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WATER RESOURCES POLICY MAKING
A Collaborative Approach

Introduction

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Water resources planning and policy-making often are highly controversial. Growth and development place visible pressure on the nation's natural resources. Environmental issues are becoming more complex as the number of affected individuals and groups increase. Issues are more volatile since they affect the property rights of citizens and landowners. Government officials frequently make matters worse by excluding citizens from the policy-making process.

The North Carolina Cooperative Extension Service has been involved in public issues education programs for many years. Recently, Extension educators have begun using formal conflict resolution processes involving facilitation and collaborative problem-solving techniques to more effectively deal with controversial issues.

Collaboration and formal facilitation are needed for programs to be successful because of the controversial nature of the issues, and because a large number of stakeholders with different positions and interests are included in the policy development process. Programs typically are multidisciplinary, involving economists, sociologists, engineers and physical scientists. Comprehensive educational programs help local task forces target and fully understand critical issues, and identify and evaluate policy options.

The articles in this issue discuss this approach, focusing on educational projects in three areas of the state. Each project has been successful in helping local citizens reach consensus on solutions to local water quality problems.

Case Study - Gaston County

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Gaston County, North Carolina is home to many large textile and machine tool industries, smaller machine shops, and other industrial facilities. Since 1988, eight public community wells in Gaston County have been contaminated by chemical substances — six public community wells affecting three residential subdivisions, and two noncommunity wells affecting elementary schools. Over 440 households were affected. Costs to connect affected households to alternate water supplies have so far exceeded $4 million.

These and other environmental problems led the Board of County Commissioners in 1988 to appoint a broad-based citizen advisory group, the Gaston County Quality of Natural Resources Commission (QNRC), to

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recommend policy for improving the quality of the environment in the county. The governing board mandated that all recommendations were to be reached by consensus.

In 1993, the QNRC set out to develop a policy program to protect community water supplies in the unincorporated areas of the county. They appointed a 15-member water committee to carry out the necessary research and policy deliberations.

The water committee consisted of QNRC members representing developers, environmental leaders, well owners, business and industry, and citizens at large. The committee met to jointly gather information about threats to groundwater, investigate methods of delineating zones of contribution around community wells, and evaluate regulatory and nonregulatory options for protecting those zones.

Meetings were facilitated by staff from the NC Cooperative Extension Service in order to ensure that all stakeholders had an opportunity to enter the discussion and share in the solution.

The outcome was a solution that worked for all members of the committee, and ultimately, the QNRC membership. First, they recommended an approach for delineating wellhead protection areas based on pumping rates, land cover, well yield and other hydrogeologic characteristics. Second, they agreed on a classification system for identifying hazardous substances and developed an inventory method to determine the extent of potential threat to underground water supplies in the county.

Rather than establish a new regulatory program to protect community water supplies, the QNRC elected instead to refocus existing programs. They recommended that the county use its site plan review and building inspection programs to ensure that new and expanding facilities handling hazardous substances conform to the most current revisions of the state and county building codes. The QNRC also recommended measures for reducing contamination risks to new community wells. This collaboration was successful because the participants in the process ultimately achieved ownership of the outcome. It worked for the developers as well as for the homeowners because all parties were able to satisfy their interests through a common solution.

Case Study - Craven County

***Leon E. Danielson,** Extension Public Policy Specialist*

Craven County is located near the south-central coast of North Carolina. Its largest city is New Bern, and its travel and tourism sector centers around the resources provide by the Neuse River. Water quality is a hot topic in Craven County. Major hog waste spills and associated fish kills in the Neuse basin upstream from the county received national attention in 1995 and 1996, and numerous cities dispose of treated wastes into the Neuse as far upstream as the Piedmont region of the state. Being at the point where the Neuse River drains into the coastal estuary, water flow rate is reduced and water quality problems have occurred in the past. A variety of waste treatment occurs in the county, including large and small central systems, package treatment, land application and septic systems. Much of the land is not suited for septic systems, and there are areas where septic system failure is common.

