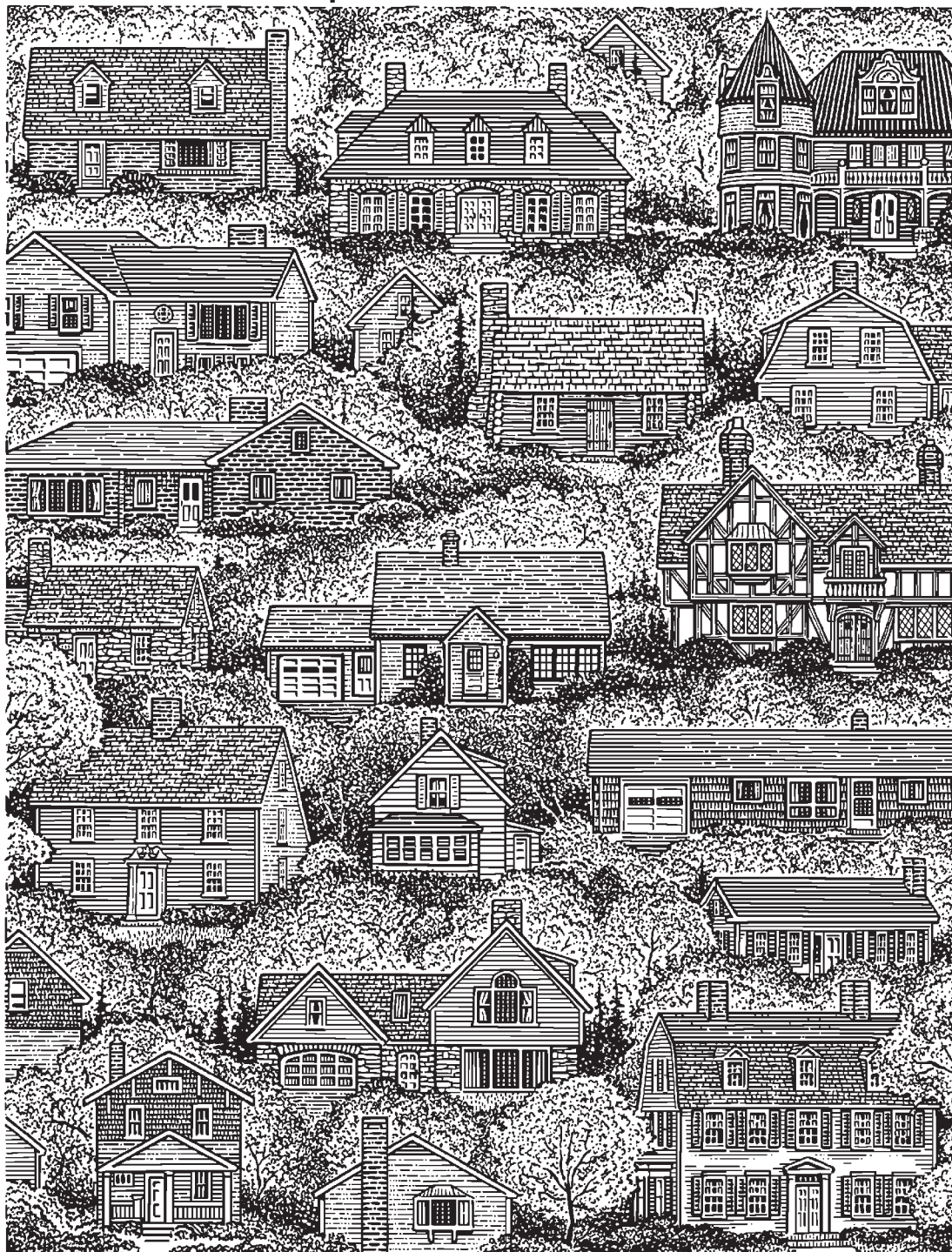




An EPA/USDA Partnership to Support Community-Based Education

Discussion Paper



Report and Resources compiled for:

**United States Environmental Protection Agency
United States Department of Agriculture - Cooperative State Research, Education, and Extension System**

By:

**The University of Wisconsin Cooperative Extension Environmental Resources Center
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An EPA/USDA Partnership to Support Community-Based Education **Executive Summary**

The capacity of democratic institutions to solve problems and create a better future depends on the knowledge and involvement of citizens in a community decision-making process that encourages systemic thought and broad-based action... Broad-based action is needed because local government alone cannot accomplish long-term solutions to community problems. Nor can individuals, businesses, community groups, or state and federal agencies do so by working in isolation.

--- *The President's Council on Sustainable Development, 1996*

Managing the environment requires a local investment. Local activities affect *the quality of the local environment*. People have a common interest in protecting and improving *their community's quality of life*. Understanding these conditions has led both US EPA and USDA to seek to encourage environmental management through locally-based decisions and voluntary compliance with regulations.

This project investigated ways to strengthen the USDA Cooperative Extension, US EPA, and community partnership to support the local decision-making process and to more effectively plan and deliver locally relevant environmental education to all audiences.

Community-based education is not a new idea. It has been more commonly applied with community economic development, housing, youth, and health issues than with environmental concerns, however. Community-based education means more than "education based in the community." It implies an education plan created as a result of community involvement and designed to match community interests. While numerous environmental education activities have come from this approach, the principles involved are not broadly understood either by trained environmental educators or by natural resource professionals.

Federal and state agency environmental management goals cannot be accomplished until education and natural resource professionals can work confidently and competently in collaboration with community members and with professionals from other agencies.

The term *community-based environmental education* is used to draw attention to several needs:

- to ensure that environmental education has an obvious connection to the community
- to emphasize the link between local activities and a quality environment
- to ensure that environmental education is relevant to people's lives.

Recent research about how community members work together to make change and how individuals make decisions about what they will do provides a foundation for a new way of thinking about the role of environmental education in the decision-making process.

This project focused on two issues: How to support community involvement in decision-making about the environment, and how to most efficiently and effectively use the strengths of the sponsoring agencies, US EPA and USDA, when working with communities. Project findings are presented in terms of EPA and Cooperative Extension roles and partnership possibilities.

Many other agencies and groups also work on environmental topics and/or with communities. The intent of this

project was not to exclude or minimize the value of their work, but, instead, to closely examine opportunities for improved partnership between the sponsoring organizations.

As EPA, Extension, and communities strive to understand and improve their partnership, staff will need to analyze how, where and when to become involved. In many cases, other organizations or agencies are better positioned to provide financial and technical support. EPA and Extension professionals need to understand the conditions in which they may be uniquely positioned to instigate or facilitate a particular activity.

The project steering committee reviewed research, written case studies, and EPA and USDA agency activities. They also investigated exemplary local programs selected for having three crucial elements: considering the whole community, linking environmental education to management of local ecological units, and linking it to goals for community sustainability. Project findings are supported by these resources as well as by participant recommendations. Additional material in a separate set of Appendices includes: an annotated bibliography of published case studies and research, and detailed summaries of individual and group discussions.

Tables in the report specifically address:

- elements of a good community-based education model
- tools or resources needed to better facilitate community-based education about the environment
- EPA and Cooperative Extension roles and partnership issues.

Report Findings

The project produced six major findings. These summarize key actions that EPA and Extension professionals can take to strengthen partnerships and support the local decision-making process.

The goals of the EPA/Cooperative Extension Partnership are to:

- Enhance community efforts that:
 - Expand the community's capacity to improve environmental quality
 - Integrate environmental management goals with other community development activities
 - Lead to environmental improvement
 - Increase involvement of more community interests (both groups and points of view) in community environmental management activities
- Ensure that staff understand the principles of community-based education and commit to using it in their work, as appropriate.
- Ensure that communities have access to the information they need and know how to use the information.
- Ensure that staff have opportunities to work collaboratively.

Executive Summary

To meet these goals EPA and Extension professionals should work cooperatively to:

Finding 1 - *Commit to authentic efforts* with communities.

This means that participants' perspectives and contributions can, and often do, change the direction or focus of the effort, goals are established through genuine collaboration, and all participants commit to them, even when they differ from the initial ideas, plans or missions of some participants.

Finding 2 - Be ready to *support community assumption of responsibility* for environmental management. Professionals should identify or create resources that enable communities to respond effectively.

Finding 3 - *Become familiar with a community-based approach.* Professionals should understand which members of a community are affected, how to use a community-based model for supporting local education, and how to assess where their expertise might fit.

Finding 4 - Make every effort to improve their own ability *to facilitate* community-based education and *to support* community educators with the information and skills they need to be effective.

Finding 5 - Understand their *role* in local initiatives. EPA and Extension professionals should understand and be able to articulate their organization's legislative mandate and how their organization already supports community-based education. While maintaining sensitivity to the role of other organizations, they must investigate how their role could evolve through personal professional development and collaboration with others.

Finding 6 - Work collaboratively to:

- Coordinate their efforts with each other and officially support their partnership
- Exercise flexibility in how they apply their resources and skills
- Help describe environmental and socio-economic characteristics of communities or geographical regions
- Make existing resources more readily available
- Determine appropriate opportunities for input of their expertise with communities
- Expand the role of communities and partners
- Set priorities for how they will work with communities
- Provide professional development opportunities for themselves
- Celebrate successes and give credit to all organizations that participate

An Opportunity

US EPA and USDA Cooperative Extension each have proven strategies and resources for working with communities. The strengths of these agencies have been and can be powerful tools in supporting goals identified by EPA in the Community-Based Environmental Protection program and in supporting goals of the President's Council on Sustainable Development. Steps to bring agency professionals together will allow these talented and committed people to devise ways to expand use of their skills and resources.

A new examination of EPA's environmental goals, interests, and capabilities (information, assessment techniques, financial resources, shared approaches, agency coordination, and enforcement policy adjustment) would highlight ways to encourage and support local based environmental education efforts.

Similarly, State Extension services can exercise their considerable talents as experts, conveners, educators, and facilitators, applying these talents to environmental topics. Extension personnel can constructively engage the expertise and resources of public agencies, such as the US EPA, with community agencies and interest groups.

We face a challenging social, political, and fiscal climate. As these organizations share similar objectives – linking resources and people – it is both necessary and proper that they form a partnership to help build local capacity to identify and address community environmental challenges.

Each organization believes that citizen-based efforts can make a difference, that linking the expertise of natural resource professionals with that of education professionals is a key to successful local efforts, and that community and national partnerships are necessary to develop accurate information and disseminate it economically. This report details a model which can be used to help establish working partnerships in communities across the country.

The Project Steering Committee expects that using project findings will help the sponsoring agencies establish collaborative relationships. These relationships will link local, regional, and national resources to provide accurate and cost-effective mechanisms that help citizens better identify and address environmental concerns in their communities.

EPA and Cooperative Extension will know they have been successful in adapting to a new way of doing business when they find that communities are assessing their own environmental management needs, devising strategies for managing and monitoring improvement, and expressing satisfaction in seeing improvement in local environmental quality and protection.

