

## **A. DEFINITIONS: Community Development, Community-based Education about the Environment**

### A. 1. APPLYING U. S. COMMUNITY DEVELOPMENT PROCESS LESSONS<sup>1</sup>

#### **Background**

The impetus for this paper comes from a desire to bring together elements of community development and youth and adult education and apply them to community-based environmental education. In particular, this effort is geared toward attempting to establish a model, or models, that will aid U.S. Environmental Protection Agency and local (county) Cooperative Extension professionals to better collaborate in support of community-based education about the environment.

#### **Community Development**

A common definition of *community development* is not simple to attain, nor is it universally agreed upon. Part of the confusion rests with the fact that *community development* is both process and product. The practice of community development is not one focused solely on material resource development, nor is it devoted exclusively to systems for addressing community needs. Jones and Silva (1991) consider an integrated model of community development that includes problem solving, community building, and systems interaction. Stated another way, they posit that a truly integrated approach assesses the problem, goes on to build community capacity, and importantly, addresses the problem.

*Community* refers to the focus of the interest at question. In fact, *community of interest* is a useful characterization of the term. It implies more than merely a physical place, although it can, and often does include a geographic element. It may, however, reference a discrete collection of persons about which a common interest is shared, yet they may be collected from far different places, not necessarily even corresponding about their shared interest. The community of interest need not be made up of similar perspectives. Indeed, it often is made up of diverse perspectives surrounding a common issue.

As difficult as *community* is to define, finding a common definition of *development* may be more problematic. The field of community development grew in large part out of the industrialization model of the mid-1900s. Yet, the term *development* in contemporary community development means far more than *industrial or economic* development. The best substitute for the word "development," in this context, are terms that are more supportive of process concepts such as *advancement; betterment; capacity building; empowerment; enhancement; and nurturing*.

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<sup>1</sup>Paper developed by Greg Wise, Extension Community Development Agent and Associate Professor, University of Wisconsin-Extension – Sauk County specifically for the EPA/USDA Partnership project. Contributor: Elaine Andrews, Extension Environmental Education Specialist, Environmental Resources Center, University of Wisconsin-Extension. 1998.

The various authors writing about the process of community development each offer a definition of community development itself. While a universal definition is difficult to produce, Chris Maser's definition of community development may be most fitting for consideration in this context. In Maser's definition *community development* efforts build "the capacity of people to work collectively in addressing their common interests" (Maser, 1997). Other definitions from source and secondary articles (most notably, Christenson and Robinson, Jr., 1980) have been assembled in Table 1 (at the end of this paper). Together, they offer a sense of the breadth of thought and application present in the field of community development.

### **The Genesis of Community Development**

Scholars identify the *professional practice* of community development as a post-World War II event (Batten, 1957; Cary, 1979; Cawley, 1989; Sanders, 1970). The earliest projects evolved from the efforts of industrialized countries to assist emerging nations in their development. While basic concepts and underlying principles were already known, new in the second half of the 20<sup>th</sup> Century was the articulation of professional practice.

Cary (1979) traces the earliest foundation of community development to a set of principles — felt need, extensive citizen involvement, consensus, and local decision making. The wide appeal of democratic principles and practical application has resulted, according to Cary, in a community development practice in which these principles are repeated over and over again with only modest refinement. Cary suggests that the result is a lack of theoretical or empirical underpinning for the profession. In detailing the history of community development practice, Cary credits the outreach efforts of land grant universities and programs of adult education and community betterment for contributing to the evolution of today's community development practice.

Cawley (1989) also links the genesis of academic and practitioner models of the community development process to roots in both the fields of community development and adult education. He sees the common thread in the focus on *community* as the arena for engaging persons, groups and organizations.

Sanders (1970) cites the ancestry of community development as a union of community *organization* and economic *development*. Community organization activities grow out of societal responsibility coupled with local action. Satisfying economic development needs requires an application of a process — stages of change necessary in order to reach desired goals. Sanders defines contemporary community development as "the linkage of community organization, which stresses local action and use of local resources, with economic development, which emphasizes national planning, careful allocation of resources, and systematic movement toward well-defined goals." Sanders provides another insight which might explain some of the lack of a common understanding of community development. Sanders (1958) notes that there are four ways of viewing community development. Community development is a *process* moving by stages from one

condition to the next. The emphasis is on what happens to people. Community development is a *method*, a way of working toward the attainment of a goal. The emphasis is on an endpoint. Community development is a *program*, whereby if procedures are carried out, activities will be accomplished. The emphasis is on activities. Finally, community development may be viewed as a *movement*, a cause to which people become committed. The emphasis is on inciting to action.

Batten wrote in 1957 that what is [new] in community development practice, is the *emphasis* (rather than the principles) on local needs and welfare of the people (as opposed to material resource development). Batten emphasized the concept of community empowerment as a means of identifying issues, managing change, and facilitating community-based solutions.

### **In Search of a Model**

Perhaps because the profession of community development is somewhat void of a significant theoretical and empirical foundation, but rather, was built on a tradition of successful and pragmatic application of locally supported initiatives, it is difficult to find seminal writings on recommended models. Another complicating factor is the highly localized application of community development initiatives. Rather than a strong federal or even state role in the development and administration of a model or models, U.S. community development experience has been an entrepreneurial effort on the part of communities or regions. Some lead state agencies have urged local initiatives that resembled community development models, but this has not been wide spread. The closest thing to a national effort may be a loose confederation of state cooperative extension outreach efforts. However, these efforts vary from state to state both in the type of programs supported and the level of support offered.

Cawley (1989) traces application of the community development model from roots in a *problem-solving* approach. Problem solving in the community development process generally refers to a systematic approach to identifying needs, establishing shared goals and objectives, and working collectively toward the successful implementation of an agreed upon agenda. In the process paradigm of community education, both the *process* and the *outcome* are important. The process is important in terms of “empowering” the people involved to successfully embrace change and enhance their ability to deal with both the immediate issue and future situations. The outcome is important in that particular issues are successfully addressed. Subtle differences exist in the detail of steps and semantics used to describe variations of the problem-solving paradigm for the community development process. However, each is based on a shared core theme.