During the 1995 session of the General Assembly in North Carolina, $800,000 was appropriated for wastewater management planning in four coastal counties. Half of the money was allocated to each of the counties equally to develop their own short-run wastewater management plan. It was expected that planning would be highly controversial because of long standing disagreements over water quality issues in the region, polarized positions on the part of several interest groups, and the expected high cost of solutions to the problems. The Craven County Board of Commissioners awarded a contract to the NC Cooperative Extension Service to develop the short-run plan. The planning process was driven by a collaborative problem-solving approach, with technical, economic and engineering information to be provided within that context. Six faculty members from agricultural economics, sociology and agricultural engineering were involved in the project. A task force of 18 local citizens was appointed by the county commissioners, and a series of 22 meetings was held over 14 months. Issues were identified on a community-by-commu-

Lessons Learned

nity basis, engineering options were identified, and costs for the options were estimated. A geographic information systems approach was used to integrate data and to improve understanding of the issues and options. Recommendations were developed by consensus for subareas of the county, with best available technologies being recommended, including wastewater reuse and land application. Agreement was achieved among stakeholders with different perspectives because the process allowed for their full participation.

Watershed Education for Communities and Officials (WECO)

***Nancy M. White,** Specialist in Landscape Ecology and Watershed Modeling*

WECO is a locally-driven, watershed-based educational program that seeks to further communities' and local officials' understanding and management of water quality issues in their region. Solutions, management objectives, and policies developed by concensus with local stakeholders reflect local concerns and issues, can be implemented by local government, and sustained by the citizens for future management.

The White Oak River watershed is the WECO pilot study area because of local interest and documented water quality problems, with a 12 percent increase in shellfish closures in the last five years combined with a 50 percent increase in population since 1980. The specific objectives of WECO as it is being implemented in the White Oak watershed are:1) educate stakeholders in the White Oak River watershed about water quality, conditions and issues, 2) work with stakeholders to develop locally-based management strategies and policy options to protect water quality, and 3) educate local officials about these strategies and options to facilitate their adoption and implementation in the watershed.

Work was initiated in the summer of 1996, lead by a seven-person faculty team from the NC Cooperative Extension Service. Members included County Extension Directors from each of three counties in the watershed, and four faculty from agricultural economics and agricultural engineering with specialists in the areas of resource economics, hydrology, policy analysis, facilitation and landscape ecology. The citizens advisory board also represents stakeholders throughout the three-county area. These citizens identified impacts expected from the planned widening of the Highway 24 causeway, which spans the mouth of the White Oak Rive, as the top-priority issue. The original causeway, constructed in 1933 with two short bridges and a long, filled roadbed, has affected tidal circulation patterns causing increased sedimentation, altered salinity regimes, and increased fecal coliform bacterial counts. Management recommendations to address these problems were developed by the advisory board and will be presented to all local governments in the watershed for adoption. This will create a unified local position on the issues and recommendations which will then be forwarded to the appropriate state and federal entities such as the NC Department of Transportation; US Army Corps of Engineers; NC Department of Environment, Health, and Natural Resources; and Department of Coastal Management.

Lessons Learned

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Take time to plan. Collaborative problem solving does not just happen. It must be thoroughly planned to anticipate and avoid problems during the process. Planning is a continual process where you assess the issues, identify stakeholders, and prepare the forum for deliberation.

Involve all stakeholders. Stakeholders are individuals who are affected by the problem or who can affect the solution. It may seem easy to justify the exclusion of certain individuals or groups that might disagree with you. In the long run it is more effective for all stakeholders to participate in the process and develop ownership in the solutions.

Use people skills. Pay attention to relationships (use ground rules). Define and enforce behaviors in order to build a climate of trust and respect.

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A Collaborative Approach to Water Resources Policy Making

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Deal with the issue. Work with a common definition of the problem. Reframe the issue from "I think that ... " to "How can we...?" This helps participants recognize their interests, rather than stick to positions. Bring in resource people when the issue is complex. Get agreement on the data and information that will be used in solving the problem.

Be flexible. Tailor the process to each situation. There is no guarantee that the issue can be resolved but generally it will if given time, patience and skill in dealing with people.

Experience has shown that controversial water and wastewater issues can successfully be resolved locally through educational programs of the Cooperative Extension Service. As part of the process, it is important that the local committee appointed to address the issue represent all stakeholders, that the process be formally facilitated by someone skilled in dealing with people and controversial issues, and that objective, scientifically-based information on the issues and policy options be provided as the basis for making decisions.

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