This project, funded by the USDA and US EPA, identifies ways to strengthen partnerships in environmental education both between the two agencies and with local communities. Since both agencies have community-oriented education as part of their national missions, they are natural potential partners. At the same time, communities are increasingly being identified as the logical locus for resolving critical environment and natural resources problems.

In addition, these two agencies cooperated in a recently completed five year project to improve youth water education. That project revealed that there are few meaningful connections between existing environmental education techniques and resources and the environmental needs and issues of local communities. It became clear that more information was needed on how to offer effective community-based environmental education. This project and report are the result.

Project staff reviewed research and written case studies, reviewed EPA and USDA agency activities, and interviewed a broad cross section of agency professionals and community leaders. They also investigated exemplary local programs selected for having three crucial elements: considering the whole community, linking environmental education to management of local ecological units, and linking it to goals for community sustainability.

This report offers models of how USDA and US EPA staff can work together in planning and delivering environmental education while ensuring that such education will be relevant to the local community and appropriate for adult and youth audiences.

Who Is Involved and Why?

US EPA has a legislative mandate to ensure a clean and healthy environment for generations to come. In addition to its regulatory and enforcement role, EPA supports environmental education, encourages voluntary compliance, and emphasizes community-based management of the environment.

USDA Cooperative State Research, Education, and Extension Service (CSREES) and the State Extension programs have a history of working with farms, families, youth, and communities to provide locally-based education and technical assistance. Traditionally, these programs follow a research-based *technology transfer* model. However, in nearly every US county Cooperative Extension programs are increasingly geared to establishing *processes* that bring people together to identify and address important community issues.

Both organizations share the objective of linking resources and people and both believe that:

- citizen-based efforts can make a difference
- local efforts are successful when the complementary expertise of natural resource and education professionals are united
- providing accurate information and ensuring its cost-effective dissemination requires community and national partnerships.

Given these common interests and their complementary capabilities, it is appropriate that EPA and USDA collaborate to help local communities build their capacities to identify and address community environmental challenges. Indeed, in today's challenging social, political, and fiscal climate it is necessary and proper that they do so.

Why Is "Community-Based Education" Important?

Beyond the missions of EPA and USDA Cooperative Extension, the community theme is also part of a larger national goal of *education for sustainability* promoted by President Clinton's Council on Sustainability. Community-based education means: involving and educating a

community's adults and youth to help empower them, as citizens and local officials, to identify and solve community environmental problems (in the context of local social and economic factors).

It also means that education results in *actions which stem from the community*. This is in contrast to education that is *directed at* the community and that may or may not generate actions in response. The best examples of community-based education are part of a broader community development strategy of "building the capacity of people to work collectively in addressing their common interests" (Maser 1997).

Goals

Project goals, established cooperatively by US EPA and USDA Cooperative Extension are:

- Build the capacity for Cooperative Extension and EPA regional offices to partner on community-based programs, including identifying the intersection of their interests and capabilities
- Identify and review current partnerships and community capacity-building tools
- Learn from community groups about their needs in order to mesh agency environmental education initiatives more effectively with those needs
- Identify and assess alternative education approaches and tools
- Provide an example of how the Sustainable Development Extension Network could work (President's Council on Sustainability recommendation)

Project Methods

The project had four major parts. Representatives from EPA Region 3, Philadelphia, and Region 10, Seattle, joined the University of Wisconsin Project Team as a steering committee. They refined project objectives, determined the best approach for addressing these objectives in each EPA region, and identified local model programs and potential project participants.

The UW Project Team identified and reviewed relevant research and publications. These addressed community

Background

Table 1

Guiding Questions for Participants

Project participants from US EPA, Cooperative Extension, local government, and community-based programs were asked to discuss or react to the following questions:

1. Describe the nature of your community-based environmental education activities.
2. How do you determine the “needs” that direct your involvement in those activities?
3. What kinds of resources do you need to better deliver environmental education to the community? That is, what do you need to do your job better?
4. How do you typically work with other partners and what types of resources do you find yourself seeking from others?
5. What role, if any, has the regional or national EPA office played in your efforts? Would you like that role to be different and, if so, in what ways?
6. What role, if any, has the Cooperative Extension (county agents and/or campus based faculty) played in your efforts? Would you like that role to be different, and if so, in what ways?
7. If EPA takes on a more explicit role in working on community-level environmental issues, and if Cooperative Extension professionals are interested in supporting local interests in addressing community-level environmental issues, *would you welcome this collaborative opportunity?*
8. What would you see as the advantages and/or disadvantages of this new collaborative opportunity?
9. What types of arrangements would it take to bring this about?

development models, social marketing experiences, outstanding models of community-based education or collaboration, and community-based environmental education strategies. An annotated bibliography of these materials is provided in the Appendices.

The project team organized a symposium and conducted interviews with EPA regional professionals, state partners, Extension educators, community managers, and community organization leaders. Through this they learned how well theoretical models are being or could be applied in local efforts. The questions asked of participants are listed in Table 1. Participants are listed in the acknowledgments to this report.

Through sifting and analyzing these data, the project team developed a series of findings and recommendations for a community-based education model.

Project Report and Findings

We report project team and participant recommendations here. These are designed to give specific advice to these partner agencies. They are covered briefly in the text and summarized in several lengthy tables. In addition, a separate appendix supplies extensive supporting detail. Tables address:

- Elements of a good community-based education model (Tables 3-5)
- Resources needed to better facilitate community-based education about the environment (Tables 6-7)
- EPA and Cooperative Extension roles and partnership to better support community-based education about the environment (Table 8)

Recent trends, related social and policy developments, and barriers, all point to communities' needs for help in making decisions. As a consequence, environmental education techniques, resources and application must take new directions to relate education activities effectively to local environment issues and community needs.

If EPA and Cooperative Extension respond to these trends and driving forces successfully, they will see communities with improving economies and social welfare working with professionals to assess their own environmental management needs and to devise strategies for managing and monitoring improvement. The ideal endpoint is communities expressing their satisfaction with improved quality and protection of the local environment.

Driving Forces to Change Community Environmental Management Decisions

The following summary briefly lists some of these forces. It is intended to complement, not supercede, existing scholarly and political analyses of how to best manage and protect the environment.

Primarily external

- Sustainable Development movement
 - Recommendations by the President's Council on Sustainable Development to balance environmental management with social and economic issues using a community development approach
 - Community interest in sustainable development approach
- US EPA initiatives
 - Encouraging voluntary compliance
 - Ecosystem management approach
 - Support for Community-Based Environmental Protection (CBEP)
- Devolution
 - Increased state government emphasis on local response and funding for local initiatives such as welfare, housing and economic development
- Environmental regulation
 - US EPA air emission and water (surface, drinking, and sewage) standards, enforcement, and local compliance
 - Evolution of pollution prevention strategies and technologies
 - Federal wetland restrictions; wildlife protection under the Endangered Species Act

Primarily internal

- Community change issues
 - Community Rights: greater community demand for help with locally initiated efforts and increasing resistance to being governed by outsiders
 - The Environmental Justice Movement to reduce disproportionate environmental risks to minority and poor communities
- Economic value of community environmental assets
 - Economic rewards for communities with a reputation for high quality environment through higher property values, tourism and recreation use, new business, etc.
 - Business development attracted to environmental

quality. Water quantity and quality as important siting decision factors for manufacturers of food products, computers, precision equipment, and other high tech products. Value of environmental amenities in attracting key employees who seek communities which give environment a high priority

- Individual health and "rugged individualism"
- Real and perceived threats to communities and individuals from toxic emissions, radon, lead, pesticides, etc.; concerns about quality of drinking water from wells and about problems with septic system siting and maintenance
- Popularity and support for self-help and voluntary stewardship -- installing solar panels, volunteer stream water quality monitoring, etc.
- Property ownership issues
 - Fear of liability (and the attending legal costs) if identified as creating an environmental hazard and not in compliance with state or federal law
 - Fear that private property will be devalued because of environmental impairments
 - The NIMBY (Not In My Back Yard) syndrome

Barriers

- Limited access to information generated by new technologies in the face of increasing pressure to manage problems locally
 - Communities have limited mechanisms for accessing and using rapidly multiplying data and information resources
- New technologies require funding, time and training beyond the level usually available in many communities. Examples include such environmental assessment technologies as sophisticated chemical analyses, Geographic Information Systems, and remote sensing

Characteristics of EPA and Extension

To initiate and develop a partnership, administrators and staff in each agency need to recognize their own, and the other's, strengths, limits and culture.

EPA – a description

EPA is a hierarchical federal agency charged with implementing many ambitious and challenging environmental statutes. It has important regulatory and enforcement

Discussion

authorities. Unfortunately, EPA is invisible to many community interest groups while being regarded with confusion or resistance by others. In fact, however, the agency tries to promote voluntary compliance with the law in preference to enforcement because enforcement invariably is adversarial, expensive, and intrusive. In seeking such compliance, the agency uses a broad range of informational, financial, and technical assistance programs.

In addition, many of EPA's activities are based in policies and scientific principles that the public does not understand well. Not understanding the issues and policies also prevents local communities from recognizing the resources EPA has to offer.

Although EPA traditionally works primarily with state environmental regulatory agencies, it also works directly with communities. EPA may initiate these contacts to address an environmental emergency such as a Superfund site, an initiative like EPA's Estuary Protection program which funds activities such as the Chesapeake Bay Pollution Prevention Initiative, or specific funding programs such as Environmental Justice grants.

Local authorities may initiate contact by asking for agency help with brownfields initiatives, or with a community crisis such as drinking water contamination. Research and development efforts, such as Region 3's "Green Communities" initiative, may also bring EPA and communities together.

EPA has some flexibility in determining how and when these community based relationships will take place. In choosing them, it uses such criteria as resource availability (personnel and funding), the nature of the environmental problem, and the desire of the local government for assistance. Limited resources and competing priorities are the primary constraints which force EPA to be selective.

A relatively new EPA program, Community-Based Environmental Protection (CBEP), supports a community-based system for decision-making. Steps described in *Community-Based Environmental Protection: A Resource Book for Protecting Ecosystems and Communities* (US EPA 1997) include:

- Goal-setting and developing an organization
- Assessing the conditions of local ecosystems and their effects on communities
- Considering voluntary and regulatory strategies for ecosystem protection
- Evaluating and choosing strategies

The *Resource Book* presents thirty case studies which illustrate this process. In addition, regional offices have reviewed their programs to determine how they can best support CBEP. For example, Region 10 developed its own guide (EPA Region 10 1997) and Region 3 supported a "Green Communities" initiative (McDowell 1997).

Cooperative Extension – a description

In the Cooperative Extension system, the links to communities occur through the county Extension office which is supported by discipline specialists located at the state Land Grant University. The 1862 Morrill Act and subsequent legislation provided the financial base for establishing a Land Grant College in every state, territory, and the District of Columbia. A second Morrill Act in 1890 mandated access to African-Americans, designating historically black institutions of higher learning as Land Grant Schools. In 1990 institutions which served Hispanic citizens were added, and in 1994 Native American institutions joined the USDA sponsored system (National Research Council 1996; USDA CSREES web page). As a result, over 3000 counties are served by almost 300 universities and institutions of higher learning.