In his book *Three Models of Community Organization Practice*, Rothman (1972) similarly detailed approaches to community problem solving. The locality development or *process* model stresses self-help involving a broad cross-section of people in determining and solving their own problems. The second model is the social *planning* model. This approach stresses identifying serious community concerns and methods of solving substantive problems. It involves a greater reliance

on technical assistance. The social *action* model involves assisting disadvantaged populations (those lacking power and influence) in overcoming their deprivation. Conflict, confrontation, action, and negotiation are tactics employed in this model. The author (and other professional commentators) suggests that situations call for employing a mix of tactics, rather than a simplistic model.

An interesting approach to teasing out a “model” of community development was provided by a content analysis of articles published in the *Journal of the Community Development Society*, the major forum for community development professionals (Christenson, 1989). In conducting the content review of *Journal* articles, Christenson detailed three major themes (similar to the Rothman characterization): (1) self-help, non-directive, or cooperative theme; (2) the technical intervention, planning, or assistance theme; and (3) the conflict or confrontation theme. Christenson notes that at the most general level, most of the articles had an underlying theme relating to the “betterment of people.” He also notes that most articles defined community development as “people initiating a social action process to improve their situation ... through a variety of methods such as self-help, technical assistance, and conflict.” In conclusion, Christenson agreed with Rothman's conclusions noting that artificially categorizing articles into the three themes masks the reality that most successful community development efforts borrow a bit from each theme.

In their article *Problem Solving, Community Building and Systems Interaction: An Integrated Practice Model for Community Development*, Jones and Silva (1991) confirm that most community development models identify problem solving as the core element. Typically, problem-solving phases are defined as: (1) identifying the problem; (2) determining how to address it; (3) addressing the problem; and (4) evaluating the results of the intervention.

Jones and Silva (1991) argue that successful community development efforts are more truly an integrated practice model of community development. They see this model as one that utilizes problem-solving (borrowing from the process model) to generate action; community building (drawing from elements of the social planning model) to establish broad ownership for that action; and systems interaction (bringing characteristics of the social action model) to give necessary direction to the action.

### **Strategic Planning & Visioning**

Community strategic planning and visioning efforts have become popular in the 1990s (Gordon, 1993). Principles of successful strategic planning and visioning, derived from case studies and literature published in a recent research publication *Community Visioning/Strategic Planning Programs: State of the Art* (Walzer, et al, 1995), include:

- (1) Having a *clear vision* of what one can and wants to accomplish
- (2) *Accurately assessing the strengths and limitations* of the community
- (3) *Creating goals and objectives* which will result in achieving the vision

- (4) Establishing a set of *strategies and action plans* for accomplishing community goals and objectives
- (5) Exhibiting *perseverance and follow-up* on all details and over time
- (6) Continually *evaluate and take corrective action* when programs require redirection.

Among other key findings, the report describes requisite ingredients for initiating and carrying out successful locally-based efforts; principally, local ownership of the effort, an emphasis on vision, and adaptive means of implementation. This report is one of a handful that contributes new insights (moving beyond planning to visioning) to an evolving community development discipline.

One example of a community visioning/strategic planning program applied to a community economic development process is *Take Charge: Economic Development in Small Communities* (Ayres, et al, 1990). This model sets out to engage community members in answering these three questions: (1) Where Are We Now?; (2) Where Do We Want To Be?; and (3) How Do We Get There?

Another model in this same genre is the *Green Communities Assistance Kit* prepared by the EPA's Region III office (McDowell, 1997). *Green Communities* is defined as a "capacity-building" effort designed to "help local communities take charge of their own environmental quality issues" "to help citizens and community leaders solve problems and make decisions in ways that integrate environmental, social, and economic issues at the local level." The *Green Communities* process adapts the *Take Charge* model and suggests working through four questions as a guide: (1) Where Are We Now?; (2) Where Are We Going?; (3) Where Do We Want To Be?; and (4) How Do We Get There?

The strategic planning premise of these models includes elements of the traditional community development model of problem solving. Strategic planning provides the basis for many kinds of community development efforts, not only those limited to economic development and environmental protection.

In describing substance abuse prevention efforts, Chavis and Florin (1990) make the case that a community development approach to addressing social problems is essential to bringing together all sectors of the community in a true collaborative partnership. The authors assert that the linkages that can be forged and maintained by comprehensive community involvement, cooperation and collaborative problem solving are necessary to engage key interest groups and the broader community. They note that the key ingredient to using the community development approach successfully in substance abuse prevention programming is to engage in meaningful community participation, a central theme in the community development approach.

Kaye and Wolff (1997) describe the application of coalition building and community development to community-based health issues (based on innovative grassroots efforts to tackle health and quality of life issues in communities). They make a

distinction between models which are community-based and those which engage in true community development and suggest moving from a paternalistic betterment model to one of authentic empowerment.

These are just a few examples of a number of community development approaches used to address not just traditional economic development matters, but issues as diverse as public health concerns, housing, leadership and organizational development, and youth at risk.

### **Innovative approaches**

New and innovative approaches to the basic concept of community development are emerging. Kretzmann and McKnight (1993) suggest a critical paradigm shift in the manner in which community development's needs assessment methodology is employed. Rather than focussing on what is wrong with a community (and listing all of what needs improvement), the authors provide a guide to community building that begins with indentifying assets: individual and organizational skills and capacities. Their guide lays out five steps in the community-building process: mapping assets, building relationships, mobilizing for [economic] development and information sharing, convening the community to develop a vision and a plan, and leveraging outside resources to support locally driven development.

Cornelia Butler Flora (1997) has best-detailed contemporary innovations in community development theory and practice in a brief, but seminal discussion of the newly evolved approach to working with communities. Butler stresses that rather than a mere semantic twist, the change in vocabulary means a change in attitude and approach. In short, Flora notes the following changes in community development:

- ! From community development to community empowerment.
- ! From needs assessment to asset mapping.
- ! From clients to citizens.
- ! From strategic planning to strategic visioning.
- ! From deficiencies to capacities.
- ! From dependency to interdependency.
- ! From industrial recruitment to building from within.
- ! From outside evaluation to internal monitoring.

These changes spell out a refined community development model that can be applied to a myriad of issues in the community, including education about the environment.

