficacy of that segment. Market segmentation, or targeting audiences who engage in specific behaviors, is crucial, for in social marketing campaigns, as in values-based communications, there is no such thing as selling to the general public. Social marketers do not try to persuade target audiences to do what marketers think they should do; nor do they try to make the audience accept the marketer's beliefs and values; rather, they recognize that audiences take action only when they believe it is in their self-interest to do so. Thus social marketers start with an understanding of the audience's needs, wants, values, and perceptions.

After clearly identifying the target audience and the specific behavior change desired, the next step is to identify the perceived barriers to and benefits of a behavior change. Barriers can include lack of knowledge about the activity, non-supportive attitudes regarding the activity, or lack of motivation to modify or cease the activity. Additional barriers are the inconvenience of changing a behavior or the affordability of doing so. Social marketers determine the perceptions of the target audience regarding barriers to and benefits of change by conducting research through literature searches (in trade magazines and newsletters, academic articles, reports) and focus groups. The strategic options are to increase the benefits and decrease the barriers/costs of the behavior and/or

to decrease the benefits and increase the barriers/costs of competing behaviors (McKenzie-Mohr and Smith, 1999).

Social marketers then determine the most effective techniques to overcome the barrier or promote the benefit. Doug McKenzie Mohr, a leading social marketer, has identified six useful techniques and the relevant research in behavioral psychology and other social science fields supporting them. This information is posted on the Community-Based Social Marketing Web site (www.cbsm.com). The techniques are: encouraging commitment, modeling behavior, providing prompts, establishing norms, communicating information, and offering incentives.

Commitment occurs when one individual pledges to another to carry out a change in behavior. Because consistency is an important character trait for most people, they are more likely to follow through on a behavior change if they told someone they would. Commitments help to reinforce social norms. Written commitments have been found to be more effective than verbal ones. Public commitments work well (such as printing names in a newspaper), and group commitments (such as club or church membership) also work well. Commitments help people see themselves as environmentally concerned.

Another behavioral change technique is to *model behavior*. More importantly, get people to help participate in the new behavior, like sorting recyclables or planting trees. Generally, the saying is, “tell them and they’ll forget, demonstrate and they’ll remember, involve them and they’ll understand.”

Prompts (e.g. signs or reminders) are a proven tool for promoting behavior change. They should be noticeable (e.g., by faucets or thermostats) and placed as close in time and space to the targeted behavior as possible. Prompts that work are self-explanatory (e.g., they employ a graphic), encourage people to do the positive behavior, and make them feel good about themselves for making the change.

Establishing norms is a powerful behavior change technique. Messages about behavioral norms need to be highly visible (such as a chemical-free lawn care sign placed in a yard) or publicized (such as a neighborhood newsletter article that showcases sustainable behavior). Personal contact reinforces normative behaviors.

Communication is also a social marketing tool, although information campaigns alone are viewed as limited. Communications in social marketing include many of the elements used in values-based communication and strategic framing: know the target audience, capture attention by using captivating words and images, use a credible messenger, avoid extreme messages, balance threatening or fearful messages with positive actions to take. Some social marketers believe that personal contact is more influential than media contact, so they give feedback to the target audience about the positive impact they are making as part of a campaign.

Incentives have been shown to be particularly useful when motivation is low or when people are not performing an activity as effectively as they could. Incentives should be

closely aligned with the desired activity, and they should be used to reward positive behavior rather than punishing negative behavior. Campaigns should be cautious about removing incentives because doing so can undermine internal motivators. Research shows that non-monetary incentives, such as social approval, can be very effective.

When designing a social marketing campaign, it is essential to pilot the program. In order to create a pilot, social marketers rank the barriers and benefits of the behavior and match them to the techniques. For example, if a target audience lacks motivation, the pilot campaign uses commitments, norms, and incentives. If the audience forgets, the campaign uses prompts. If the audience doesn't think the behavior is the right thing to do, the campaign uses norms. If it lacks knowledge, the campaign uses communications. It is important to test ideas by conducting a focus group, holding interviews with members of the target audience, or developing questionnaires and then to get expert and gatekeeper reviews before the campaign is launched. Messages are typically tested according to these criteria: attractiveness, understandability, acceptability, capacity for getting the audience to identify with the topic, and overall persuasiveness. Social marketers pilot a program using a control group and one that receives an intervention and then measure behavior change (as opposed to awareness or attitude change) (McKenzie-Mohr and Smith, 1999:130-131).