The Cooperative Extension system was created at Land Grant Colleges in 1914 by the Smith-Lever Act. It is a decentralized confederacy of non-formal educators (field staff and university based specialists) within a given state. State Extension programs are funded with appropriations from federal formula funds which must be matched with state, county, and other contributions. In many states the federal contribution can be as little as 20% of the total, demonstrating strong support for Extension by state and county partners.

USDA's Cooperative State Research Education and Extension Service (CSREES) is the federal partner for Land Grant Universities. A small staff of professionals at USDA oversees a range of federal Extension priorities and encourages cooperation between states. Specific projects are undertaken by designated state Extension services chosen through a competitive proposal process. Policies that guide all Extension programs are agreed on by state Extension Directors convening as a special committee of the National Association of State Universities and Land Grant Colleges.

Natural Resources and Environmental Management is one of CSREES's seven educational base programs. CSREES provides funds and support to encourage a system-wide commitment to education about natural resources and environmental management and to mobilize human, fiscal, and knowledge resources to influence environmental concerns and issues (USDA CSREES 1994).

While university-based Extension Specialists sometimes identify research and education opportunities in communities, usually they are identified when the counties seek assistance from specialists to meet client needs. County Extension faculty are involved in many initiatives to help communities address environmental concerns. Typical programs address: home wells and septic systems, solid waste, hazardous waste, land use, pesticide application, pollution prevention, and environmental stewardship. Information is disseminated in various ways including: demonstration projects, distance learning, short courses for specific user groups, and certification training.

An exemplary program spearheaded by USDA uses federal funds to support Extension projects on non-point source pollution, focusing on agricultural pollutants. A General

Accounting Office review of successful project examples reinforces the value of local solutions (1995). Participants cited the following keys to reducing agricultural pollution: (1) building citizen cooperation through education, (2) getting stakeholders to participate in developing project goals, and (3) tailoring project strategies, monitoring, and enforcement efforts to local conditions.

However, County Extension work is client responsive. As a result, there is no guarantee of success in involving County Extension offices in working with communities on environmental topics. The county faculty person collaborates with community partners to meet education and information needs they identify. If the community partners do not come to Extension for help with environmental management concerns or if the county faculty person lacks the interest, understanding or resources to work in this area, Extension will not have a role in facilitating the local decision-making process.

History, Potential, and Barriers to Partnership

EPA and Cooperative Extension Service partnerships have a long history. They have developed in pollution prevention, non-point water quality, indoor air, and sustainable agriculture programs. The most extensive example is a constellation of pesticide programs.

One element is pesticide applicator training which permits individuals to use certain pesticides not otherwise available to the public. EPA supplies funds for the program which are matched and supplemented by the cooperating University Extension program. Minor use registrations and integrated pest management are related cooperative programs.

Pest impact assessment is an example which benefits from the agencies' respective needs and strengths. EPA is legally responsible for registering and controlling all pesticides in the US. It relies on Extension for essential information on pest management practices and the relative importance to agriculture of certain active ingredients in pesticides. Extension also identifies for EPA which materials or practices will most likely be substituted if a substance were restricted or removed from the market because of human health and environmental concerns.

Funding arrangements are the primary mechanisms holding EPA and Cooperative Extension enterprises together. Region 10 is the only EPA region that currently maintains a position to tie its programs with Extension activities. It has successfully linked programs and funds for pollution prevention and water quality. There is no particular recipe for this relationship. Its success lies in the collaborative skills of the Extension representative and EPA Region 10's commitment to making the relationship work.

The EPA, Extension, and community professionals involved in this project were acutely aware of the barriers to making a partnership work. Extension staffs' lack of familiarity with EPA resources is one significant barrier.

In many cases, neither state specialists nor county staff are aware of the resources that regional EPA offices have to

offer. State Extension specialists sometimes work with EPA regional and headquarters personnel, but links between a county Extension office and the regional EPA office are hard to imagine. County Extension personnel rarely contact EPA directly for information or other help, working instead with local, regional, and state agencies.

Given their history, structure and mission, it is unlikely that county Extension offices could become a mandated delivery mechanism for EPA resources. Such a role would also be inappropriate given what is known about how community members want to learn. However, were county Extension staff acquainted with EPA resources, they would be likely to use them when the resources met perceived local needs.

In contrast to Extension, many community-based organizations with environmental concerns establish and maintain relationships with EPA regional offices. Motivations for such links include: EPA's funding of a special project; concern about a Superfund site; and/or a need to obtain and understand regulations, policies, guidelines, and information developed by EPA. Sometimes a strong link is established based on direct demands for assistance by community groups, i.e. "the squeaky hinge" strategy. As a result, community-based programs are sometimes more aware of and have more access to EPA resources than their county Extension office counterparts.

All project participants recognized that forging a partnership on a community level could potentially benefit EPA and state Extensions in meeting their service missions. County Extension offices, like community-based programs in general, have unique knowledge and appreciation for how their communities work, what strengths their residents offer, what needs should be met, and what are the barriers to change. County faculty are in a key position to facilitate strategic thinking and decision-making because Cooperative Extension education focuses on community development rather than education about a particular topic.

EPA realizes that the new generation of environmental improvements and changes must come from the community, its people, and its businesses acting constructively together. It also recognizes that the environmental issues one community faces can be vastly different from those in another. EPA's past reliance on command control regulations, while perhaps appropriate for large polluters, has not met many of its own goals for environmental protection.

Discussion

Results

The team evaluated the ideas and information they had gathered and compared them with research results and published descriptions of programs. Their work produced a community-based program model which is given in:

Table 3, Community Education About the Environment

Table 4, Options for Facilitating Community-based Education

Table 5, Community Education – Models That Work

This community-based education model can help establish working partnerships in communities across the country. It will help marshal local, regional, and national resources to assist citizens in identifying and addressing environmental concerns in their communities.

The team also collected and summarized recommendations from participants. These are in:

Table 6, Resources to Support Community-based Education

Table 7, New Ways to Support Community-based Education

Table 8, Roles and Partnership Issues

These recommendations represent the voices of real people who do this work. They are not presented as being either all-inclusive or exclusive. The inspirations and frustrations expressed here should help guide agency inquiries into doing business in new ways. If attended to, they should help establish collaborative, productive relationships among EPA, Cooperative Extension, community officials, and locally based programs.

This report will be shared with all US EPA, USDA CSREES, and State Extension programs. It will also be made available through agency web sites. The following Appendices supply details on background work for this report and include a bibliography and detailed summaries:

- Appendix A** Definitions: community development, community-based education about the environment
- Appendix B** Opportunities: Overview of Cooperative Extension and US EPA
- Appendix C** Skills useful for delivery of community-based education programs
- Appendix D** Key Characteristics: community-based education models
- Appendix E** Community Development: education models and planning tools
- Appendix F** Environmental Education: community-based examples
- Appendix G** EPA: regional environmental education examples and community-based environmental protection tools
- Appendix H** Canadian Models: summarized by EcoLogic & Associates, Nova Scotia, Canada

The Appendices are presented in a separate document.

Community-Based Environmental Education Stories

Three stories illustrate the power of the community-based approach. (For more, see Table 5 in this report and Appendices F and D.)

Sea Change Resource Center Inc./CDC, Philadelphia
 Sea Change develops entrepreneurial solutions to environmental problems through a program of market creation and development, job training, and business development and management. Sea Change’s unique approach incorporates its training program into startup businesses which move trainees directly into full time jobs. As one of their partners, Penn State Extension provides horticulture and urban forestry specialists for technical assistance and training programs designed by Sea Change for local groups. (Appendix F)

Community Coalition for Environmental Justice, Seattle
 CCEJ staff and volunteers conduct local research with technical support from EPA Region 10 and the county health department to determine sites, categories, and health impacts of hazardous chemical discharges. CCEJ uses this information to educate residents about existing problems, about pollution prevention strategies, and about how to access information on environmental and human health. (Appendix F)

City of Olympia Public Works Department, Washington
 The Public Works Department relied on national and state environmental education organizations and networks to improve their understanding of how to educate adults about the environment. The Department used a survey, focus groups, and a local partner group to determine citizen understanding of water quality and water conservation issues. Results were used to design an education campaign and to support local policy initiatives. Use of a community assessment method was credited as a major influence on local program effectiveness. (Comments in Appendix D.4)

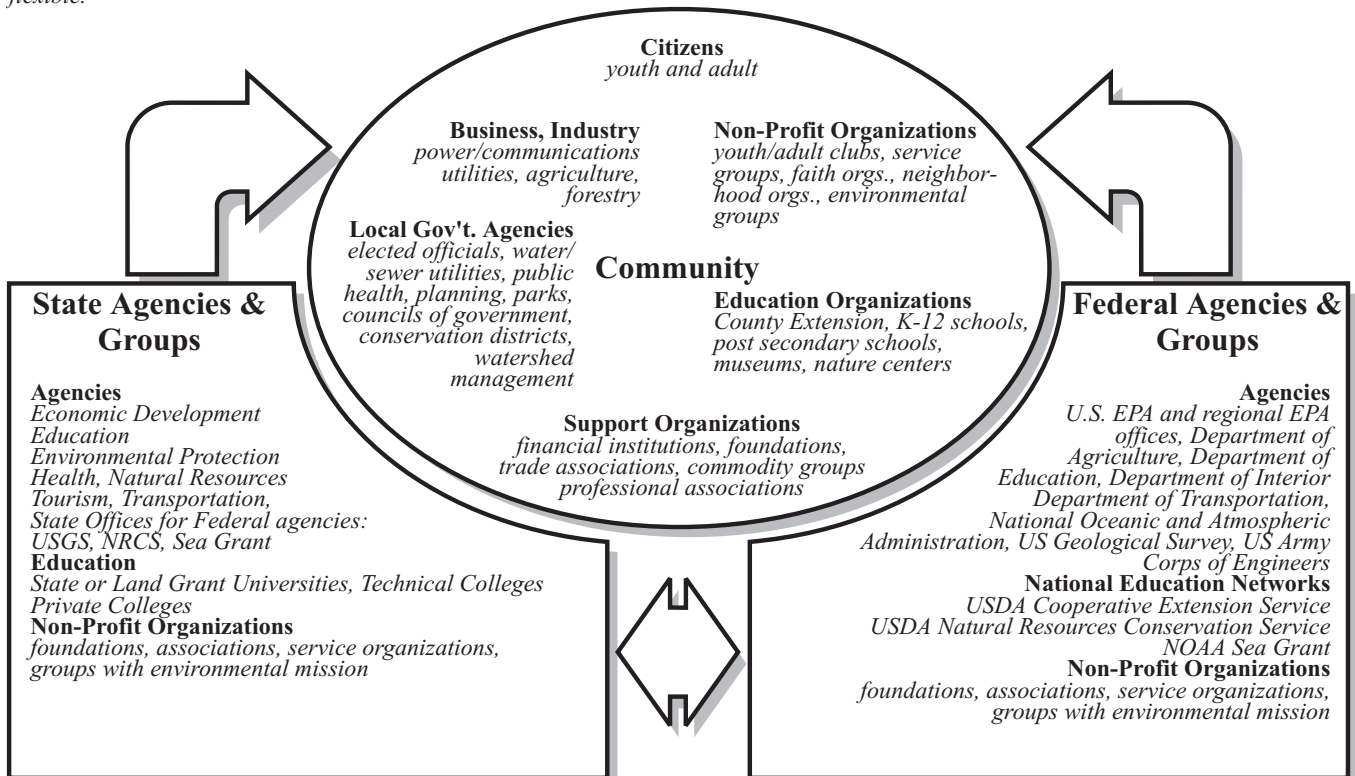
Each of these organizations relies on key components for their community-based environmental education programs: working with a community team, taking action using a community development approach, and practicing quality environmental education strategies. Background work for the EPA/USDA Partnership Project demonstrated the importance of these three elements in devising a successful community decision-making initiative.