### **Summary**

It may be difficult to find universal definitions for *community* and *development*. Community development may ultimately have too many different meanings to make it universally acceptable as a vehicle for supporting education about the environment at the community level. But for our purposes, the practice of community development (or advancement, betterment, capacity building, empowerment, enhancement, or nurturing) provides clues for improving the success of partnerships

of federal experts, local facilitators and concerned community interests to identify, discuss and resolve local environmental concerns.

Common themes of the community development practice in the U.S. occur throughout the many resources identified to prepare this paper. Key aspects are summarized in Table 2. These characteristics are already applied to a variety of community issues including economic initiatives, but more and more often are also used to address community vision, leadership, public health, housing concerns. Natural resource managers and environmental educators can benefit from these successes in the effort to develop contemporary approaches to community-based education about the environment.

**TABLE 1**  
**Select Definitions of Community Development**

“The deliberate attempt by community people to work together to guide the future of their communities, and the development of a corresponding set of techniques for assisting community people in such a process.” (Bennett, 1973)

“An educational approach which would raise levels of local awareness and increase confidence and ability of community groups to identify and tackle their own problems.” (Darby & Morris, 1975)

“A series of community improvements which take place over time as a result of the common efforts of various groups of people. Each successive improvement is a discrete unit of community development. It meets a human want or need.” (Dunbar, 1972)

“Finding effective ways of helping and teaching people to develop new methods and to learn new skills. This process is, however, done in such a way as to retain community control and community spirit.” (Frederickson, 1975)

“A process of creating special community organizations throughout society which will be responsible for channeling demands to centers of power, to distributors of benefits.” (Hammock, 1973)

“A process, as a method, as a program, and as a movement; or as a set of purposes.” (Hauswald, 1971)

“The process of local decision-making and the development of programs designed to make their community a better place to live and work.” (Huie, 1976)

“All of the efforts made to establish and maintain human interaction while improving the appropriateness of the physical setting to that interaction. Underlying values to this development are the recognition of the individual’s right to select the extent of community or privacy and the group’s right to identify its own needs for community development.” (Koneya, 1975)

An open system of decision making, whereby those comprising the community use democratic and rationale means to arrive at group decisions to take action for enhancing the social and economic well-being of the community.” (Littrell, 1975)

“An educational process designed to help adults in a community solve their own problems by

group decision making and group action. Most community development models include broad citizen involvement and training in problem solving.” (Long, 1975)

“The involvement of people and the coordination and integration of all efforts directed at bettering conditions.” (Lotz, 1970)

“The capacity of people to work collectively in addressing their common interests.” (Maser, 1997)

“The process which basically initiates and develops structure and facilitates program development that includes users of the program. I identify Community Development in the context of initiating and of developing supportive human relationships.” (Miles, 1974)

“A process in which increasingly more members of a given area or environment make and implement socially responsible decisions, the probable consequence of which is an increase in the life chances of some people without a decrease in the life chances of others.” (Oberle, Darby, & Stowers, 1975)

“Facilitating those cultural mechanisms that provide for shared experience, trust, and common purpose.” (Parko, 1975)

“A process. Our concern is with the life process -- continuity, adjustment, and fulfillment, and finally the self-sufficiency of the people.” (Pell, 1972)

“The active voluntary involvement in a process to improve some identifiable aspect of community life; normally such action leads to the strengthening of the community’s pattern of human and institutional interrelationships.” (Ploch, 1976)

“The active involvement of people at the level of the local community in resisting or supporting some cause or issue that interest them.” (Ravitz, 1982)

“Many community development efforts are essentially efforts to help community residents understand what is happening and recognize some of the choices they face in order to achieve the future community they desire.” (Shaffer, 1990)

“People who are affected by change participate in making it ... A system provides for communication among all groups in the community, including open discussion of issues, feelings, and opinions. The community understands its problem-solving process and needs no further instruction.” (Vaughn, 1972)

“A situation in which some groups, usually locality based such as neighborhood or local community ... Attempts to improve its social and economic situation through its own efforts ... using professional assistance and perhaps also financial assistance from the outside ... and involving all sectors of the community or group to a maximum.” (Voth, 1975)

“A process of helping community people analyze their problems, to exercise as large a measure of community autonomy as is possible and feasible, and to promote a greater identification of the individual citizen and the individual organization with the community as a whole.” (Warren, 1978)

“A public-group approach dedicated to achieving the goals of the total body politic.” (Weaver, 1971)

“Acts by people that open and maintain channels of communication and cooperation among local groups.” (Wilkenson, 1979)

**TABLE 2**  
**Key Characteristics of the Community Development Process**

- § Participation comes from a broad cross section of the community.
- § Deliberations are made on the basis of well-informed participation.
- § Decisions are the result of consensus or democratic majority rule decision-making.
- § The process purposefully fosters group building, leadership development and capacity building (process objective) as an essential element, while striving to successfully address a substantive issue as well (product objective).
- § Processes are largely focused on a purposeful and systematic approach to addressing a local concern(s).
- § Community issues or problems are investigated holistically, linking issues and appreciating the complexities of the community in assessing and resolving the issue.
- § Processes are flexible and not rigidly structured to only deal with an initial concern.
- § U.S. community development processes have a strong reliance on professional staff facilitation and coordination.
- § Successful U.S. efforts are characterized as being locally initiated and entrepreneurial, although broad models may be championed by community colleges, state extension programs, or state or regional agencies furthering programmatic agendas.
- § The genesis of efforts is often a locally perceived crisis or potential crisis, although some initiatives arise from subtle mandates from broader units of government, opportunities to gain additional resources, or simply the pride of a key champion.
- § Greater competition for diminishing resources (and the general “devolution” of government-sponsored programs from broader to more local governments) has thrust communities into situations of coordination and collaboration in order to address important issues.
- § The community development process is increasingly being used as the mechanism for integration in these opportunities.

*Summarized by Greg Wise, University of Wisconsin Cooperative Extension, from articles by forty authors referenced in the Appendices to the report "An EPA/USDA Partnership to Deliver Community-based Education," 1998.*

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## A. 2. ENVIRONMENTAL EDUCATION versus COMMUNITY-BASED EDUCATION

### ***How does environmental education relate to community-based education about the environment?***

#### **Themes of environmental education**

Environmental education has largely been defined through international meetings sponsored by the United Nations. The most famous of these was known as the Tbilisi conference.<sup>2</sup> A 1982 UNESCO definition of the purpose of environmental education explains that it is education designed, "to aid citizens in becoming environmentally knowledgeable and above all, skilled and dedicated citizens who are willing to work, individually and collectively, toward achieving and/or maintaining a dynamic equilibrium between quality of life and quality of the environment."