Because behavior change takes time, it is often monitored and reviewed throughout the life of a campaign. Social marketers use tracking mechanisms, like audience response rates (for example, calls to an 800 number or requests for more information), distribution of materials, media hits, and news content analyses. To refine a campaign, social marketers use "customer satisfaction" surveys to determine whether the target audience believes the consequences of changing the behavior are important and whether they can perform the behavior change. Evaluation of a campaign is often done by using pre- and post-tests or telephone surveys and by measuring the behavior directly or measuring the behavioral outcome (such as a decrease in resource use).

Applications

The Community-Based Social Marketing Web site (www.cbsm.org) offers a collection of social science research data and case studies on social marketing campaigns that target environmentally sustainable behaviors. Because of the intensive nature of social marketing campaigns, these campaigns seem to work best on a local, community, or regional level.

The Food Alliance is running a regional social marketing campaign to promote sustainable agriculture in the Pacific Northwest. Initially funded by the Kellogg Foundation, the Food Alliance conducted interviews and focus groups with farmers, retailers, processors, distributors, and consumers, and developed a variety of ways to appeal to these different target audiences. The Alliance created a Food Alliance Seal of Approval that producers could use to certify that their food was grown with reduced use of chemicals, soil and water conservation practices, and safe and fair treatment of workers. Farmers were recruited to the program through the Washington State Extension

office. The campaign consisted of presentations on transitioning to organic production systems that were delivered to state departments of agriculture, grain companies, farm cooperatives, and land grant universities. Consumers were offered the prompt of a Food Alliance logo on organic products, and retailers were provided with educational promotional materials and training. The Alliance has held recognition dinners for farmers for the last five years, offering a reward incentive for switching to organic production and thereby establishing organic farming as a social norm for growers. The campaign has been very successful at increasing the production of sustainable agriculture in the Pacific Northwest.

The Global Action Plan (a nonprofit research arm of Empowerment Institute) has designed programs to increase environmentally responsible behaviors through its EcoTeams Program for over ten years. It has used a social marketing approach by identifying barriers that people perceive regarding the adoption of new behaviors. The barriers that The Plan has identified include the following: people don't know where to begin, which actions to take, how to perform the actions, or whether their actions can make a difference. The EcoTeam Program has been specifically designed to address each of these barriers. The program focuses on five distinct topics—garbage, water, energy, transportation, purchasing, and empowering others—and encourages the adoption of environmentally friendly behaviors that address these issues. A volunteer is trained to act as a host, and then that person recruits five to eight households in his or her neighborhood. Using the EcoTeam workbook, neighbors meet on a biweekly basis for seven weeks to discuss the subject and the recommended behavioral changes. The recommendations are presented in an easy-to-use recipe format, and neighbors give each other support and motivation, as well as the reassurance that cumulative actions do make a difference. This program uses the behavior change techniques of encouraging commitment, modeling behavior, and establishing social norms. Over 120,000 people have participated in the program, and self-reported data suggest that participants adopt many of the behaviors; moreover, seven longitudinal studies indicate long-term behavior change. Global Action Plan recently created a Water Stewardship Program using the same social marketing model (Gershon, 2003).

III. EMERGING FIELDS

This section offers a brief synopsis of two emerging fields, conservation psychology and conservation sociology.

1. Conservation Psychology

Conservation psychology is a field that explores the question, “why should people care about nature?” Its aim is to encourage people to care and act in sustainable ways. Spearheaded by Dr. Carol Saunders of the Brookfield Zoo and Dr. Gene Myers of Huxley College at Western Washington University, an alliance between the natural and social sciences, research and practice, and psychology and other social sciences is being forged with the goals of motivating people to care about nature and understanding and encouraging sustainable environmental behaviors. “Conservation psychology is the

scientific study of the reciprocal relationships between humans and the rest of nature, with a particular focus on how to encourage conservation of the natural world” (Saunders, 2003:138).

Conservation psychology is a broad field of knowledge, not a single, stand-alone discipline. “It is an applied field that makes use of scientific approaches to study cognitive, affective and behavioral aspects of the human-nature relationship” (Saunders, 2003:138). Like conservation biology, conservation psychology arose because of the urgency of biodiversity loss and makes an interdisciplinary effort to mitigate that loss. Conservation psychology draws on the various sub-areas of psychology to inform its research (e.g., eco, environmental, clinical, health, positive, transpersonal, physiological, consumer, cognitive, developmental, social, applied, organizational, engineering, and community) and also draws on the fields of human dimensions, human ecology, and environmental sociology.