The Community Team – The Essential Component

The essential component of successful community collaboration projects is *the community team responsible for carrying out the effort*. Knowing this has important practical benefits for environmental educators. Since they frequently layer their programs on top of existing community groups and activities, talking with a community team at the early

Figure 1
Community Environmental Management

The community team is an essential component to collaboration. Any of the groups listed below may play a role in local environmental management. Which people or groups are involved depends on the situation. An education partnership with communities can be flexible.



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stages helps ensure that their efforts are relevant to community interests and abilities.

Community teams should include individual citizens along with government and organization representatives. Team members should also represent a broad variety of social, political and professional perspectives. This diversity is important for two reasons, according to *Community Visioning/Strategic Planning Programs: State of the Art*, a report of the North Central Regional Center for Rural Development (Walzer 1995):

- By diversifying the group, the project maximizes the number and diversity of ideas included.
- Connecting to the public at large is one of the most difficult elements of broad-based collaboration. A varied group of participants facilitates broader communication and makes community-wide support more likely.

Representatives of state and federal agencies and organizations should also be involved, when possible, because these groups often influence local activities, attitudes, and priorities. Being involved in such activities is both a learning experience for the representatives and an opportunity use their technical and financial assistance in its support. As Beckenstein, et. al. point out in their article *Stakeholder Negotiations: Exercises in Sustainable Development* (1996):

... the complexity of balancing ecological goals with social and economic goals suggests a decision-making model in which policy makers are a part of the negotiation process rather than the center of the constellation of decision making. The relevant "learning organization," in the case of an ecosystem, will include all stakeholders.

Community team members may come from the many community agencies, institutions, and organizations which educate citizens or make decisions about the local environment (Figure 1). EPA's *Resource Book for Protecting Ecosystems and Communities*, lists the typical stakeholders and also illustrates how, ideally, they could be involved in local ecosystem protection (US EPA 1997). Among the most common stakeholders are:

- Citizens
- Industry and business, including such natural resource-based businesses as: agriculture, forestry, and tourism
- Non-profit organizations
- Educational organizations
- Government agencies

Team members will usually share a common issue and/or specific geographic location (although their opinions and concerns will differ!). However, for the widest input and maximum constructive feedback, participants should represent a variety of perspectives. It is important to seek diversity in:

- Socio-economic and demographic characteristics (race, gender, income, family status, workplace and residence locations, etc.)
- Professional interests (business, government, education, agriculture, etc.); and
- Topic perspectives (pro- and anti-growth and development, environmental activist, property rights advocate, etc.)

Key stakeholders sometimes cannot be involved for practical reasons. In those cases, surrogate participants should be included, understanding that they may not fully represent the interests of their constituents. For example, Farm Bureau employees may be asked to represent farmers along with the farm insurance business even though they may not fully represent a local farmer's perspective.

Finally, although participants must be committed to discussing ideas creatively, they should be chosen carefully for willingness to work *with* each other and to stay with the program to the end, according to *Community Visioning/Strategic Planning Programs: State of the Art* (Walzer1995).

As EPA, Extension, and communities strive to understand and improve their partnership to support environmental education, staff will need to analyze where and when to become involved with the community team. In many cases, other organizations or agencies are better positioned to instigate a local effort, but EPA or Extension may have a unique opportunity to support or facilitate particular phases of convening a team and planning action steps.

The Community Development Approach

The community development approach is one useful way of thinking about how to deliver community-based education. Its theory and practice came from late 19th and early 20th century efforts for social and economic development. Familiar examples include Upton Sinclair's writings, Jane Adams social work, and, later, the community organizing efforts of Saul Alinski and others.

Community development is both *process* and *outcome*. The *process* is important in "empowerment," which means helping people embrace change and deal more effectively with both an immediate issue, such as economic development or providing social services, and potential future situations. The *outcome* is important in successfully addressing the immediate issues of concern. A variety of community groups use community development methods. Among them are: non-profit, religious, and business organizations, and local government housing and economic development agencies.

Steps in the community development process include:

1. Describe community vision and assets
2. Define need/problem and set goals
3. Gather information
4. Set possible alternate solutions
5. Choose a course of action

Models of community development are based broadly on one of three strategies: self-help, social planning, or social action. Recently both expert-based and community-based approaches have been used. Strategic planning and visioning efforts are also a contemporary addition. Community development is discussed in detail in Appendix A which also includes a lengthy bibliography. Sample community development models, with annotations, are in Appendix E.

The theory and practice of community development appear to be changing in both attitude and approach. A new confidence is evolving in the community's ability to assess and solve its own problems. This is reflected in reports from the President's Council on Sustainable Development (1996, 1997). Changing terminology also underscores this evolution (Flora 1997). For example, needs assessment has become asset mapping, clients are citizens, deficiencies have become capacities, and outside evaluation is now internal monitoring.

The President's Council on Sustainable Development and a related demonstration project helped focus our attention on this approach. The Council's report links economic prosperity, environmental protection, and social equity in its goals for sustainable communities (1996). The demonstration project, *Education for Sustainability*, suggests an active role for nonformal education that is based on community development principles (National Forum on Partnerships Supporting Education about the Environment 1996). For example:

Action 5.1 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.

Action 6.1 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.

There are many resources available to help communities follow community development planning steps. These also offer directions on how to create a community vision, how to involve a diverse representation of the community, and how to gather facts and devise solutions. (See Ayers 1990 and Wolff 1995, for examples). Communities have successfully used these resources to examine public health concerns, housing, youth at risk, and economic development concerns (Appendix E).

Unfortunately, few resources help communities use a community development approach specifically to manage the local environment, which might be appropriate in land use or transportation planning initiatives, for example. In fact, environmental issues are generally invisible in community development planning. When such strategies are applied to community environmental topics they often rely on an expert-designed solution and do not take the opportunity to stimulate local involvement and ownership nor allow for developing a collective solution.

The community's voice in environmental management decisions could be strengthened by adapting community development strategies to the process and/or by creating planning resources that relate more specifically to environmental problems. Organizations and citizen groups are aware of this and a few workbooks and guides now address the need for such specific tools and strategies. (See Harker 1995 and McDowell 1997 for example.)

For US EPA and USDA Cooperative Extension the challenges will be to find the resources and expertise to create other needed tools, to provide training, and to provide access to the resources needed for using the tools.

Community-Based Environmental Education

Through this EPA/USDA Partnership Project we have identified an approach to environmental education practice that links it more strongly with community decision making. We describe it briefly here. For more detailed analysis and a list of references, see Appendix A.

In recent years environmental research and understanding have concluded that *local activities* affect the quality of the local environment and that what affects one part of the ecosystem also affects others. As a consequence, many regulatory agencies now seek to manage the environment by geographic unit, such as a watershed or a forest, rather than by problem or species. This approach also recognizes that environmental management decisions and actions must be local and holistic to match the dynamics of the natural system. Environmental education, therefore, must illustrate not only these natural system relationships but how individuals affect the local ecology by the actions they take in their daily lives.

Maintaining a quality environment in our communities depends largely on individual, voluntary actions at home and at work. Behavioral research tells us that to choose a particular action, such as one which might improve the local environment, a person requires two things: that the action relates to a specific need they have identified (often a personal need) and that they can understand how their choice will improve their own lives or their community.

Most environmental education materials do actually suggest such links or refer to local issues. However, implications and inferences are not enough. People need to experience the connection between their actions and the local environment directly, in practical and obvious ways. We have learned from the discipline of social marketing that before adopting new ideas individuals need to see an application to their own lives, to have local support systems, and to practice the new behaviors.

It could be argued that environmental education is community-based by definition. However, our research does not support this belief. A review of environmental education resources for youth (Andrews 1995) and recent discussions of how environmental education can best support sustainability education (The President's Council on Sustainable Development 1996, 1997) show that most existing environmental education programs and materials do not effectively connect people to the environment in their community.

To produce the desired result -- that individuals actually choose behaviors that improve the local environment -- environmental education programs and materials need to be *community-based*. They must relate directly to specific local topics, problems and issues. After an education program, participants should know what specific actions they can take to protect the environment at home, at work, or in their

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community; and they should have the skills to take that action.

Furthermore, in planning how to design and deliver their programs, educators should carefully evaluate the needs of local citizens. This includes developing a realistic understanding of socio-economic and cultural points of view.

In summary, *community-based environmental education*:

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

Goals for an environmental education initiative focused on a community concerns should address these questions:

- **Community of interest** Which people in this community 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?

Table 2 summarizes what environmental educators need to do when they practice their profession in the community.

Table 2

Environmental Educators in 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. educate about 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.

Finding 1: Commit to Authentic Community-Based Education Efforts

Many groups have successfully accomplished authentic community-based environmental education. By authentic we mean that participants' perspectives and contributions can, and often do, change the direction or focus of the effort. Authentic also means that goals are established through genuine collaboration and all participants commit to them, even when they are different from the initial ideas, plans or missions of some participants. Authentic effort takes time. It cannot be accomplished through one meeting or event.

In our research we have found that EPA and Extension have been a part of some of these authentic environmental education efforts but their efforts are not visible. Quite often community or environment professionals *do not see these agencies as either supportive or instrumental in community success stories.*

In the short term, EPA and Extension can improve the quality and success of their efforts through:

- Supporting local efforts or “doers”
- Building staff capacity to deliver education in this new way
- Examining current delivery strategies for opportunities to make incremental change to a more community-based approach

However, to be successful at implementing the many recommendations in this report, EPA and Cooperative Extension will need to take the long-term view. This involves finding ways to help communities build capacity to assess and respond to environmental management needs.

Finding 1

EPA and Extension should commit to *authentic community-based education efforts*; that is, commit to work in genuine cooperation with community agencies and groups to accomplish goals that have been established collaboratively.