It is important to note that environmental education definitions have **never** been limited to school-age youth. They apply to citizens of all ages. A summary of topics generally included in the field of environmental education includes skills and knowledge relating to these goals: ecological foundations, conceptual awareness of issues and values, investigation skills, evaluation skills, environmental action skills, socio-political knowledge.<sup>3</sup>

Recently, environmental education literacy has been described by four themes:<sup>4</sup>

1. Knowledge of environmental processes and systems
2. Inquiry skills
3. Skills for decision and action
4. Personal responsibility

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<sup>2</sup>Tbilisi Intergovernmental Conference on Environmental Education. 1978. "Toward an Action Plan: A Report on the Tbilisi Conference on Environmental Education." A paper developed by the FICE subcommittee on Environmental Education. Washington, D.C., U.S. Government Printing Office, Stock No. 017-080-01828-1.

<sup>3</sup>Goals for environmental education have been the topic of lengthy debate over many years. Key summaries have been provided by the following authors: Ronald Gardella, *Environmental Education Curriculum Inventory Forms A and B*, 1986; Harold Hungerford, R. B. Peyton, R. J. Wilke, *Goals for Curriculum Development in Environmental Education* in "Journal of Environmental Education, 1980; North American Association of Environmental Education background papers on education standards, 1995; Charles Roth, *Definition and Clarification of Environmental Literacy*, ASTM Environmental Literacy Project, 1990.

<sup>4</sup>Courtesy of documents published by the North American Association for Environmental Education, D. Simmons, Project Director.

### **Community - based environmental education:**

- Relates directly to **local** topics, problems or issues
- Provides practical actions which relate to individual or group-identified needs
- Results in environmental management actions which stem **from** the community rather than from requirements directed **at** the community.

When environmental educators practice their profession in the community, they need to:

1. Bring the local community context into environmental education design and delivery to provide education experiences which support *all* aspects of environmental education theory:
  - § Knowledge of environmental processes and systems
  - § Inquiry skills
  - § Skills for decision and action
  - § Personal responsibility
2. Reflect a new orientation towards management of the environment by ecological systems rather than by single natural resource topic, e.g. management by watersheds rather than by trout habitat.
3. Design education experiences which motivate youth and adults to learn, i.e. experiences which are relevant to personal life interests and needs.
4. Provide opportunities for individuals to learn and practice new skills for protecting or managing the environment.

### **Goals for community-based education about the environment**

When developing goals for an environmental education initiative focused on a community concern, **address these questions:**

#### § **Community of interest**

§ who are the people in this community and which people will be affected by the education program?

§ what are their roles, needs, and interests?

§ what are the characteristics of the place?

#### § **Knowledge and skills**

§ what do people usually need to know related to this topic?

#### § **Target audience**

§ who should participate?

§ what are their skills, wants and needs?

#### § **Key players**

§ who must be included in designing a program or resource which matches the education opportunities?

### A. 3.COMMUNITY-BASED ENVIRONMENTAL EDUCATION - RESEARCH AND DEFINITIONS

Berger, Ida, E. and Ruth M. Corbin. 1992. *Perceived Consumer Effectiveness and Faith in Others as Moderators of Environmentally Responsible Behaviors*. Journal of Public Policy and Marketing, 11(2), 79-89.

The authors use a 1989 environmental opinion poll of the Canadian population to examine the influence of perceived consumer effectiveness and faith in the efficacy of others on the relationship between environmental attitudes and consumer behaviors. Results support the concept that "Consumers need to be empowered to rely on their own capabilities to achieve valued environmental outcomes."

Booth, Elizabeth Mills. 1996. *Starting With Behavior - A Participatory Process for Selecting Target Behaviors in Environmental Programs*. GreenCOM, Academy for Educational Development, 1255 23<sup>rd</sup> St., NW, Washington, DC 20037.

The author worked with technical assistance from GreenCOM and a local team in Ecuador to design, test and implement a methodology for monitoring and measuring observable changes in behavior related to sustainable use of land in buffer zones surrounding an ecological reserve. A participatory process for selecting target behaviors includes: define the ideal behavior, conduct research with "doers" and "non-doers," select and negotiate target behaviors, and develop strategies which reflect findings. Factors which influence the adoption of ideal behaviors were applied to specific case studies to learn through example. Factors include: availability of appropriate technologies to support the practice, policies and laws that support the behavior change, events (antecedents) to set the stage for or trigger behavior (knowledge, skills), consequences that strengthen the behavior, perceived consequences, perceived social norms, and perceived skills.

Byers, Bruce A. 1996. *Understanding and Influencing Behaviors in Conservation and Natural Resources Management*. African Biodiversity Series, No. 4. Washington, D.C.: Biodiversity Support Program, A USAID funded consortium of World Wildlife Fund, The Nature Conservancy, and World Resources Institute. c/o World Wildlife Fund, 1250 24th St. NW, Suite 500, Washington, D.C. 20037.

Summarizes the role of behavior in conservation and natural resource management through a model including: 1) assessment and research; 2) planning; 3) implementation. At each stage, educators consider: Conditions - social and ecological; Behaviors - decisions, practices, actions; Factors - determinants, motivations, influences; Actors - participants, stakeholders, audiences; Activities - programs, projects, transactions; Resources - money, staff, time. Evaluation is integral at each step.

Behavior factors include: identifying critical behaviors, then focusing on a few using a positive perspective; understanding the flexibility of certain behaviors; understanding perceived benefits and barriers to behavior choices. Sorting out

factors that could influence a certain behavior can be accomplished with a "Social Assessment" process as used by the World Bank.

A chapter on methods and tools for social research describes and provides examples for research tools which involve community members: surveys, questionnaires, observation, interviews, focus groups, community meetings, maps and transects, calendars, matrices - contrast and trend, Venn diagrams, wealth or well-being ranking, prioritization, decision trees, flow diagrams. Methods include: Rapid Rural Appraisal, Participatory Rural Appraisal, participatory research, participatory planning.