Conservation psychology focuses specifically on human relationships with the natural world and is mission-driven toward conservation efforts. Practitioners in the field (for example, from zoos, aquariums, arboretums, nature centers, environmental education institutions, environmental organizations, and government agencies) all play a significant role in helping shape research questions. The research areas of conservation psychology intersect at the group and individual levels, as do the different types of research: theoretical (developing conceptual models), applied (identifying effective strategies), and evaluative (measuring success) (Saunders, 2003:141).

Conservation Psychology focuses on two outcome areas: what humans do for nature, i.e., how humans behave towards nature (with the goal of creating durable behavior change and sustainable relationships at multiple levels), and/or what nature means to humans, i.e., how humans care about/value nature (with the goal of creating harmonious relationships and an environmental ethic) (Saunders, 2003:141).

As mentioned earlier, more complex models of behavior change are currently being researched and developed. Social norms, incentives, personal motivations, religious and cultural beliefs, and knowledge about the consequences of behavior all play a role in caring or taking action (Butler and Mattern, 2001). Skills building, self-efficacy, and intentions—reasoned action and planned behavior—are better predictors of the success of behavior change than knowledge, awareness, and attitudes (Schneider and Cheslock, 2003:128). Attention to social context (media contacts, social norms, etc.) is also important (Coffman, 2003:39). Conservation psychology focuses on how to identify the most appropriate strategies for producing behavior change and how to measure their success; researchers need to work closely with practitioners to develop models so as to ensure that research efforts are both informed and informative (Saunders, 2003:143-145). For example, museum visitors often fail to make the leap from excitement and understanding about a species or ecosystem to connection and behavioral change; “we have little understanding of the psychological processes that turn enthusiasm to connection and personal action” (Butler and Mattern 2001:11). Conservation psychology looks at the psychological processes underlying the adoption and maintenance of conservation behaviors.

The theoretical frameworks for understanding why people care about the environment are not well developed, and conservation psychology can address this problem. Another leader in conservation psychology, Wesley Schultz, states: “At the heart of the discourse on human-nature relations is the recurring theme about relationship with nature. Philosophers talk about this in terms of ethics, or morality. Sociologists talk about culture, values, and the ways in which societies interact with nature. Conservationists talk about land ethics and the experiences that result from encounters with nature. But at the core is the individual and his or her understanding of his place in nature. So far, psychologists have had little to say about this connection.” (Saunders, 2003:143). Some studies have been conducted on the psychological benefits of experiences in nature. And according to the biophilia hypothesis, because humans evolved in the company of other species, we have developed an affiliative relationship with biodiversity that affects us physically, emotionally, and intellectually (Saunders, 2003:143). However, more empirically based conceptual models of human feelings about nature need to be developed.

Understanding why people care about nature is an important tool in education and communication outreach efforts for biodiversity, because that understanding will allow for the development of a language that is meaningful to people and the creation of a social discourse that speaks to underlying needs and values about protecting the environment. Conservation psychology suggests that more applied research is needed in order to: 1) identify promising strategies for fostering ways of caring about nature, 2) find ways to reframe debates and communicate strategically, 3) identify strategies for shifting societal discourse, and 4) measure success (Saunders, 2003:144). Conservation psychology looks at the psychological pathways that lead people to forge an emotional connection with nature, form an identity that values biodiversity, and develop an environmental ethic (Saunders, 2003:143). By taking a closer look at the affective realm of humans, conservation psychology can link wonder about and respect for the natural world to conservation practices. This research will be essential for effective communications campaigns about biodiversity and the environment.

2. Conservation Sociology

Conservation sociology is a newly developing philosophical and practical approach for saving ways of life and cherished places. It expands upon conservation biology to include people as part of nature and the land. Like conservation psychology, it is interdisciplinary in scope and arose because of the urgency of habitat loss.

Conservationists Peter Forbes and Will Rogers at Trust for Public Lands found that “dollars made and acres saved” was not making inroads in changing people’s attitudes or behaviors. They realized that “we need to focus on how people live on the land and the ways in which they appreciate and relate to nature and each other” (Rogers, date unknown). Trust for Public Land’s mission is to help build a strong American land ethic, where land is viewed not as commodity but as a community of which we are member. However, Americans need help in order to create a land ethic, for “[t]here is no single

branch of science or philosophical tradition to help us protect the relationships between people and the land” (Forbes, 2002a:83).