To guide these efforts, the findings of this report describe and highlight:

- Environmental management goals for professionals working with communities
- A community-based education model and examples (Tables 3, 4, and 5)
- Tools and resources needed to deliver community-based education about the environment (Tables 6 and 7)
- Roles that EPA and Cooperative Extension can be expected to assume in community-based education initiatives (Table 8)
- Actions that will improve EPA and Cooperative Extension's ability to work collaboratively with each other on community-based initiatives (Table 8)

Finding 2: Support Community Environmental Management Initiatives

Ideally, communities determine their own preferences and pathways towards community planning and sustainability. And, ideally, when they do this they keep in mind the potential impacts on the local ecosystem, the economic systems of which they are a part, and surrounding communities.

The task for professional environmental managers and community educators is to *support* communities in devising and meeting goals for local environmental management. Professionals can work with communities to determine how existing professional resources, such as education materials and programs, analytical tools, and personnel, can help meet community needs and what new resources are needed.

Suggested goals for communities

1. Communities will add to their capacity to improve environmental quality. Communities will be able to:
 - a. Assess environmental management strengths and needs
 - b. Develop performance plans for themselves and for cooperation with regulatory agency activity
 - c. Monitor and evaluate improvement
 - d. Involve more community interests (both groups and points of view) in community environmental management activities
2. Communities will integrate environmental management goals with other community development activities.
3. Communities will see improvement in local environmental protection and quality and ensure that local ecosystems are healthy enough to provide a range of valuable benefits both now and in the future.

Professionals working with communities will need to identify or create resources to help them respond effectively. For example, EPA's *Surf Your Watershed* web page helps communities assess watershed management needs and monitor improvement. Non-profit organizations like INFORM, the Izaak Walton League, and the Mountain Association for Community Economic Development, provide inventory worksheets that serve the same purpose (see Appendix F). EPA's *Green Communities* web page helps communities integrate environmental management goals with other community development activities.

In some cases, communities may not want to or be able to assess or monitor environmental changes themselves. They may not have the funds, resources, time, or interest in taking these steps. However, they may still wish to provide leadership in these areas. To exercise this leadership, they will need to know: 1) that assessment and monitoring is an important step in environmental protection, 2) who and when to call for advice, 3) what kinds of help they can expect, and 4) how to evaluate the quality and significance of the help they receive.

Findings & Conclusions

Enabling communities to lead will require much work from us, as the list of suggested needs in Table 6 demonstrates. It will also require us to change our approach. Natural resource professionals are used to being the experts. To adapt that expert knowledge for community use will take time, resources, and a new perspective on daily work.

Finding 2

EPA and Extension professionals should be ready to support community assumption of responsibility for environmental management. Professionals should identify or create resources that enable communities to respond effectively.

Finding 3: Ensure Success in a Community-Based Approach

This project identified many ideas and recommendations about what makes a successful community-based approach to education. We summarize them here in three ways: characteristics of successful models (Table 3), sample opportunities for the educator to provide a community-based education strategy (Table 4), and samples of education models that successfully incorporate a community-based approach (Table 5).

A community-based education model The key features of this model are derived from the community development approach described earlier in “Foundations” and from the many case studies summarized in Appendices E, F, and G. The model adapts environmental education theory to include valuable social marketing strategies. Community-based environmental education strategies should have the following characteristics (amplified in Table 3):

- **Local** Addresses a locally-identified issue and works toward a positive outcome
- **Collaborative** Works with a coalition or group, giving attention to techniques that support group effectiveness
- **Active** Takes action based on information, within the context of community goals
- **Effective** Successfully engages the broader group by using quality education practices

Applying a community-based approach is both an art and a science. The *art* is in the educator’s ability to notice and take advantage of community links and opportunities. The *science* comes when applying the skills needed for working with a coalition or group. How the approach is applied depends on the characteristics of the community and of the external groups or agencies involved, as illustrated in Figure 1.

There is an ideal scenario in EPA’s *Resource Book for Protecting Ecosystems and Communities* (EPA, 1997, figure 2-1). In it the community has already established an overall vision and goals. Instigators -- community members who draw attention to an environmental management concern – identify stakeholders and together they consider how to integrate group activities with community goals. The stakeholder group then assesses strengths and needs, gathers

information, and plans actions which take the community perspective into consideration. This is a continuing process which responds to feedback that influences the community vision and uses new planning activities as needed.

EPA professionals can work with Extension staff to understand how a specific community compares to the ideal scenario and where their expertise is best applied. In communities where there is no shared community vision, Extension professionals can assist in identifying groups which have shown leadership on a particular topic. As with the ideal scenario, the process should be circular.

Community action based on community vision and goals is ideal, but in reality may be considerably less clear-cut. Professionals will need to be flexible and resourceful because the insights brought by stakeholder groups, and revealed by new data and by action steps commonly mean that the community must revise their vision and refine their goals.

Delivery opportunities Like the scenario in the EPA *Resource Book*, our community-based model also presents an ideal. In applying this ideal to their jobs and communities, educators will need to evaluate their skills, the education opportunity, and their own job requirements to determine where their work fits in the model. The options for education delivery described in Table 4 can help with this process. Each option links education about the environment to a local community issue and to the needs of local citizens. They are listed in order from the minimum an educator can do and still be focused on the community to the most empowering activity.

Sample community-based strategies People develop action skills and their own sense of stewardship through a variety of life experiences. No single learning method will work for everyone. However, a community that provides a variety of options for learning and involvement can depend on a knowledgeable and supportive citizenry. Fortunately, good models of community-based education strategies abound. Table 5 identifies, explains, and gives examples of learning opportunities which could be part of both problem assessment and action steps. (Details about examples are in Appendices E and F.) These opportunities are:

- Personal action resources
- Community service projects
- Community environmental monitoring
- Community vision planning
- Community change participatory research
- Group activities that take responsibility for their own impacts
- Community recognition
- Advocacy activities

Finding 3

EPA and Extension professionals should become familiar with a community-based approach. Professionals should understand: which members of a community are affected; how to use a community-based model for supporting local education; and how to assess where their expertise might fit.

Finding 4: Develop Resources for Community-Based Environmental Education

The theories of community development, social marketing and environmental education which underpin community-based environmental education share a common approach: citizens working with each other and with natural resource professionals to identify local needs, gather and analyze relevant information, and apply it. Making this happen takes training, tools and resources.

EPA's *Resource Book for Protecting Ecosystems and Communities* (EPA, 1997) supplies some ways to begin meeting these needs. It suggests resources and ideas to help communities assess: conditions and trends in local ecosystems, links between ecosystems and the local economy, and links between ecosystems and quality of life. EPA and Extension professionals can support community-based education by testing the usefulness of these resources, publicizing their availability, and developing new resources as needed.

The project team identified other necessary training, tools and resources. Using written reports and detailed comments from participants in the Seattle Symposium and Philadelphia area interviews (Table 6) we determined that cost information, strategies, trends, indicators, and skills are needed in the following areas:

- Information resources
- Social marketing resources
- Tools to gather information
- Skills to deliver community-based education
- Skills to understand and apply sustainability principles

EPA and Extension professionals also need specific strategies to successfully support community-based environmental education. The strategies that project participants recommended suggest that professionals need to understand community-based programming better and to be flexible in how they do their jobs. Table 7 describes these under:

- New ways of doing business
- Methods for adapting to new educator roles

EPA and Extension professionals need two types of resources: those they could provide or deliver, and those they need themselves (Tables 6 and 7). In addition, they will need to learn and use the community process skills listed in Appendix C. They can develop these skills through self-development or by working with others who have those skills.

Finding 4

EPA and Extension professionals should make every effort to improve their own ability to facilitate community-based education and to support community educators with the information and skills they need to be effective.

Finding 5: Roles for EPA and Extension in community-based education

EPA and Extension are both committed to community-based decision-making. However, it is not obvious when and how their involvement would lead to successful community endeavors.

In order to be effective, EPA and Extension professionals must understand their roles in local initiatives. This involves understanding and articulating their organization's legislative mandate and how it already supports community-based education. They must investigate how their role could evolve through personal professional development and collaboration with others.

We discussed this question with almost 50 professionals from EPA, Extension, and community organizations. It is clear that, as they strive to understand and evolve in their roles, EPA and Extension professionals will be operating and interacting within the broader context of groups and organizations illustrated in Figure 1. Work in specific localities will need to keep the roles and efforts of other community groups in mind while striving to make the best use of agency resources. To assist in this role evaluation, we provide the following summary:

County based Cooperative Extension faculty and staff are commonly involved in the following activities in local initiatives, depending on their skills and interests:

- Assess needs and assets
- Coordinate initiative with existing programs
- Communicate between local efforts and regional efforts
- Design education strategy, providing:
 1. advice on approaches to creating inclusive stakeholder involvement
 2. local capacity building and training activities
 3. facilitation and facilitation training
 4. advice on identifying local facilitators
 5. process skills and process skill training
 6. volunteer recruitment and training expertise
 7. access to university technical experts, publications and data
 8. expertise on selected topics

Comparing this list of activities to the education model in Table 3 and the needed resources in Table 6 shows that Cooperative Extension, and particularly the county faculty, is uniquely positioned to support community-based environmental education.

Extension university specialists and EPA professionals offer different skills and resources from county Extension faculty, and from each other. Extension university specialists are subject matter experts in topics such as geology, soil science, economics, law, planning, agriculture, horticulture, wildlife, youth and adult education. They usually work in support of county faculty efforts or with clientele groups who represent a broader geographic region.

Findings & Conclusions

EPA professionals work primarily as sources of expertise or funds, and are responsible for establishing and enforcing environmental management regulations and policy. EPA and Extension university specialists need to collaborate with county faculty and other local groups to deliver their expertise and resources in a way that helps communities build their capacity.

EPA staff and Extension university specialists are similar in what they can offer communities. While they may lack community development expertise and/or access to communities, environmental management specialists can:

- Provide special scientific expertise upon request
- Link agencies and groups when problems cross regional or state boundaries
- Provide or identify funding to meet specific needs
- Facilitate:
 - Demonstration projects in selected counties/municipalities
 - Train/facilitate state agencies to work with communities
- Bring state agency and county Extension people together for mutual problem solving on local issues

Maximizing agency potential to enact these roles will depend on finding opportunities for EPA and Extension to work together.

Finding 5

EPA and Cooperative Extension professionals must understand their role in local initiatives. They should understand and be able to articulate their organization's legislative mandate and how their organization already supports community-based education. While maintaining sensitivity to the role of other organizations, they must investigate how their role could evolve through personal professional development and collaboration with others.

Finding 6: EPA and Cooperative Extension Collaboration

Project participants had a lot to say about how EPA and Cooperative Extension could collaborate better in supporting community environmental management and education. Their ideas, grouped according to common themes, are listed in Table 8.