De Young, Raymond. 1989. *Exploring the Difference Between Recyclers and Non-Recyclers: the Role of Information*. Journal of Environmental Systems, Vol. 18(4), 341-351.

This study found no difference between the attitudes of recyclers and non-recyclers. Those who did not value recycling (as demonstrated in attitude studies 6 months prior to the initiation of community recycling) participated in recycling activities as often as those who did value recycling. As a result, the author recommends that environmental education focus on **how** to turn intentions into actions, rather than on changing attitudes.

De Young, Raymond. 1993. *Changing Behavior and Making It Stick: The Conceptualization and Management of Conservation Behavior*. Environment and Behavior, 25(4): 485-505.

Due to the complexity and ubiquity of environmental issues, the need to find strategies to change conservation behavior while minimizing the need for repeated intervention continues to challenge environmental education program developers. Environmental education professionals have used the following techniques of intervention: informational techniques, positive motivational techniques and coercive techniques. Five evaluation techniques should be used to measure the impact of the intervention technique on behavior change: reliability, speed of change, universality, generality, and durability. Under these criteria, positive motivation techniques produce the best results, especially if they focus on intrinsic motivation. Commitment strategies provide this opportunity reliably producing both quick and durable behavior change.

Dwyer, William O., Frank C. Lemming, et al. 1993. *Critical Review of Behavioral Interventions to Preserve the Environment: Research Since 1980*. Environment and Behavior, 25(3): 275-321.

Authors note that from 1970-1990, behavioral intervention studies that focus on environmentally relevant behavior peaked in 1977 and then steadily declined into 1990. The research was restricted to behavior-change interventions and obtained 54 intervention studies with antecedent and consequence strategies. They concluded that over the past decade, much of the research did not allow for meaningful comparisons among other interventions while few studies included critical follow-up procedures. Without follow up, techniques that

produce long-term behavior change may be overlooked. Authors note some accomplishments from the 1980's research.

The techniques that have resulted in consistent behavior change are antecedent conditions, commitment, modeling, and goal-setting strategies. The authors then offer several specific suggestions to address the methodological problems and general research.

Gigliotti, Larry M. 1990. *Environmental Education: What Went Wrong? What Can Be Done?* Journal of Environmental Education, 22(1):9-12.

The author argues that although environmental education has been successful at producing ecologically concerned citizens, people are generally unwilling to change their personal lifestyles in ways which are necessary to solve some environmental problems. Citizens who have learned misconceptions or myths about the environment have criticized the behavior of others's, but lack the knowledge and conviction to change their own behaviors. Gigliotti states that every citizen needs a basic understanding of ecological principles, information on the alternatives and consequences of actions, and information on possible individual action. To help change the myth that people are separate from the environment, environmental education messages must make the connection between environmental information and individual actions and solutions to environmental problems.

*Health & Environment Digest*, Vol. 9, No. 9, January 1996.

Ken Sexton, "Environmental Justice: Are Pollution Risks Higher for Disadvantaged Communities?"

Kenneth Olden and Gerald Poje, "The Emergence of Environmental Justice as a National Issue"

Victor Sidel, Barry Levy, Beverly Johnson, "Environmental Injustice: What Must Be Done?"

These three feature articles make a variety of points about environmental justice of interest to community-based education planners.

To get a better understanding of environmental justice issues, Sexton recommends investigating each concern from three perspectives: a) What are the differential effects of class and race on health risk from the pollutant?; b) How do class and race affect exposure and susceptibility factors?; c) How do exposure and susceptibility factors affect health risk?

Olden and Poje note that the size of the disparity between the health status and risks of the overall population versus disadvantaged groups shows that at least some of the illnesses are preventable. Environmental and occupational exposures are likely to play a prominent role in this disparity.

Sidel, Levy and Johnson argue that more attention to eliminating environmental risks would benefit everyone's health. Meanwhile, more effort should be made

to involve disadvantaged groups in policy decisions. This can be accomplished through: a) working with community organizations or creating new organizations; b) insisting that environmental decisions affecting communities be made in partnership with community residents; c) demanding equity in clean-up and enforcement; d) collaborating with local businesses to find acceptable alternatives to environmental risks; e) developing sustainable communities that do not require excess risk for economic well-being.

Howe, Robert W. and John Disinger. 1988. *Environmental Education That Makes A Difference - Knowledge To Behavior Changes*. In ERIC/SMEAC Environmental Education Digest, Columbus, OH 43212 (614) 292-6717. EDO-SE-90-12.

Students who are given the opportunity to engage in long-term, realistic environmental issues tend to demonstrate responsible environmental behavior. Authors describe several variables involved in developing this accountability. Such individuals exhibit: (1) knowledge of relevant environmental concepts; (2) knowledge of environmental problems and issues; (3) concern for the quality of the environment; (4) knowledge of action strategies that may be used for resolving an issue; (5) belief that their action can make a difference; (6) commitment to take action; and (7) experience in action-based activities. Authors then list three sets of materials shown to have a significant effect on student's learning and behavior: (1) *Conservation and Children* (National diffusion Network, 1988); (2) *Investigating and Evaluating Environmental Issues and Actions: Skills and Development Modules* (Hungerford, 1988); and (3) *Decisions for Today and Tomorrow: Issues in Science-Technology-Society* (Iozzi, 1987).

Hungerford, Harold R. and Trudi L. Volk. 1990. "Changing Learner Behavior Through Environmental Education." *Journal of Environmental Education*. 21(3): 8-21.

Research into environmental behavior has not been able to show that increased knowledge will change human behavior. To achieve responsible citizenship behavior, individuals must be given the opportunity to develop the sense of "ownership" and "empowerment." Individuals who act have "expressed an intention to take action" and "possess a desire to act". Authors also found that to change learner behavior, strategies should be implemented across all grade levels. The cooperation of nonformal education agencies as well as local and regional educational resources would maximize this opportunity for success.

Jansen, Lawrence. 1995. "Citizen Activism in the Foundations of Adult Environmental Education in the United States," *Convergence*, Vol. XXVIII, No. 4.

Jansen encourages the strengthening of the partnership between community/national conservation groups and adult educators to create informed and involved citizens. In his view, educators have not lent their expertise to environmental activists and environmental groups have not taken advantage of educator's knowledge about community development, adult learning, psychology, leadership development, and educational programming.