Conservation sociology hopes to engender land conservation as a social force that will help to change our culture and make our lives more meaningful. “If we shift our focus from how many acres [are] saved to how many lives [are] touched, what impact will we have upon local conceptions of citizenship and community? . . . Does land conservation have something to teach us about reverence, service, and generational equality?” (Nicholson, 2001-2002:2). Conservation projects can provide a venue for envisioning the world differently and telling a different story about how humans can live with the land; they can also offer examples of healthy relationships and more meaningful connections to nature (Forbes, 2002b:16).

There are several ways that conservation sociology can be practiced; these include:

- whole thinking—developing a philosophy of how to live well with nature;
- storytelling—creating narratives that shift emphasis toward shared cultural meaning, illustrate how people care about the land, and offer inspiration for taking action; and
- re-thinking land conservation as the conservation of relationships—finding ways to improve people-land relationships and interconnectedness (Forbes, 2002b:10-12).

The emerging field of conservation psychology can inform the emerging field of conservation sociology in several ways: researching, developing, and testing language that describes how people care about land in order to inform storytelling projects; and identifying ways to foster caring in order to improve people’s relationship with the land and “restore people’s ability to relate to the land with care and health in mind” (Forbes, 2002b:12). Holistic thinking, meaningful stories, and ways of building relationships to nature are useful elements that can contribute to biodiversity communications campaigns.

SUMMARY

Although the problem of biodiversity loss is complex, emerging trends—in evaluation, communications strategies, and social change research—address many of the communications challenges that have been identified by biodiversity advocates. Researchers in the communications field are clarifying evaluation theory and methodology and have developed useful recommendations for how to design and evaluate campaigns. Current communications strategies take an audience-centered approach in order to be more effective, recognizing that people have different values and different ways of engaging with the natural world. New strategies are needed for a whole array of solutions—from individual behavior change to public policy change.

Paul Erlich has written that while scientists understand the general direction we should be moving in to address environmental problems, the response of policy makers is weak. “As a result the cutting edge of the environmental sciences is now moving from the

ecological and physical sciences toward the behavioral sciences, which seem to have the potential to develop ways to improve the response” (Ehrlich, 2002:31). Biodiversity advocates need to steer cultural evolution by “marketing” a set of environmental ethics and behaviors (Ehrlich, 2002: 39). The field of conservation psychology is an exciting development that can inform communications and social marketing campaigns, as well as reinforce the developing field of conservation sociology. These new fields will contribute to a better understanding of the affective realm and provide meaning to the concept of biodiversity. All these approaches can contribute to communicating biodiversity messages in a way that will engage people’s hearts as well as their minds. The task is nothing less than inspiring individual and social change in order to preserve the diversity of life on earth.

REFERENCES

- Andreasen, A. (1995). *Marketing Social Change: Changing Behavior to Promote Health, Social Development, and the Environment*. San Francisco, CA: Jossey-Bass Publishers.
- Bales, S., and Gilliam, F. D., Jr. (2004). *Communications for Social Good*. Foundation Center Web site, www.fdncenter.org/for_grantmakers/practice_matters/.
- Bandura, A. (2001). Social Cognition Theory of Mass Communications. In J. Bryant and D. Zillman (Eds.), *Media Effects: Advances in Theory and Research* (2nd ed.), (pp. 121-153). Hillsdale, NJ: Lawrence Erlbaum.
- Bator, R., and Cialdini, R. (2000). The Application of Persuasion Theory to the Development of Effective Proenvironment Public Service Announcements. *Journal of Social Issues*, 56, 527-541.
- Biodiversity Education Network (2002). Biodiversity Project 2002 Poll Findings. Biodiversity Education Network Web site, www.bioednet.org/biodiversitypoll02.pdf.
- The Biodiversity Project (1999). *Life. Nature. The Public. A Communications Handbook from the Biodiversity Project*. Madison, WI: The Biodiversity Project.
- Booth, E. M. (1996). *Starting with Behavior: A Participatory Process for Selecting Target Behaviors in Environmental Programs*. Washington, D.C.: GreenCom, U.S. Agency for International Development.
- Burgoon, M., Hunsaker, F.G., and Dawson, E.J. (1994). *Human Communications* (3rd ed.). Thousand Oaks, CA: Sage.
- Butler, B., and Mattern, V. (Eds.) (2001). *Reaching Out to the Garden Visitor: Informal Learning and Biodiversity*. Kennett Square, PA: American Association of Botanical Gardens and Arboreta.
- Coffman, J. (2003). *Lessons on Evaluating Communications Campaigns: Five Case Studies*. Cambridge, MA: Harvard Family Research Project.
- Coffman, J. (2002). *Public Communication Campaign Evaluation: An Environmental Scan of Challenges, Criticisms, Practice, and Opportunities*. Cambridge, MA: Harvard Family Research Project.
- Dorfman, L., Ervice, J., and Woodruff, K. (2002). *Voices for Change: A Taxonomy of Public Communications Campaigns and their Evaluation Challenges* (prepared for the Communications Consortium Media Center). Berkeley, CA: Berkeley Media Studies Group.