If real commitment to community-based education about the environment does take place, then EPA and Cooperative Extension must consider the ideas in Table 8 as important potential initiatives. These are not intended as a prescription but deserve serious attention as needs identified by experienced community educators. Administrators and professionals in EPA and Cooperative Extension will want to review them to determine which best apply and which they can meet with available resources.

The goals for collaboration between EPA and Cooperative Extension are:

1. To enhance community efforts that:
 - a. Expand their capacity to improve environmental quality
 - b. Integrate environmental management goals with other community development activities
 - c. Lead to environmental improvement
 - d. Increase involvement of more community interests (groups and points of view) in community environmental management activities
2. Ensure that staff understand the community-based education model and commit to using it in their work, as appropriate.
3. Ensure that communities have access to the information they need, and know how to use the information.
4. Ensure that staff have opportunities to work collaboratively.

Finding 6

EPA and Cooperative Extension must work collaboratively to:

- Coordinate their efforts with each other and officially support their partnership
 - Exercise flexibility in how they apply their resources and skills
 - Help describe environmental and socio-economic characteristics of communities or geographical regions
 - Make existing resources more readily available
 - Determine appropriate opportunities for input of their expertise with communities
 - Expand the role of communities and partners
 - Set priorities for how they will work with communities
 - Provide professional development opportunities for themselves
 - Celebrate successes and give credit to all organizations that participate
-

Coordinate EPA and Cooperative Extension efforts

Developing a process for EPA and Cooperative Extension to routinely consider how to collaborate better in supporting community-based initiatives, is the *single most important potential outcome* of this project. To make it happen, EPA and Extension **MUST** understand their roles in local initiatives. While this is addressed in Finding 5 and Table 7, there are significant questions about exactly how the connection between EPA and County Extension offices can work. Strengths and barriers in the relationship need to be addressed.

Questions and strategies that could help produce a collaboration process are detailed in Table 8. There are three key recommendations: 1) structure a link between the agencies, 2) find ways to improve access to agency

information by the other agency, and 3) assess the capacity of each organization to support community-based environmental education. Suggestions to institutionalize this process include:

- Identify a specialist within each state Extension program who could provide leadership to linking EPA and state Extension.
- Create a liaison position at each regional EPA office to help with interagency linking of activities and resources.

Support Partnerships Officially

While cultivating partnerships is often an individual process, it benefits from official sanction. Such sanctions should include relationships outside EPA and Cooperative Extension with appropriate groups like those in Figure 1.

Exercise Flexibility

Flexibility is critical in dealing with communities. Here, “one size” most definitely DOES NOT “fit all.” Being willing to look at different ways of getting things done could make EPA and Extension a powerful force in supporting community efforts.

Describe communities or geographical regions

Many project participants felt they simply had too little information about their community, or that they lacked the skills to gather the information they needed. Both EPA and Cooperative Extension are in a strong position to provide information, tools, and training.

Make Existing Resources More Readily Available

A lot of information already developed and provided by EPA and Cooperative Extension *may not be visible* to those who need it. Marketing our agency resources, a job we do poorly or forget completely, often gets much less attention than the effort to develop them.

Determine Input to Communities

EPA and Extension professionals need to take time and consider how and when to become involved in a community effort, as recommended in Findings 3 and 4. There can be no recipe for involvement. Local activity is situational and successful involvement will assess and respond to that specific situation.

Expand Role of Communities and Partners

Partnership is a continuing theme in the 1990s for good reason. A working, dynamic partnership can ensure a more successful outcome and use resources more efficiently. EPA and Cooperative Extension need to examine how to make their partnerships with other organizations working in the community more effective.

Set Priorities

EPA and Cooperative Extension need to assess their work priorities in light of the community focus. Project participants questioned whether those working on an agency’s agenda remembered to consider the community’s perspective. Do we practice what we preach?

Provide Professional Development Opportunities

We can “get there from here” if we develop our own skills. Table 8 provides questions and suggestions about what we must be able to do. Appendix C suggests a set of skills that would improve EPA and Extension professionals’ abilities to apply a community-based approach.

Celebrate Success and Share Credit

Preparing for a celebration and making the effort to share credit also offer an opportunity to reflect on and learn from a project. Such events make the agency’s participation more visible. And that visibility can encourage future initiatives and strengthen relationships between agencies and with other groups and organizations.

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 - 2. Environmental Education versus Community-Based Education
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 - 4. Resources and Recommendations on Educating for Sustainability
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 - 1. Sample Education Strategies That Work
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 - G. EPA: Community-based Education Examples and Environmental Protection Tools
 - H. Canadian Models: Summarized by EcoLogic & Associates, Nova Scotia, Canada

Please Note: Appendices are available in a separate document.

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Report Appendices:

Extensive resources and participant recommendations were reviewed as a foundation to this report. They are available in a separate document.

- Appendix A** Definitions: community development, community-based education about the environment
- Appendix B** Opportunities: Overview of Cooperative Extension and US EPA
- Appendix C** Skills useful for delivery of community-based education programs
- Appendix D** Key Characteristics: community-based education models
- Appendix E** Community Development: education models and planning tools
- Appendix F** Environmental Education: community-based examples
- Appendix G** EPA: regional environmental education examples and community-based environmental protection tools
- Appendix H** Canadian Models: summarized by EcoLogic & Associates, Nova Scotia, Canada

Table 3

Community Education About the Environment

Table 4

Options for Facilitating Community-Based Education

Table 5

Community Education: Models that Work

Table 6

Resources Needed to Support Community-Based Education

Table 7

New Ways to Support Community-Based Education

Table 8

EPA and Extension - Roles and Partnership Issues

Table 3

Community Education About the Environment

Is locally based

- Responds to a locally identified/initiated issue or concern.
- Takes advantage of opportunities (such as a new law or current event) and community assets.
- Works in or with representative groups, including targeted audience (i.e. the people who collaborate represent all the interests associated with the issue).
- Works towards a positive outcome to a specific concern.

Works with a coalition or group

1. Identifies someone who takes responsibility for managing or leading the process.
2. Attends to **process** objectives and **product** objectives.
 - a. Process objectives = group building, leadership development, capacity building, conflict management
 - b. Product objective = successfully addressing a substantive issue
3. Relies on systematic planning procedures.
4. Uses expert facilitation.
5. Uses consensus decision making.
6. Develops linkages to enhance the group's effectiveness.
 - a. To other communities and regions
 - b. To other related partners
 - c. To resources - technology, experts, agencies and funds
7. Communicates broadly using multiple venues (newsletters, town meetings, TV, festivals, etc.).
8. Provides recognition and rewards.
9. Is flexible - both to process and conditions; adopts a "learning organization" perspective.

Takes action based on information

10. Relates actions to long-term community vision and goals.
11. Takes into consideration the community as a whole.
 - a. Evaluates context
 - b. Considers socio-political, economic, historical, cultural influences
 - c. Looks to the future

12. Generates and makes use of data about the local condition.
13. Involves citizens in gathering and analyzing data.
14. Builds on locally existing skills and resources and scales actions appropriately to community resources and skills.
15. Respects, encourages and rewards local initiative.
16. Evaluates and reports accomplishments

Practices quality education with broader groups

17. Uses social marketing techniques.
 - a. Identifies and addresses *individual barriers* to preferred behavior (e.g. a tag on an outside faucet helps residents to remember when to water)
 - b. Identifies and addresses *social or structural barriers* to preferred behavior (e.g. encourage recycling by providing curbside pick-up)
18. Uses training to support the community-based initiative. For example, provides training to:
 - a. Improve planning process skills
 - b. Generate and refine implementation ideas
 - c. Improve data gathering and analysis by citizens
 - d. Increase access to resources by group/coalition
 - e. Teach skills that group has identified as needed to accomplish goals
19. Implements an education strategy which:
 - a. Presents all points of view - is balanced
 - b. Relates to a specific audience and their needs
 - c. Presents behaviors which
 - i. provide immediate, observable consequences
 - ii. are similar to what people already do
 - iii. do not require a lot of steps or training
 - iv. are relatively low cost in terms of time, energy, money, materials
 - d. Provides target audience with opportunities for self-assessment and for practicing or applying new skills
 - e. Uses creative approaches, e.g. a town treasure hunt for valued places

Table 4

Options for Facilitating Community-Based Education

A successful community education program could use one or more of the following options to complement a local process, as described in Table 3. These options range from the least an educator can do and still be focused on the community to the most empowering activity.

1. In education program or materials, **demonstrate awareness** of community issues/needs/concerns. Acknowledge local issues and don't step on toes.
2. Relate or **link the environmental issue to community issues**. Be relevant. Provide examples and activities that relate to the locality.
3. Tailor the education program to **meet specific community needs** (e.g. jobs for youth, improved recreation opportunities, unsightly lake weeds) with the environmental topic as a parallel theme. Complement this approach with citizen data gathering and interpretation activities.
4. Work with residents so that **citizens provide the lead** for determining an education plan for a local environmental issue. Involve citizens in community-based behavior change research or use a social marketing approach.
5. **Support local groups**. Find groups which already work with citizens on locally identified topics of any subject. Find an opportunity to relate a key environmental topic or management activity to their ongoing work, or respond to requests from these groups. Facilitate development of data gathering and interpretation skills by group members.
6. **Encourage/facilitate community development activities**, i.e. those which identify community sustainability needs and assets, relate to a local vision, and which provide action steps that address the quality of life and the environment. Facilitate improvement of planning and management skills by community members.

Tables

Table 5

Community Education: Models that Work

A successful community education program could use one or more of the following models to complement a local process, as described in Table 3. Examples are provided for each model. Detailed descriptions of most examples can be found in a separate appendices report, Appendix D.2. A few are found in other appendices depending on the topic or source. See the appendix reference in ().

Personal Action

Tools that enable individuals or small groups to assess and evaluate personal practices which affect environmental quality

Examples -

- Farm*A*Syst, Home*A*Syst (D.2.)
- Monroe County Extension Water Quality School (D.2.)

Community Service Projects

Activities that respond to citizen interest in helping their community and which provide an opportunity to learn about environmental management while doing something.

Examples -

- National Association of Service and Conservation Corps (D.2.)
- Give Water A Hand - Action Guide a national service-learning curriculum for youth (D.2.)

Community Environmental Monitoring

Environmental monitoring provides citizens with a “hands on” opportunity to learn how environmental management decisions are made. Citizens use established protocols for gathering information about specific topics. Data is often, but not always, compiled and analyzed by natural resource or pollution prevention specialists.

Examples -

- GREEN, Global Rivers Environmental Education Network (D.2.)
- Save Our Streams - Izaak Walton League of America (D.2.)
- Mountain Association for Community Economic Development (D.2.)

Community Vision Planning

A local sustainability initiative includes a process for developing a community vision and setting goals that address environmental, economic, and social interests. Goals are then linked to specific measures chosen by the community to indicate progress. A community identifies its goals and measures of success based on its own history and sense of identity. Once relevant goals and indicators have been chosen, community groups can make plans and take action to meet high priority goals.