Adult educator's experience can assist in taking environmental education to diverse populations, going beyond the traditional audience for environmental issues. To translate awareness into action, education should "heighten citizens' consciousness of place and community. . . . Community-based education, logically, can accomplish this when imbued with community values, problems, resources and potential."

Effective, enduring leadership is missing among environmental groups. Adult educators can help bring organizations together for sharing ideas and collaborating on strategies. Cooperative Extension can work with community learning centers, local government and local planning groups to develop community volunteer leadership programs, such as peer leaders.

Katzev, Richard D. and Anton U. Pardini. 1987. "The Comparative Effectiveness of Reward and Commitment Approaches in Motivating Community Recycling." *Journal of Environmental Systems*, Vol. 17(2): 93-113.

This study investigated the value of commitment to an environmental action. Various study components compared: commitments vs. monetary incentives, single request vs. multiple requests for commitment, and verbal commitments vs. written commitment. Another study by Theodore Wang and Richard Katzev explored the individual vs. group commitment option. (1990. Group Commitment and Resource Conservation: *Two Field Experiments on Promoting Recycling*. Journal of applied Social Psychology, Vol. 20(4): 265-275.) Results showed that commitments work better than monetary incentives for their ability to produce short term involvement and enduring behavior change. Commitments must be explicit for a specific action. They are enhanced if they are individual, public, written, and voluntary. Commitments to a specific act may lead to a more generalized commitment.

McKenzie-Mohr, Doug. 1996. *Promoting a Sustainable Future: An Introduction to Community-Based Social Marketing*. National Round Table on the Environment and the Economy, 1 Nicholas Street, Suite 1500, Ottawa, Ontario, Canada, K1N 7B7.

This booklet summarizes research about social marketing and explains how to apply results in the community setting. It draws on research that indicates that initiatives to promote behavior change are most effective when they are carried out at the community level and involve direct contact with people. People trained in social marketing techniques have proved to be three to four times more effective in encouraging changes in behavior than they were prior to training. Internal and external barriers must be identified in order to develop a social marketing strategy to remove the barriers.

Some factors which act as predictors to behavior are: a) Consistency and commitment - people behave consistently (once agreeing to a small request, they are more likely to comply with a larger request on the same topic) and are more likely to take action if they have made a commitment to the action; b)

Prompts (slogans targeting specific behaviors, point of purchase education); c) Social norms are often a source of behavior information for individuals - education programs should stress the high participation rates of others or provide opportunities for people to observe others choosing the behavior; d) Communicate effectively - using vivid language, a credible source, tailor the message to the audience, model behavior; e) Remove external barriers - these must be identified; f) Identify barriers by research and real life confirmation of findings; g) Test appeal of proposed strategy to change behavior.

White, Susan and John Senior. 1994. "The Ripple Effect - A New Approach to Environmental Education for Adults," *Adults Learning*.

White and Senior argue that motivation for environmental action would be improved if incorporated into schemes that addressed self-interest and emphasized personal or small-scale actions. They encourage educators to find personally relevant opportunities rather than depend on large-scale or crisis issues.

Weintraub, Bernard A. 1995. "Defining A Fulfilling and Relevant Environmental Education," *Urban Education*, Vol. 30, No. 3.

Weintraub analyzes the terms "environment" and "education" separately in order to develop conclusions about how to make environmental education effective within a community setting.

"Environment" must be defined in a way that recognizes the needs of both people and Earth. In addition to resources like iron and lumber, this definition allows landscapes, open space, safe drinking water, and air quality to be considered natural resources. "A community's natural resources can be defined to be the Earth-derived benefits that are necessary for that social organization to achieve, to maintain, and to promote its collective identity."

Therefore, the definition of environment is individual and community specific. Environment is "the totality of natural resources of concern to a given community." The community's environment is therefore an extension of the community's identity. "Environmental management is a shorthand way of describing the range of behaviors in which a community engages to attain, to protect, to enhance, and to distribute natural resources in accordance with and in promotion of its identity." The community that is committed to responding to the needs of its members will correct the discrepancies between what actually occurs in the community and what the community feels ought to be.

Effective environmental management will include an attempt to gather all relevant information about community members' needs, including the community's relationship with the Earth and the affects of the relationship on community members and the Earth. Formal and informal methods are recommended to clearly highlight areas of strength and areas of dissatisfaction. Community relationship to the global environment and to the needs of future

generations should also be considered. This system will result in a dynamic and community specific understanding. The healthy community environment will provide for complexity, flexibility and social integrity. Parallel needs include heterogeneity which allows for resiliency, capacity to adapt, security for community members.

Education is designed to “ensure a work force with the skills to continue and to improve on the work started by others, a populace that has the problem-solving skills to respond to the unexpected, and a citizenry with values that will preserve the society and force it to become better.” Education seeks to inculcate the links between individual and community fulfillment. “An education concerned with community and individual fulfillment values problem-solving skills.”

The basis of environmental education is to make the connection between communities and environmental management and decision-making. Unless education focuses on the many individual behaviors which result from thinking of ourselves as separate from the environment, a true change in the relationship between communities and the Earth will not take place. Environmental education must be a process in which the concepts associated with sound environmental management are refined as part of the education. Environmental education can be “understood to be a vehicle for exploring and promoting a community-specific standard.” “Environmental education is a method of supporting the continuing evolution of the relationship of communities to the Earth.”

## A. 4. RESOURCES AND RECOMMENDATIONS ON EDUCATING FOR SUSTAINABILITY

There are many resources which provide ideas and information about educating for sustainability: that is, addressing economic, social, and environmental aspects of the community. The following resources were reviewed because of their significance, because they exemplify a community-based approach, and because they reference many other resources. See also Appendix G which provides Canadian and International education models and references as collected and summarized by EcoLogic & Associates of Nova Scotia, Canada.

### **Independent Publications**

Andrew Blowers, ed. 1993. *Planning for a sustainable environment - A report by the Town and Country Planning Association*, England.