Ehrlich, P. (2002). Human Nature, Nature Conservation, and Environmental Ethics. *BioScience*, 52, 31-43.

Elder, J. (2002). Crafting and Using Values-Based Messages. In *Ethics for a Small Planet: A Communications Handbook on the Ethical and Theological Reasons for Protecting Biodiversity* (pp.101-102). Madison, WI: The Biodiversity Project.

Forbes, P. (2002a). Saving Land and Saving People. In *Ethics for a Small Planet: A Communications Handbook on the Ethical and Theological Reasons for Protecting Biodiversity* (pp. 78-82). Madison, WI: The Biodiversity Project.

Forbes, P. (2002b). Whole Thinking for Land Conservationists. Presentation at the Land Trust Alliance, Austin, TX.

FrameWorks Institute (Date unknown). The FrameWorks Perspective: Strategic Frame Analysis. FrameWorks Institute Web site, www.frameworksinstitute.org/strategicanalysis/perspective.shtml.

FrameWorks Institute (2003a). Making Connections Toolkit. FrameWorks Institute Web site, www.frameworksinstitute.org/clients/makingconnect_toolkit.pdf.

FrameWorks Institute (2003b). Talking Global Warming CD-Rom. Climate Message Project.

Geller, E. S. (1989). Applied Behavior Analysis and Social Marketing: Integration for Environmental Preservation. *Journal of Social Issues*, 45, 17-36.

Gershon, D. (2003). The Livable Neighborhood Water Stewardship Program: A Success Story in Behavior Change and Public Participation. Presentation for Conference on Nonpoint Source Pollution Information & Education Programs, Chicago, IL.

GreenCom (2004). A Nordic Conference on Environmental Communication and How to Make it Work. Sweden: Stockholm.

The Hartman Group (1996). *The Hartman Report and the Environment: A Consumer's Perspective, Phase I*. Seattle, WA: The Hartman Group.

Huitt, W. (1996, 1999). The Affective System. Educational Psychology Interactive Web site, chiron.valdosta.edu/whuitt/col/affsys/affsys.html.

Hyvarinen, J. (2004). Communicating Biodiversity. A report from a working group from the Global Initiative on Communication, Education, and Public Awareness for the Conference of the Parties to the Convention on Biological Diversity.

Leiserowitz, A. A., Kates, R. W., and Parris, T. M. (2004). Sustainability Values, Attitudes, and Behaviors: A Review of Multi-National and Global Trends (CID Working Paper No.13). Cambridge, MA; Science, Environment, and Development Group, Center for International Development, Harvard University.

McKenzie-Mohr, D., and Smith, W. (1999). *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*. Canada: New Society Publishers.

McKenzie-Mohr, D. (Date unknown). Quick Reference: Community-Based Social Marketing. Community-Based Social Marketing Web site, www.cbsm.com.

Nicholson, G. (2000-2001). At the Sign of the Lone Pine. *The Land Steward*, 13, 2.

Rokeach, M. J. (1973). *The Nature of Human Values*. New York, NY: Random.

Rogers, E. (1962). *Diffusion of Innovations*. New York, NY: The Free Press.

Rogers, W. (Date unknown). From Culture of Conservation CD. Trust for Public Lands Web site, www.tpl.org.

Russonello, J., and Stewart, K. (2002). *Americans and Biodiversity: New Perspectives in 2002*. Madison, WI: The Biodiversity Project.

Saunders, C. (2003). The Emerging Field of Conservation Psychology. *Human Ecology Review*, 10, 137-149.

Schneider, B., and Cheslock, N. (2003). *Measuring Results: Gaining Insight on Behavior Change Strategies and Evaluation Methods for Environmental Education, Museum, Health, and Social Marketing Programs*. San Francisco, CA: CoEvolution Institute.

Schultz, P.W., and Zelezney, L. (2003). Reframing Environmental Messages to Be Congruent with American Values. *Human Ecology Review*, 10, 126-136.

Valiveronen, E., and Hellsten, I. (2002). From “Burning Library” to “Green Medicine”: The Role of Metaphors in Communicating Biodiversity. *Science Communications*, 24, 229-245.

Wirthlin Worldwide (2001). Nurturing Future Generations. *The Wirthlin Report*, 11, 2.