Examples -

- Rural Environmental Planning (D.2.)
- Green Communities Assistance Kit - Web Page resource (D.2.)
- Watershed based community planning (E.2.)

Community Participatory Research

A participatory process for involving local people in summarizing local experience and knowledge about environmental management and selecting target conservation behaviors.

Examples -

- GreenCOM - The Human Nature Project (A.3.)
- The “SONDEO” - A Rapid Reconnaissance Approach for Situational Assessment (C)

Group Activities that Take Responsibility for Their Own Impacts

Businesses, organizations and community councils can take the lead. Even while relating to the local ecosystem, most environmental management decisions are very specific. Individual groups can analyze their own activities and determine their own plan of action. Groups can act on their own, but are more effective if their actions provide leadership in the community and contribute to achievement of a community vision.

Examples -

- The Natural Step (D.2.)
- Pennsylvania Environmental Council (D.2.)
- Sea Change, an urban Philadelphia non-profit organization (D.2.)

Community Recognition

A great way to educate is through public recognition of successful results.

Examples -

- The Good Neighbor Project (D.2.)
- Groundwater Guardian program (D.2.)

Advocacy Activities

The boundary between advocacy and education is sometimes blurred. In the process of advocating environmental policy or management choices, group members often gather, summarize, and interpret a lot of information about a specific environmental issue and its relationship to the community.

Examples -

- River Network (D.2.)
- Environmental Defense Fund (D.2.)

Table 6

Resources Needed to Support Community-Based Education

This table summarizes tools and resources project participants said they would need to improve their ability to support environmental education in the community. Participants were from EPA Regions 3 and 10 (Philadelphia and Seattle) and included: EPA professionals, state partners, Extension educators, local government employees, local representatives of national agencies, and community organization leaders.

Information Resources Needed

- Summary of economic costs to a community or business of environmental protection strategies.
- Relevant indicators for measuring results of environmental management decisions.
- Sample strategies to enable communities to respond to the following needs
 - To respond to requests for information, e.g. where to find fact sheets, information available from Extension, EPA, on the Web, etc.
 - To gather information from focus groups, surveys, needs assessment
 - To develop a community profile
 - To provide a holistic picture of community education opportunities; model for local application through community reconnaissance strategies
 - To predict or analyze trends
 - To analyze specific issues
 - To survey locations
 - To evaluate and provide follow-up training
- Demographic information - affordable housing, farm land, etc.
- Policy information - speakers, information, etc.
- Resources for addressing and educating about environmental justice and health issues
- Specific information on specialized topics like environmental health
 - Issue and/or educational approach fact sheets, not overly technical
 - Support generic and conceptual EPA fact sheets with more specific education materials
- Information about technology
- Resources to take advantage of specific opportunities, (e.g. education materials to address public topics raised by the new Federal Safe Drinking Water Act, SDWA, which will provide an opportunity for community-based delivery due to requirement for regional committees to look at well-head and source water land use practices and the requirement that utilities provide consumer confidence information with billing.)
- Lists of associations which can provide professional development and insights on community-based education
- Information about sources of funding
- EPA/Extension support to evaluate environmental history and monitor for local environmental quality on specific topics
- Resource list of environmental education materials geared to an urban situation and assistance in adopting or adapting materials
- Miscellaneous resources needed
 - Lessons learned ... case studies ... contact people for support
 - Collection of successful models and approaches
 - Guidelines and principles for program development
 - Organizational development for programs - how to plan a program
 - Accessible information – attention to the packaging, the materials
 - Information in a two tiered approach – users guide and facilitators guide; gearing the materials to the users is a critical point (as opposed to writing it for experts)
 - Resource matrices, e.g. a list of what is available on specific topics for specific audiences
 - Worksheets, as examples or tools
 - Guidance on how to identify the “learning personality” of the community

Social Marketing Resources Needed

- Education goals translated into simple messages that can be accomplished easily and conveniently. Develop a common language.
- Data on how gender, race, age, or culture affects/“filters” reception of environmental messages, in addition to the more usual geographic “filters,” e.g. eastside v. westside, rural v. urban.
- Packaged environmental education programs for specific audience needs/interests, e.g., boaters program-basic boat maintenance links to pollution prevention.
- Resources for market-based research on specific topics (e.g. sample behavior goals, potential barriers to preferred behavior, survey questions or tool).
- Use of Extension Master Training programs as an opportunity to convey options and environmental practices for people to consider.

Tools to Gather Information Needed

- Tools or strategies to help combine local mapping and information gathering with community development activities.
- Sophisticated tools and training in capturing/assessing community social and environmental indicators.
- GIS access and assistance

Skills Needed to Support Community Education

- Improve the ability of natural resource and environmental education professionals to:
 - Better “localize” public meetings, through use of standard protocols, if necessary.
 - Determine their role - how their knowledge, skills, energy can be used in community problem-solving.
 - Meet the needs of the urban audience
 - Use pilot programs as an opportunity for needs assessment before programs are expanded to fully meet clientele needs.
 - Use strategic planning skills - how to set goals, how to diversify networks, how to stay in touch with education innovations, etc.
- Build capacity of organizations; build capacity for local groups to carry on programs themselves. Provide opportunities to learn:
 - How to organize
 - How to work with media
 - How, when, and where to get technical assistance
 - How to organize volunteers
 - Consensus building skills

Tables

Table 6 (Continued)

Resources Needed to Support Community-Based Education

This table, continued from the previous page, summarizes tools and resources project participants said they would need to improve their ability to support environmental education in the community. Participants were from EPA Regions 3 and 10 (Philadelphia and Seattle) and included: EPA professionals, state partners, Extension educators, local government employees, local representatives of national agencies, and community organization leaders.

Skills Needed to Support Community Education

- Train/facilitate/support community members to respond to the following needs:
 - Respond to requests - e.g. develop or identify fact sheets
 - Access information
 - Conduct on-going dialogue with constituents, to better assess what they want as an educational outcome.
 - Design and apply assessments: related to specific problems; customer surveys; focus groups; written surveys, listening, visioning, etc.
 - Create a community profile
 - Provide a holistic picture of community education opportunities through community reconnaissance strategies
 - Analyze trends
 - Analyze issues
 - Survey locations
 - Evaluate programs and results
 - Guidelines and principles for program development and planning
 - Use participatory worksheets as examples or tools
 - Identify the “learning personality” of the community
 - Improve participation: team thinking, participating in community planning
 - Involve volunteers. Volunteers are the basis for successful community-based programs - how to support them?

Skills Needed to Understand and Apply Sustainability Principles

- Information and training about how to translate economic and community development ideas into environmental education and sustainable development initiatives.
- Where are the links between terms and processes?
- What can be done to tie all issues together at a local level, make a holistic approach understandable to the “community,” manage with limited resources?
- An explanation of holistic approaches to some key issues, such as farming issues, which need integrated solutions, e.g. solving one farming issue, may cause additional environmental issues
- An explanation of how certain EPA regulations are likely to address cross-media concerns, such as FIFRA, CERCLA, etc.
- A means for analyzing the costs and economics of decisions - i.e. how does the water quality of a stream in the source waters affect economic conditions down stream?

Table 7

New Ways to Support Community-Based Education

This table summarizes project participant ideas about what Extension and EPA will need to do or learn to better support community environmental education.

New Ways of Doing Business

- Support local adoption of models for community-based involvement by matching local expenditures with EPA funds.
- Provide consistent funding for programs where there is a small tax base.
- Provide more flexibility in measuring results of funded projects, especially for “assistance” to local communities, and the social/political outcomes.
- Convene the regulated community and related organizations to learn from them about what “fair enforcement” would include.
- Convene or use results from a conference on innovative environmental business development ideas.
- Increase understanding of environmental management strategies through professional mentoring for non-employees.
- Dialog - improve opportunities for dialog
 - Regulator and regulated - equitable enforcement
 - Incentives for new technology - regulators and industry

Adapting to New Educator Roles

- EPA and Extension need models of approaches to community-based environmental education to refer to.
- To support community-based education, EPA and Extension need a good support network within and between the organizations.
- Continue to improve understanding of successful elements of community education.
- Improve understanding of how to measure success.
- Improve Extension employee knowledge of environmental research by sharing new research information more broadly throughout the organization.
- Improve Extension and EPA ability to meet needs of the urban audience.
- Conservation Districts emphasize one-on-one delivery (professional to farmer). Extension’s ability to deliver community-based education would improve with a closer connection to Conservation Districts.

Table 8
EPA and Cooperative Extension — Roles and Partnership Issues

This table summarizes project participant recommendations for improving the EPA and Extension partnership in support of environmental education in the community. Participants were from EPA Regions 3 and 10 (Philadelphia and Seattle) and included: EPA professionals, state partners, Extension educators, local government employees, local representatives of national agencies, and community organization leaders.

Understand Roles for EPA and Extension in Local Initiatives

1. County Extension involvement with EPA projects:
 - a. Local needs and county faculty knowledge and skill comfort-level will affect Extension commitment
 - b. County faculty may already have an initiative with the particular topic or audience of interest which could complement EPA interests
 - c. An environment project may help to identify new clients for Extension
 - d. A connection with an environment or EPA project provides visibility for Extension even if Extension does not want to add new clients
2. Connecting EPA regional work to county Extension
 - a. Understand how big scale initiatives could relate to community issues.
 - b. When EPA initiates a project in a community, like the Columbia River Basin project, how do they make the hand-off? EPA should work through agencies/groups that are already there.
 - c. Understand when EPA should chose Extension to help localize.
 - d. Understand when Extension should chose EPA to help broaden.
3. EPA involvement at the community level. With current policy, EPA goes into a community when:
 - a. EPA is championing a national policy or violation - such as endangered species, air or water violation, superfund site.
 - b. There is a major local environmental or policy issue - an outcry or an event - which attracts a lot of attention: such as empowerment zones, environmental justice, large-scale environmental risks in a community, perceived environmental risk
 - c. EPA is the resource of last resort; lead state agency or other resource cannot or will not help

Steps to Coordinate EPA and Extension Efforts

1. Legitimize Extension/EPA relationships, DC and regionally
 - a. Announce partnership.
 - b. Produce a formal policy statement that endorses Cooperative Extension as a main venue for environmental education delivery (other institutes may also be involved because of their unique capabilities).
 - c. Identify opportunities to collaborate and set priorities for coordinated efforts.
 - d. Explore Memorandum of Understanding (MOU) and possible funding for mutual planning and management
2. Develop regional task forces with EPA and Extension.
 - a. Extension/EPA should set priorities for issues and region
 - b. Identify a network and additional partners depending on needs and the situation. (See figure 1 in this report.)
 - c. Use the Performance Partnership Agreement (PPA) to incorporate work with other agencies
3. Create a structure to link organization roles and products, for example:
 - a. Consider creating an Extension/EPA endorsed liaison
 - i. How could these positions be shaped?
 - ii. How can community be involved?
 - b. Fund an Extension state specialist in environmental education
 - i. Could provide coordination, products and research
 - ii. Could advise on mode of implementation for community-based education - what's working?
 - c. Create newsletter and Web links

4. Support a program where EPA and Extension professionals can trade:
 - a. Positions - local, extension, and EPA
 - b. Staff teams - local, federal, state specialist
 - c. Specialists - for example, EPA specialists spend one year living in the community hosted by a local extension agent. During the year, EPA, environmental specialist and local leaders receive community resource development (CRD) training, scope needs and develop proposals that may be funded.
5. Co-develop and implement information or data gathering resources, such as an environmental education needs assessment and evaluation, as a project to help make the link.
6. Manage duplication of effort
 - a. Extension can assist with coordination/ duplication issues in the county
 - b. EPA and Extension could support regional education coordinators, to ensure that a convening person will be available to provide coordination for community base initiatives.