Goals of sustainable development identified by the Planning Association:

1. Conservation of resources
  - a. Maintenance of a continuing supply of resources for future generations
  - b. Efficient use of non-renewable energy and mineral resources and recycling
  - c. Development of renewable alternatives
  - d. Protection of biological diversity
2. Built development in harmony with the natural environment
  - a. Minimizing the consumption of energy and scarce natural resources
  - b. Maintaining the productivity of land
  - c. Buildings designed for long life, adaptability, and low resource consumption
  - d. Form and location of human settlements to minimize adverse impacts on nature
  - e. More energy-efficient and less polluting transport systems
3. Protection of environmental quality
  - a. Avoidance or reform of processes that pollute or degrade air, water and soil
  - b. Restoration of areas degraded or grossly polluted
  - c. Protecting and enhancing the regenerative capacity of the land
  - d. Elimination of processes that endanger human health
  - e. Safeguarding the integrity and continuity of natural ecosystems
4. Social equity as between individuals, societies and generations
  - a. Devising patterns of trade, aid and investment that diminish inequalities
  - b. Reducing extremes of wealth and poverty which inhibit environmental care
  - c. Restraining the rich and powerful from unsustainable resource exploitation

- d. Encouraging forms of economic development that reduce social inequality
- 5. Changing values and attitudes through participation in environmental decisions
  - a. Developing greater sharing of responsibility among all levels of decision making, from local to international
  - b. Encouraging and empowering local initiatives to achieve sustainability goals
  - c. Promoting more widespread knowledge about environmental problems and actions needed to counteract them

Chris Maser. 1997. *Sustainable Community Development - Principles and Concepts*. St. Lucie Press, Delray Beach, Florida.

This author provides a detailed and thoughtful analysis of how community development goals can relate to sustainability initiatives. Direct quotes are provided to assist in following the logic of this approach.

“A local community serves five purposes:

1. Social participation - where and how people are able to interact with one another to create the relationships necessary for a feeling of value and self-worth
2. Mutual aid - services and support offered in times of individual or familial need
3. Economic production, distribution, and consumption - jobs, import and export of products, as well as the availability of such commodities as food and clothing in the local area
4. Socialization - educating people about cultural values and acceptable norms, and
5. Social control - the means for maintaining those cultural values and acceptable norms” (p. 100)

“Sustainable community development means building the capacity of people to work collectively in addressing their common interests in the local society within the context of sustainability - that which is sustainable biologically, culturally, and economically.” (p. 123)

“Cultural capacity is a chosen quality of life that is sustainable without endangering the productive capacity of the environment. The more materially oriented the desired lifestyle of an individual or a community, for example, the more resources are needed to sustain it and the smaller the human population must be per unit area of landscape. Cultural capacity, then, is a balance between the way we want to live, the real quality of our lifestyle and our community, and the number of people an area can support in that lifestyle on a sustainable basis.” (p. 136)

Essential elements of sustainability (p. 14)

1. Understand and accept the inviolate physical principles governing nature's dynamics.
2. Understand and accept that we do not and cannot manage nature
3. Understand and accept that we make an ecosystem more fragile when we alter it
4. Understand and accept that we must reinvest in living systems even as we reinvest in businesses
5. Understand and accept that only a unified systemic world view is a sustainable world view. In a unified systemic world view, reality consists of organic and unified wholes that are greater than the simple sum of their parts:
  - a. Everything exists in relationship to everything else
  - b. Every relationship is dynamic, constantly adjusting itself to fit precisely into all other relationships
  - c. All relationships, including non-monetary ones, have value
  - d. Everything, including humans and nonhumans, is interconnected, interdependent, and interactive
  - e. All relationships are systems supporting systems
  - f. The whole is functionally greater than the sum of its parts
  - g. Processes have primacy over components
  - h. A system is defined by how it functions, not by the shape, number, or arrangement of its component parts
  - i. The integrity of the environment and its ecological processes has primacy over human desires when such desires would destroy the system's integrity for future generations
  - j. Nature determines the limitations of human endeavors
  - k. The relevancy of knowledge depends on its context
6. Accept our ignorance and trust our intuition, while doubting our knowledge
7. Specify what is to be sustained
8. Understand and accept that sustainability is a continual process, not a fixed end point
9. Understand, accept, and be accountable for intergenerational equity
10. Understand, accept and be accountable for ecological limitations to land ownership and the rights of private property.

**Publications from the President's Council on Sustainable Development**

National Forum on Partnerships Supporting Education about the Environment.  
1996. *Education for Sustainability: An Agenda for Action*, Chapter 4 -  
"Opportunities for Partnership: Nonformal Education," Policy Recommendation 6 -  
Nonformal Education

A demonstration project of the President's Council on Sustainable  
Development. "The collective power of people to shape the future is greater

now than ever before, and the need to exercise it is more compelling. Mobilizing that power to make life in the twenty-first century more democratic, more secure, and more sustainable is the foremost challenge of our generation."

**Chapter 4 - "Opportunities for Partnership: Nonformal Education," Policy Recommendation 6 - Nonformal Education:**

Expand public access to opportunities to learn about sustainability issues as they relate to the private, work, and community lives of individuals.

**Action 8 -** Support a campaign to raise public awareness of sustainability, convey information on indicators of sustainable development, and encourage people to adopt sustainable practices in their daily lives.

**Action 9 -** Establish an extension network to enhance the capacity of individuals, work forces, and communities to live sustainably.

9.1 Establish a national Sustainable Development Extension Network (SUDENET) to foster access to information, technical expertise, and collaborative strategies that result in action taken by local communities. The formation, structure, management, leadership, and implementation of a Sustainable Development Extension Network will be based on the following principles:

- # Research-based technology is generated and applied as determined by community needs.
- # Transfer of technology to communities and individuals is based on an appropriate combination of education plus technical and financial support aimed at user adoption.
- # Management processes for identifying needs, setting priorities, and building coalitions and partnerships are inclusionary.
- # Targeted and focused assistance responds directly to local communities and needs.
- # Existing research, education, and extension management and delivery systems are utilized, redefined, and expanded
- # Alternative implementation strategies and organizational participation models are provided.
- # Consistency in substance among programs and the results from programs are based on a verified set of principles and outcomes.
- # Management and design of the structure and process are not dominated by any one entity, but developed through a collaborative process of common goals and definition of unique organizational roles.

9.2 Formulate a comprehensive set of recommendations outlining the essential elements necessary for operating a successful Sustainable Development Extension Network.

**Action 10 -** Encourage partnerships and activities that support community visioning and assessment activities.

- 10.1 Create a national program in partnership with the National Council of Mayors, the National Governor's Association, or the National Association of Counties, that will provide educational resources and leadership training in support of community visioning and assessment.
- 10.2 Develop incentives that will support efforts by communities to manage visioning processes, assess their effectiveness, and share the lessons learned with other communities.

**Action 11 -** Infuse sustainability into work force development and lifelong learning efforts.

**Action 12 -** Encourage lifelong learning about sustainability at the individual, household, and community level.

The President's Council on Sustainable Development. 1997. Task Force reports. President's Council on Sustainable Development, 730 Jackson Place, NW, Washington, D. C. 20503, 202/408-5296, <<http://www.whitehouse.gov/PCSD>>.

Eco-Efficiency, Energy and Transportation, Natural Resources Management and Protection, Population and Consumption, Public Linkage, Dialogue, and Education, Sustainable Agriculture, and Sustainable Communities.

The President's Council on Sustainable Development. 1997. *From Classroom to Community and Beyond: Educating for a Sustainable Future*. Report of the Public Linkage, Dialogue, and Education Task Force.

The report stresses that the nation will see progress towards sustainability if we can: build upon what is already working, identify success stories and share them as models, form productive partnerships to work for the common good and address constraints, and educate individuals and communities for sustainability.

Key recommendations are:

1. Formal education reform - Encourage changes in the formal education system to help all students, educators, and education administrators learn about the environment, the economy, and social equity as they relate to all academic disciplines and to their daily lives.
2. Nonformal education and outreach - Encourage nonformal access to information on, and opportunities to learn and make informed decisions about, sustainability as it relates to citizens' personal, work, and community lives.
3. Strengthened education for sustainability - Institute policy changes at the federal, state, and local levels to encourage equitable education for sustainability; develop, use, and expand access to information technologies in all educational settings, and encourage understanding about how local issues fit into state, national, and international contexts.

The President's Council on Sustainable Development. 1996. *Sustainable America, A New Consensus for Prosperity, Opportunity, and a Healthy Environment for the Future*. World Wide Web site for full text:

<http://www.whitehouse.gov/WH/EOP/pcsd/index.html>

Sustainability goals identified by the Council are listed below. In the Council report, each goal is followed by statements which reflect indicators of progress.

1. Health and the Environment - Ensure that every person enjoys the benefits of clean air, clean water, and a healthy environment at home, at work, and at play.
2. Economic Prosperity - Sustain a healthy US economy that grows sufficiently to create meaningful jobs, reduce poverty, and provide the opportunity for a high quality of life for all in an increasingly competitive world.
3. Equity - Ensure that all Americans are afforded justice and have the opportunity to achieve economic, environmental, and social well-being.
4. Conservation of Nature - Use, conserve, protect, and restore natural resources - land, air, water, and biodiversity - in ways that help ensure long-term social, economic, and environmental benefits for ourselves and future generations.
5. Stewardship Ethic - Create a widely held ethic of stewardship that strongly encourages individuals, institutions, and corporations to take full responsibility for the economic, environmental, and social consequences of their actions.
6. Sustainable Communities - Encourage people to work together to create healthy communities where natural and historic resources are preserved, jobs are available, sprawl is contained, neighborhoods are secure, education is lifelong, transportation and health care are accessible, and all citizens have opportunities to improve the quality of their lives.
7. Civic Engagement - Create full opportunity for citizens, businesses, and communities to participate in and influence the natural resource, environmental, and economic decisions that affect them.
8. Population - Move toward stabilization of US population.
9. International Responsibility - Take a leadership role in the development and implementation of global sustainable development policies, standards of conduct, and trade and foreign policies that further the achievement of sustainability.
10. Education - Ensure that all Americans have equal access to education and lifelong learning opportunities that will prepare them for meaningful work, a high quality of life, and an understanding of the concepts involved in sustainable development.

## **National Roundtable on the Environment and the Economy, Canada**

McKenzie-Mohr, Doug. 1996. Promoting a Sustainable Future: An Introduction to Community-Based Social Marketing. National Round Table on the Environment and the Economy, 1 Nicholas Street, Suite 1500, Ottawa, Ontario, Canada, K1N 7B7.

This booklet summarizes research about social marketing and explains how to apply results in the community setting. See Appendix A. 3. for a more detailed summary.

## **United Nations publications**

The International Council for Local Environmental Initiatives (ICLEI), The International Development Research Centre (IDRC) and The United Nations Environment Programme (UNEP). 1996. *The Local Agenda 21 Planning Guide, An Introduction to Sustainable Development Planning*. ICLEI Local Agenda 21 Initiative, City Hall, East Tower, 8th Floor, Toronto, ON, Canada M5H 2N2

In the forward, Elizabeth Dowdeswell, Executive Director for the United Nations Environment Programme, asks: How can sustainable development be made meaningful at the local level? How can we develop systems to involve the stakeholders in devising appropriate solutions to local environment and development issues? How can the quality of municipal services be improved and integrated to address the environmental, economic, and social prospects of the communities? The Guide provides a planning framework to help answer these questions. According to the authors, planning should include five components: partnerships, community-based issue analysis, action planning, implementation and monitoring, evaluation and feedback. Each section explains procedures, provides work sheets or resources, and illustrates concepts with community-based case studies. Reference and explanation to many valuable planning tools are included, such as: Rapid Urban Environmental Assessment, setting targets and triggers for action planning, creating effective structures for accomplishing actions, the UNCHS Indicators Project (UN Conference on Human Settlements).

UNESCO, Agenda 21, Chapter 36, *Promoting Education, Public Awareness and Training*. Report of the Secretary General to the Commission on Sustainable Development, 1996.

Sustainable development is a process of bringing economic, community and ecological development processes into balance with each other.

1. Economic development
  - a. Sustain economic growth
  - b. Maximize private profit
  - c. Expand markets
  - d. Externalize costs
2. Community development
  - a. Increase local self-reliance

- b. Satisfy basic human needs
  - c. Increase equity
  - d. Guarantee participation and accountability
  - e. Use appropriate technology
3. Ecological development
- a. Respect carrying capacity
  - b. Conserve and recycle resources
  - c. Reduce waste