Coordinate Work with Communities

1. When working directly with communities, **EPA could:**
 - a. Go to Extension program leaders to identify links with Extension
 - b. Hold workshops for Extension professionals to teach about EPA and emerging issues
 - c. Take advantage of existing partnerships in a community - don't recreate. Often the facilitator/coordination/ partnership role is being filled by someone else.
2. When working with communities that are involved with environmental issues, **Extension could consider:**
 - a. When Extension county faculty should be involved.
 - b. How and when county faculty can support an environment program?
 - c. How do you measure success?
 - d. Which county position would be involved? (environmental education is not a discipline adopted by any particular County Extension position)
 - e. What Extension involvement means: Does it mean having a **program to deliver** and/or another function such as: convening, facilitating, assessing needs, providing a profile?
 - f. If Extension "skills" are universally available in each county.
 - g. How many counties will "buy in." County Extension's uneven response is to be expected - true of every agency.
 - h. Connecting new environmental education initiatives with current community-based programs, e. g. Master Gardeners, beach watchers, water watchers, land and water stewardship programs, area water quality agents

Tables

Table 8 (Continued)

EPA and Cooperative Extension — Roles and Partnership Issues

This table, continued from the previous page, summarizes project participant recommendations for improving the EPA and Extension partnership in support of environmental education in the community. Participants were from EPA Regions 3 and 10 (Philadelphia and Seattle) and included: EPA professionals, state partners, Extension educators, local government employees, local representatives of national agencies, and community organization leaders.

3. When working with communities on environmental issues, **both EPA and Extension could:**
 - a. Consider the impact of EPA's Community Based Environmental Protection program on Extension's role - how will the partnership work?
 - b. Maximize EPA's environmental expertise and Extension's community/social expertise...develop those relationships.
 - i. Community is familiar with Extension involvement: role is legitimized ... existing involvement and community trust and understanding of extension's role.
 - ii. Extension helps on specific questions. Extension is "warm and fuzzy" and could support EPA efforts. Extension could help to "open doors" for EPA through its delivery network of information.
 - c. What happens next - after EPA or Extension identify a potential issue or opportunity, how will EPA and Extension support each other?

EPA and Extension Need to Better . . .

Exercise Flexibility

1. Community-based efforts may lead to different management recommendations for different communities - determine how agency consistency issues should be handled.
2. Grant money, financial resources, staffing, etc.
 - a. Assure that EPA grant officers understand goals and implications of community-based programs
 - b. Simplify EPA granting procedures and administration to make more community friendly
 - c. Work to find financial resources to maintain successful programs rather than always requiring development of something new
 - d. Funding proposals could be presented to an EPA/Extension partnership to work to influence/explore other resources
 - e. Create other links ... "Creative Ways" to use one agency as a pass-through funding unit.
3. Work to understand roles of EPA vs. state environmental agencies (e.g., Clean Water Act 319 money and accountability)
 - a. EPA has money which it gives to the states as grants -- thus, the state agency may be the one that has a presence in the community
 - b. People who want to do environmental education are not listened to by state environmental agencies - could EPA overstep the state agency for environmental education and go directly to Extension? For example, availability of 319 **education** money for non-point efforts not communicated consistently in states.
 - c. Extension could be part of the discussion when EPA provides funds to lead state agency
 - d. EPA could assert its community-based priorities with the state agency as part of agreements
4. Regional education coordinators, could EPA grants be targeted to support these, as a match?
 - a. EPA could encourage community-based education by providing positions at the local level - funded through Extension but delivered at the local level (small grants to counties for 20% salary savings and costs)

EPA and Extension Need to Better . . .

Characterize Communities or Geographical Regions

1. Develop contact/entry points. How will community-based needs be identified? Could EPA/Community SWAT Teams determine what is causing problems in the local community??
2. Extension leadership could encourage county assessment of local concerns and capacity.
 - a. County faculty could periodically assess who is delivering information about the environment and assess status of collaboration among those groups.
 - b. County faculty need support to carry out this step of the planning process.

EPA and Extension Need to . . .

Make Resources More Readily Available

1. EPA publicity of information and expertise - too few know: what is available, when is it appropriate to ask; EPA has: technical experts, publications, and data
2. When working directly with communities, EPA should:
 - a. Go to the customer, go to the regions. Important for Federal agencies to have direct experience - provide opportunities
 - b. Face-to-face technical assistance is best, as often as possible
 - c. Provide a catalog of what kinds of information and resources are available
3. Increase visibility - for Extension within EPA and for EPA within Extension. (See suggestions in "Coordinate Efforts" section of this Table.)
4. What message does EPA want communities to have about their availability for these issues?
 - a. Technical assistance (more likely to hire a consultant)
 - b. Questions about permitting issues
 - c. Support for community-based issues
5. Extension could assist EPA improve efficiency of current efforts, such as:
 - a. Clearinghouse - should these be run out of each state to make more accessible (project participants felt that current efforts were inadequate)?
 - b. Education programs such as stream walk or wetlands walk should be delivered through states to ensure ongoing training and follow-up on collecting and sharing data
 - c. Extension can help recruit volunteers for local programs
6. Use Extension's NREMnet or the Water Quality email group as a way for EPA people to find out whether Extension had publications or delivery networks that could meet EPA's needs.
7. Accessing EPA resources includes knowing who to call. Find a way to bridge EPA bureaucracy, inability to travel to work directly with local officials, and need to control, in order to better access EPA's huge amount of information and knowledge
8. EPA is trying to change image from policing agency to linking with community organizations or Extension Service. EPA has a "reach out and help people" side. Look for potential links.

Table 8 (Continued)

EPA and Cooperative Extension — Roles and Partnership Issues

This table, continued from the previous page, summarizes project participant recommendations for improving the EPA and Extension partnership in support of environmental education in the community. Participants were from EPA Regions 3 and 10 (Philadelphia and Seattle) and included: EPA professionals, state partners, Extension educators, local government employees, local representatives of national agencies, and community organization leaders.

9. Identify resources that EPA has to help and how they could be used:
 - a. EPA internet resources - expand visibility and train for use
 - b. EPA has resources to put on some local events, such as a groundwater festival - financial, coordination, other resources. Extension could help facilitate local festivals benefitting from EPA's help.
 - c. EPA could provide technical assistance - make GIS available, provide free assistance and data bases
 - d. EPA could help Extension identify contacts on certain topics - such as other organizations who could support GIS assistance

Determine Level of Input to Communities

1. Reinvent our organizations into "learning" organizations, i.e. listening instead of telling
2. For high priority or regulated environmental management issues - use EPA Region 10's "Decision-Making Scale" which compares levels of input by the agency and the community according to the situation (*Community Based Environmental Protection Strategy*, EPA 910-R-003).

Expand Role of Communities and Partners

1. Encourage more on-going dialogue with constituents on what they want as an educational outcome.
2. Priorities must come from local community and be honored by Cooperative Extension and EPA
3. Encourage participation in communities by EPA individuals. This has helped communities figure out when to link to EPA due to accessibility for informal conversations.
4. Develop standard protocols for public meetings so they are "localized" better.

Expand Role of Communities and Partners

1. EPA and Extension could collaborate on market-based research - ask common questions.
2. Consider role of Conservation Districts and other "providers of choice" such as GATE NW which provides opportunities to collaborate among EPA and academia
3. Build on and collaborate with those groups outside our systems who are already doing good work
 - a. EPA/Extension - adopt schools, adopt after-school clubs
4. Extension could convene local Advisory Committees where members can build personal and group expertise on education techniques and how to facilitate community-based programs.
5. As an example of how EPA and Extension have worked together, in Washington State - EPA has:
 - a. Connected formal education with community-based issues
 - b. Brought together people interested in urban pesticide issues
 - c. Provided coordination for sustainability networks
 - d. Awarded grants to local groups
 - e. Funded special projects like Home*A*Syst from drinking water/groundwater funds
 - f. Sponsored training on bio assessment
 - g. Intervened when lead state agency was not fulfilling responsibilities (drinking water testing)

Set Community Priorities

1. EPA needs to identify how to leave a community when it has been involved in local problem solving. EPA needs partnerships that stay in the community to carry on after EPA support, whether funds or people, ends. EPA studies or forums in a locality need to include building a mechanism to insure continuation and long term benefit. Consider how and when Extension can help with this process.
2. Extension may be able to help communities develop a vision for what they want and how they want resources or information delivered. There is a need for strategic planning based on a vision.
3. Federal agencies must practice what they preach when they intervene locally on any topic. People compare behavior on highway development, for example, with Agency requests for improved local behavior regarding environmental regulations.

Provide Professional Development Opportunities

1. Develop human capital within EPA/Extension to improve staff ability to become involved with community-based education efforts.
2. EPA and Extension need models of approaches to community-based environmental education to refer to.
 - a. The technology transfer paradigm does not provide a good foundation for education programs.
 - b. EPA and Extension need to think about the differences between "education" and "information dissemination." How can a partnership improve both?
 - c. EPA Superfund coordinators have experience in community-based delivery. Find a way to share this understanding.
3. Some environment programs, such as funding for drinking water treatment or watershed management programs, may arise from a "top down" need — practice applying community-based education principles.
4. Conduct in-service training w/Extension and EPA together
 - a. Issues based meetings for EPA/state agency
 - b. National or regional meetings on specific topics
 - c. More local meetings to include community members in the professional development opportunity
5. Provide training based on education commonalities - as might occur with EPA/Extension or EPA/Conservation Districts. Obvious links, where EPA is involved in a specific program, include:
 - a. Estuary protection
 - b. Rural small scale waste water management, septic systems, mound systems, etc.
 - c. Well issues
6. Experts - what is their role? Help experts determine how their knowledge, skills, energy can be used in community problem-solving.
7. Assist experts and highly verbal specialists to participate effectively in community meetings (e.g. keep silent for 2/3 of community meetings to allow others to participate more effectively).
8. Adapt/incorporate community-based environmental education into the Community-Based Environmental Protection (CBEP) approach; link Education with Environment
9. EPA and Extension need to be more effective at the **community** level. Current style often has audience going to them, little use of local experts.

